

Glen Ivy Senior Community

NOISE IMPACT ANALYSIS COUNTY OF RIVERSIDE

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13032-03 Noise Study



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LIST OF ABBREVIATED TERMS

(1)	Reference
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
mph	Miles per hour
PPV	Peak Particle Velocity
Project	Glen Ivy Senior Community
REMEL	Reference Energy Mean Emission Level
RMS	Root-mean-square
VdB	Vibration Decibels

13032-03 Noise Study



EXECUTIVE SUMMARY

Urban Crossroads, Inc. has prepared this noise study to determine the noise exposure and the necessary noise mitigation measures for the proposed Glen Ivy Senior Community development ("Project"). The Project site is located on the southwest corner of Temescal Canyon Road and Trilogy Parkway in the County of Riverside. The Project includes the development of 141 assisted living dwelling units (DU) (109 standard assisted living DUs and 32 memory care DUs) and 75 senior adult housing attached DUs. This noise study has been prepared to satisfy applicable County of Riverside noise standards and significance criteria based on Appendix G of the California Environmental Quality Act (CEQA) Guidelines. (1)

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

Anghais	Report	Significance Findings			
Analysis	Section	Unmitigated	Mitigated		
Off-Site Traffic Noise	7	Less Than Significant	-		
On-Site Traffic Noise	8	Less Than Significant	-		
Construction Noise	10	Less Than Significant	-		
Construction Vibration	10	Less Than Significant	-		

TABLE ES-1: SUMMARY OF CEQA SIGNIFICANCE FINDINGS

OPERATIONAL NOISE IMPACTS

The Project is not expected to include any specific type of operational noise (stationary source) levels beyond the typical noise sources associated with typical residential land use in the Project study area, such as people moving around the site, parking lot vehicle movements, roof-top air conditioning units, trash enclosure, etc. and is considered a noise-sensitive receiving land use. Therefore, no potential operational noise impacts for the residential land use are analyzed in the noise study.

CONSTRUCTION NOISE IMPACTS

The Project-related construction noise impacts are expected to create short-term and intermittent high-level noise conditions at receivers surrounding the Project site when certain activities occur at the Project site boundary. 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. Observations of typical residential construction activities indicate that the most noticeable noise sources tend to include heavy construction equipment, hammers, electric drills, workers talking, and radios playing music. While the Project construction noise levels will satisfy the reasonable daytime 80 dBA L_{eq}

significance threshold during Project construction activities, the construction noise generated during peak activities and single-event noise sources during Project construction will still be heard at the adjacent sensitive residential homes. Therefore, to reduce Project construction noise levels at the adjacent sensitive receiver locations the following construction noise abatement measures shall be required:

- Project construction activities and truck deliveries shall be limited to the hours between 6:00 a.m. and 6:00 p.m., during the months of June through September, and 7:00 a.m. and 6:00 p.m., during the months of October through May. (County of Riverside Municipal Code, Section 9.48.020 (I)).
- 2. During all Project site construction, the construction contractor shall equip all construction equipment, mobile or stationary, with properly operating and maintained mufflers, consistent with manufacturers' standards.
- 3. The construction contractor shall locate/stage all stationary equipment such that the location will create the greatest physical distance between construction-related noise sources and noise-sensitive receivers nearest the Project site during all Project construction activities.
- 4. The construction contractor shall place all stationary construction equipment so that emitted noise is directed away from the noise-sensitive receivers nearest the Project site.
- 5. The construction contractor shall post a publicly visible sign with the telephone number and designated person to contact regarding noise complaints. The construction contractor, within 48 hours of receipt of a noise complaint, shall either take corrective actions or, if immediate action is not feasible, provide a plan or corrective action to address the source of the noise complaint.
- 6. Electrically powered air compressors and similar power tools shall be used, when feasible, in place of diesel equipment.
- 7. No music or electronically reinforced speech from construction workers shall be allowed within the Project site.



1 INTRODUCTION

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

1.1 SITE LOCATION

The proposed Glen Ivy Senior Community site is generally located on the southwest corner of Temescal Canyon Road and Trilogy Parkway in the County of Riverside, as shown on Exhibit 1-A. The Project site is currently vacant. The Project site is currently designated for Commercial Retail (CR) uses (2). The Project site is entirely surrounded by residential uses. Interstate 15 (I-15) is approximately 0.40 miles east of the Project site.

1.2 PROJECT DESCRIPTION

As shown in Exhibit 1-B, the Project currently includes the development of 141 assisted living dwelling units (DU) (109 standard assisted living DUs and 32 memory care DUs) and 75 senior adult housing attached DUs. Consistent with the *Glen Ivy Senior Community Traffic Analysis* (TA) prepared by Urban Crossroads, Inc., this noise study will evaluate the previous plan (which is more conservative) and consists of 130 beds of assisted living use and 35 memory care beds for standard assisted living for a total of 165 beds plus the 76 senior adult housing attached DUs. The anticipated Project opening year is 2023. Per the TA, the Project is expected to generate a total of approximately 712 two-way vehicular trips per day (356 trips inbound and 356 trips outbound) (3).





EXHIBIT 1-A: LOCATION MAP



EXHIBIT 1-B: SITE PLAN





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2 FUNDAMENTALS

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

COMMON OUTDOOR ACTIVITIES	COMMON INDOOR ACTIVITIES	A - WEIGHTED SOUND LEVEL dBA	SUBJECTIVE LOUDNESS	EFFECTS OF NOISE	
THRESHOLD OF PAIN		140	\mathbf{X}		
NEAR JET ENGINE		130	INTOLERABLE OR		
		120	DEAFENING	HEARING LOSS	
JET FLY-OVER AT 300m (1000 ft)	ROCK BAND	110			
LOUD AUTO HORN		100			
GAS LAWN MOWER AT 1m (3 ft)		90			
DIESEL TRUCK AT 15m (50 ft), at 80 km/hr (50 mph)	FOOD BLENDER AT 1m (3 ft)	80			
NOISY URBAN AREA, DAYTIME	VACUUM CLEANER AT 3m (10 ft)	70	LOUD	SPEECH INTERFERENCE	
HEAVY TRAFFIC AT 90m (300 ft)	NORMAL SPEECH AT 1m (3 ft)	60			
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 FAINT		

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. (4) The most common sounds vary between 40 dBA (very quiet) to 100 dBA (very loud). Normal conversation at three feet is roughly at 60 dBA, while loud jet engine noises equate to 110 dBA



at approximately 100 feet, which can cause serious discomfort. (5) Another important aspect of noise is the duration of the sound and the way it is described and distributed in time.

2.2 NOISE DESCRIPTORS

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

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 additions are made to account for the noise sensitive time periods during the evening and night hours when sound appears louder. CNEL does not represent the actual sound level heard at any time, but rather represents the total sound exposure. The County of Riverside relies on the 24-hour CNEL level to assess land use compatibility with transportation related noise sources.

2.3 SOUND PROPAGATION

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

2.3.1 GEOMETRIC SPREADING

Sound from a localized source (i.e., a stationary point source) propagates uniformly outward in a spherical pattern. The sound level attenuates (or decreases) at a rate of 6 dB for each doubling of distance from a point source. Highways consist of several localized noise sources on a defined path and hence can be treated as a line source, which approximates the effect of several point sources. Noise from a line source propagates outward in a cylindrical pattern, often referred to as cylindrical spreading. Sound levels attenuate at a rate of 3 dB for each doubling of distance from a line source. (4)

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. (6)

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. (4)

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.

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 be high enough and long enough to block the path of the noise source. (6)



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. (7)

2.7 COMMUNITY RESPONSE TO NOISE

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

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

Approximately ten percent of the population has a very low tolerance for noise and will object to any noise not of their making. Consequently, even in the quietest environment, some complaints will occur. Twenty-five percent of the population will not complain even in very severe noise environments. Thus, a variety of reactions can be expected from people exposed to any given noise environment. (8) Surveys have shown that about ten percent of the people exposed to traffic noise of 60 dBA will report being highly annoyed with the noise, and each increase of one dBA is associated with approximately two percent more people being highly annoyed. When traffic noise exceeds 60 dBA or aircraft noise exceeds 55 dBA, people may begin to complain. (8) Despite this variability in behavior on an individual level, the population can be expected to exhibit the following responses to changes in noise levels as shown on Exhibit 2-B. A change of 3 dBA are considered *barely perceptible*, and changes of 5 dBA are considered *readily perceptible*. (6)





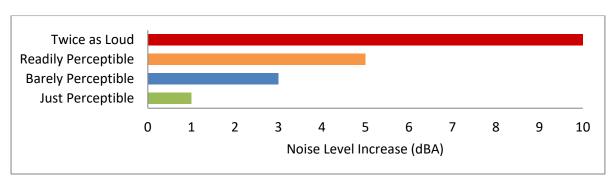


EXHIBIT 2-B: NOISE LEVEL INCREASE PERCEPTION

2.8 VIBRATION

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

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

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

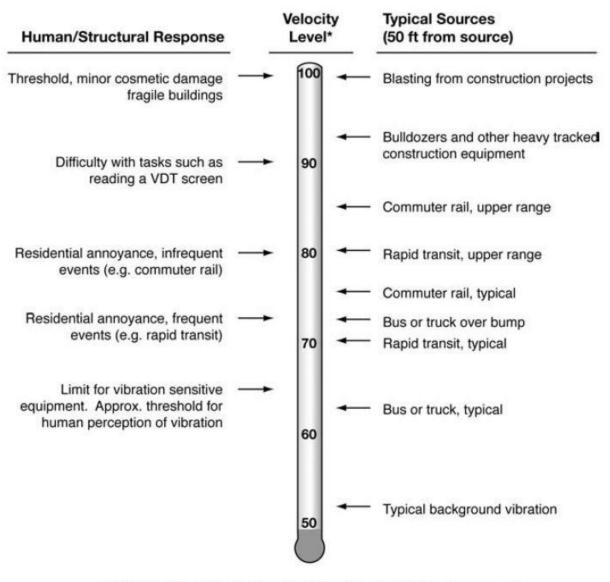


EXHIBIT 2-C: TYPICAL LEVELS OF GROUND-BORNE VIBRATION

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

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



3 REGULATORY SETTING

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

3.1 STATE OF CALIFORNIA NOISE REQUIREMENTS

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

3.2 STATE OF CALIFORNIA BUILDING CODE

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 COUNTY OF RIVERSIDE GENERAL PLAN NOISE ELEMENT

The County of Riverside has adopted a Noise Element of the General Plan to control and abate environmental noise, and to protect the citizens of the County of Riverside from excessive exposure to noise. (11) The Noise Element specifies the maximum allowable exterior noise levels for new developments impacted by transportation noise sources such as arterial roads, freeways, airports and railroads. In addition, the Noise Element identifies several polices to minimize the impacts of excessive noise levels throughout the community and establishes noise level



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

- N 1.1 Protect noise-sensitive land uses from high levels of noise by restricting noise-producing land uses from these areas. If the noise-producing land use cannot be relocated, then noise buffers such as setbacks, landscaping, or block walls shall be used.
- N 1.3 Consider the following uses noise-sensitive and discourage these uses in areas in excess of 65 CNEL:
 - Schools
 - Hospitals
 - Rest Homes
 - Long Term Care Facilities
 - Mental Care Facilities
 - Residential Uses
 - Libraries
 - Passive Recreation Uses
 - Places of Worship
- N 1.5 Prevent and mitigate the adverse impacts of excessive noise exposure on the residents, employees, visitors, and noise-sensitive uses of Riverside County.
- N 4.1 Prohibit facility-related noise, received by any sensitive use, from exceeding the following worst-case noise levels:
 - a. 45 dBA 10-minute L_{eq} between 10:00 p.m. and 7:00 a.m.;
 - b. 65 dBA 10-minute L_{eq} between 7:00 a.m. and 10:00 p.m.
- N 13.1 Minimize the impacts of construction noise on adjacent uses within acceptable standards.
- N 13.2 Ensure that construction activities are regulated to establish hours of operation in order to prevent and/or mitigate the generation of excessive or adverse impacts on surrounding areas.
- N 13.3 Condition subdivision approval adjacent to developed/occupied noise-sensitive land uses (see policy N 1.3) by requiring the developer to submit a construction-related noise mitigation plan to the [County] for review and approval prior to issuance of a grading permit. The plan must depict the location of construction equipment and how the noise from this equipment will be mitigated during construction of this project, through the use of such methods as:
 - *i.* Temporary noise attenuation fences;
 - *ii.* Preferential location and equipment; and
 - *iii.* Use of current noise suppression technology and equipment.
- N 16.3 Prohibit exposure of residential dwellings to perceptible ground vibration from passing trains as perceived at the ground or second floor. Perceptible motion shall be presumed to be a motion velocity of 0.01 inches/second over a range of 1 to 100 Hz.

To ensure noise-sensitive land uses are protected from high levels of noise (N 1.1), Table N-1 of the Noise Element identifies guidelines to evaluate proposed developments based on exterior and interior noise level limits for land uses and requires a noise analysis to determine needed mitigation measures if necessary. The Noise Element identifies residential use as a noise-sensitive land use (N 1.3) and discourages new development in areas with transportation related levels of 65 dBA CNEL or greater existing ambient noise levels. To prevent and mitigate noise impacts for its residents (N 1.5), County of Riverside requires noise attenuation measures for

sensitive land use exposed to transportation related noise levels higher than 65 dBA CNEL. Policy N 4.1 of the Noise Element sets a stationary-source exterior noise limit to not to be exceeded for a cumulative period of more than ten minutes in any hour of 65 dBA L_{eq} for daytime hours of 7:00 a.m. to 10:00 p.m., and 45 dBA L_{eq} during the noise-sensitive nighttime hours of 10:00 p.m. to 7:00 a.m. To prevent high levels of construction noise from impacting noise-sensitive land uses, policies N 13.1 through 13.3 identify construction noise mitigation requirements for new development located near existing noise-sensitive land uses. Policy 16.3 establishes the vibration perception threshold for rail-related vibration levels, used in this analysis as a threshold for determining potential vibration impacts due to Project construction. (11)

3.3.1 LAND USE COMPATIBILITY

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

The Land Use Compatibility for Community Noise Exposure matrix describes categories of compatibility and not specific noise standards. Residential designated land uses in the Project study area are considered normally acceptable with exterior noise levels below 60 dBA CNEL, and conditionally acceptable with exterior noise levels of up to 70 dBA CNEL. For conditionally acceptable exterior noise levels, approaching 80 dBA CNEL for Project land uses, new construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and the needed noise insulation features are included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice. (11)

3.3.2 COUNTY OF RIVERSIDE STATIONARY NOISE STANDARDS

The County of Riverside has set stationary-source hourly average L_{eq} exterior noise limits to control courtyard and sports park activities associated with the development of the proposed Glen Ivy Senior Community. The County considers noise generated using motor vehicles to be a stationary noise source when operated on private property such as at a loading dock. These facility-related noises, as projected to any portion of any surrounding property containing a *habitable dwelling, hospital, school, library or nursing home,* must not exceed the following worst-case noise levels.



LAND USE CATEGORY	COMMUNITY	(NOI	SE EX	POSURI	E LEVEI	L Ldn or	CNEL, dBA
	5	55	60	65	70	75	80
Basidantial Law Dansity		I	-1	1	1	1	I
Residential-Low Density Single Family, Duplex, Mobile Ho	mac	1	_				
Single Failiny, Duplex, Mobile Ho	mes		T				
Residential-Multiple Family			1				
	10						1
Transient Lodging-Motels, Hotels		-	_				
			-	T			
Sahaala Libuaniaa Chumbes Har	nitala						
Schools, Libraries, Churches, Hos Nursing Homes	pitais,	1	1				
Nursing Homes				1			
Auditoriums, Concert Halls, Amp	hitheaters						
Sports Arena, Outdoor Spectator	Sports		÷				
						-	
Playgrounds, Neighborhood Park	S	<u> </u>	- 1			-	_
					1		
Golf Courses, Riding Stables, Wat	er Recreation	-	-		-		
Cemeteries	er recercation,						
				_			
Office Buildings, Businesses, Com	mercial,						
and Professional						-	
Industrial Manufasturing Utiliti							
Industrial, Manufacturing, Utiliti	cs,						
Agriculture		r –	1	1	1	-	
Logond			1		1	1	1
Legend: Normally Acceptable:	onditionally Acceptable:	Nor	mally Unac	ceptable:	_	Clearly 1	nacceptable:
Specified land use is satisfactory based upon Ne	w construction or development should be lertaken only after a detailed analysis of	New	construction or	development should w construction or c	i generally	New constru	ction or development should be undertaken. Construction
of normal conventional construction, without the	fertaken only after a detailed analysis of noise reduction requirements is made and ided noise insulation features included in	does	proceed, a detail	led analysis of the r its must be made wi	oise	costs to mak	the indertaken. Construction the indoor environment ould be prohibitive and the
the	design. Conventional construction, but h closed windows and fresh air supply	noise		tres included in the		outdoor envi	ronment would not be usable.
Source: Camonita Office of Source Control	tems or air conditioning will normally fice. Outdoor environment will seem noisy						

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

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

Policy N 4.1 of the County of Riverside General Plan Noise Element sets a stationary-source average L_{eq} exterior noise limit not to be exceeded for a cumulative period of more than ten minutes in any hour of 65 dBA L_{eq} for daytime hours of 7:00 a.m. to 10:00 p.m., and 45 dBA L_{eq} during the noise-sensitive nighttime hours of 10:00 p.m. to 7:00 a.m. (11)

The County of Riverside Municipal Code Section 9.52.040 *General sound level standards* identify lower, more restrictive exterior noise level standards, which for the purpose of this report, are used to evaluate potential Project-related operational noise level limits instead of the higher the General Plan exterior noise level standards previously identified. The County of Riverside Municipal Code identifies exterior noise level limits of 55 dBA L_{eq} during the daytime hours of 7:00 a.m. to 10:00 p.m., and 45 dBA L_{eq} during the noise-sensitive nighttime hours of 10:00 p.m. to 7:00 a.m. for noise-sensitive uses. (12) The County of Riverside Municipal Code Noise Section is included in Appendix 3.1.

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

3.4 CONSTRUCTION NOISE STANDARDS

To control noise impacts associated with the construction of the proposed Project, the County of Riverside has established limits to the hours of operation. Section 9.52.020 of the County's Noise Regulation ordinance indicates that noise associated with any private construction activity located within one-quarter of a mile from an inhabited dwelling is considered exempt between the hours of 6:00 a.m. and 6:00 p.m., during the months of June through September, and 7:00 a.m. and 6:00 p.m., during the months of October through May. (12) Neither the County's General Plan nor Municipal Code establish numeric maximum acceptable construction source noise levels at potentially affected receivers for CEQA analysis purposes. Therefore, a numerical construction threshold based on Federal Transit Administration (FTA) *Transit Noise and Vibration Impact Assessment Manual* is used for analysis of daytime construction impacts, as discussed below.

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



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

3.5 VIBRATION STANDARDS

The County of Riverside does not have vibration standards for temporary construction, but the County's General Plan Noise Element does contain the human reaction to typical vibration levels. Vibration levels with peak particle velocity of 0.0787 inches per second are considered readily perceptible and above 0.1968 in/sec are considered annoying to people in buildings. Further, County of Riverside General Plan Policy N 16.3 identifies a motion velocity perception threshold for vibration due to passing trains of 0.01 inches per second (in/sec) over the range of one to 100 Hz, which is used in this noise study to assess potential impacts due to Project construction vibration levels. (11)



4 SIGNIFICANCE CRITERIA

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

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

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

4.1 CEQA GUIDELINES NOT FURTHER ANALYZED

The Project site is not located within two miles of a public airport or within an airport land use plan. The closest airport is the Corona Municipal Airport located approximately 11 miles northwest of the Project site. As such, the Project site would not be exposed to excessive noise levels from airport operations, and therefore, impacts are considered *less than significant*, and no further noise analysis is conducted in relation to CEQA Appendix G Guideline C.

4.2 NOISE-SENSITIVE RECEIVERS

Noise level increases resulting from the Project are evaluated based on the Appendix G CEQA Guidelines described above at the closest sensitive receiver locations. Under CEQA, consideration must be given to the magnitude of the increase, the existing ambient noise levels, and the location of noise-sensitive receivers to determine if a noise increase represents a significant adverse environmental impact. This approach recognizes *that there is no single noise increase that renders the noise impact significant*. (1) Unfortunately, there is no completely satisfactory way to measure the subjective effects of noise or of the corresponding human reactions of annoyance and dissatisfaction. This is primarily because of the wide variation in individual thresholds of annoyance and differing individual experiences with noise. Thus, an important way of determining a person's subjective reaction to a new noise is the comparison of it to the existing environment to which one has adapted—the so-called *ambient* environment.

In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise will typically be judged. The Federal Interagency Committee on Noise (FICON) (13) 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 (Leq).

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

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

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

Federal Interagency Committee on Noise (FICON), 1992.

The FICON guidance provides an established source of criteria to assess the impacts of substantial temporary or permanent increase in ambient noise levels. Based on the FICON criteria, the amount to which a given noise level increase is considered acceptable is reduced when the without Project noise levels are already shown to exceed certain land-use specific exterior noise level criteria. The specific levels are based on typical responses to noise level increases of 5 dBA or *readily perceptible*, 3 dBA or *barely perceptible*, and 1.5 dBA depending on the underlying without Project noise levels for noise-sensitive uses. These levels of increases and their perceived acceptance are consistent with guidance provided by both the Federal Highway Administration (6 p. 9) and Caltrans (15 p. 2_48).

4.3 NON-NOISE-SENSITIVE RECEIVERS

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



levels greater than 70 dBA CNEL are considered *conditionally acceptable* per the *Land Use Compatibility for Community Noise Exposure*. (11)

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

4.3 SIGNIFICANCE CRITERIA SUMMARY

Noise impacts shall be considered significant if any of the following occur as a direct result of the proposed development. Table 4-2 shows the significance criteria summary matrix that includes the allowable criteria used to identify potentially significant incremental noise level increases.

Analysia	Receiving	Condition(c)	Significance Criteria		
Analysis	Land Use	Condition(s)	Daytime	Nighttime	
		If ambient is < 60 dBA CNEL	≥ 5 dBA CNEL Project increase		
	Noise-Sensitive ¹ Non-Noise- Sensitive ^{1,2}	If ambient is 60 - 65 dBA CNEL	≥ 3 dBA CNEL Project increase		
Off-Site Traffic		If ambient is > 65 dBA CNEL	≥ 1.5 dBA CNEL Project increase		
Tunic		If ambient is < 70 dBA CNEL	≥ 5 dBA CNEL Project increase		
		If ambient is > 70 dBA CNEL	≥ 3 dBA CNEL Project increase		
On-Site	Residential ³	Exterior Noise Level Criteria	65 dBA CNEL		
Traffic	Residential	Interior Noise Level Standard	45 dBA CNEL		
Construction	Naisa Cancitiva	Noise Level Threshold ⁴	80	dBA L _{eq}	
Construction	Noise-Sensitive	Vibration Level Threshold ⁵	0.01 in/sec RMS		

TABLE 4-2: SIGNIFICANCE CRITERIA SUMMARY

¹ FICON, 1992.

² County of Riverside General Plan Noise Element, Table N-1.

³ County of Riverside General Plan Municipal Code, Section 9.52.040.

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

⁵ County of Riverside General Plan Noise Element, Policy N 16.3.

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



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5 EXISTING NOISE LEVEL MEASUREMENTS

To assess the existing noise level environment, 24-hour noise level measurements were taken at five locations in the Project study area. The receiver locations were selected to describe and document the existing noise environment within the Project study area. Exhibit 5-A provides the boundaries of the Project study area and the noise level measurement locations. To fully describe the existing noise conditions, noise level measurements were collected by Urban Crossroads, Inc. on Wednesday, November 11, 2020. Appendix 5.1 includes study area photos.

5.1 MEASUREMENT PROCEDURE AND CRITERIA

To describe the existing noise environment, the hourly noise levels were measured during typical weekday conditions over a 24-hour period. By collecting individual hourly noise level measurements, it is possible to describe the daytime and nighttime hourly noise levels and calculate the 24-hour CNEL. The long-term noise readings were recorded using Piccolo Type 2 integrating sound level meter and dataloggers. The Piccolo sound level meters were calibrated using a Larson-Davis calibrator, Model CAL 150. All noise meters were programmed in "slow" mode to record noise levels in "A" weighted form. The sound level meters and microphones were equipped with a windscreen during all measurements. All noise level measurement equipment satisfies the American National Standards Institute (ANSI) standard specifications for sound level meters ANSI S1.4-2014/IEC 61672-1:2013. (16)

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. (4) 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. (9)*

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



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

5.3 NOISE MEASUREMENT RESULTS

The noise measurements presented below focus on the average or equivalent sound levels (L_{eq}). The equivalent sound level (L_{eq}) represents a steady state sound level containing the same total energy as a time varying signal over a given sample period. Table 5-1 identifies the hourly daytime (7:00 a.m. to 10:00 p.m.) and nighttime (10:00 p.m. to 7:00 a.m.) noise levels at each noise level measurement location. Appendix 5.2 provides a summary of the existing hourly ambient noise levels. Table 5-1 provides the (energy average) noise levels used to describe the daytime and nighttime ambient conditions.

Location ¹	Description	Energy Noise (dBA	CNEL	
		Daytime	Nighttime	
L1	Located northwest of the Project site on Warm Springs Drive at 24120 Warm Springs Drive.	50.3	51.3	57.7
L2	Located north of the Project site on Trilogy Parkway and Temescal Canyon Road in existing vacant lot.	65.7	62.7	69.8
L3	Located east of the Project site on Swift Deer Trail near existing single-family residential home at 24327 Swift Deer Trail.	52.3	51.7	58.4
L4	Located south of the Project site on Glen Ivy Road near the Glen Ivy RV Park at 24601 Glen Ivy Road.	57.9	55.9	62.9
L5	Located by the west side of the Project site near the Glen Ivy RV Park at 24601 Glen Ivy Road.	57.9	55.9	62.9

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

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

² Energy (logarithmic) average levels. The long-term 24-hour measurement worksheets are included in Appendix 5.2.

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

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. The background ambient noise levels in the Project study area are dominated by the transportation-related noise associated with surface streets. The 24-hour existing noise level measurement results are shown on Table 5-1.





EXHIBIT 5-A: NOISE MEASUREMENT LOCATIONS

LEGEND: N 🛆 Measurement Locations



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6 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 OPR land use/noise compatibility standards, all transportation related noise levels are presented in terms of the 24-hour CNEL's.

6.1 FHWA TRAFFIC NOISE PREDICTION MODEL

The expected roadway noise level increases from vehicular traffic were calculated by Urban Crossroads, Inc. using a computer program that replicates the Federal Highway Administration (FHWA) Traffic Noise Prediction Model- FHWA-RD-77-108. (17) 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. (18) 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. (19)

This methodology is consistent with the County of Riverside Office of Industrial Hygiene *Requirements for Determining and Mitigating Traffic Noise Impacts to Residential Structures*, which specifically requires the FHWA RD-77-108 model to be used in analysis within the County's jurisdiction. (20)

6.2 OFF-SITE TRAFFIC NOISE PREDICTION MODEL INPUTS

Table 6-1 presents the roadway parameters used to assess the Project's off-site dBA CNEL transportation noise impacts. Table 6-1 identifies the study area roadway segments, the distance from the centerline to adjacent land use based on the functional roadway classifications per the County of Riverside General Plan Circulation Element, and the posted vehicle speeds. Where posted vehicle speeds are unavailable, the 40-mph speed identified in the County of Riverside Office of Industrial Hygiene Noise Study Guidelines is used. The ADT volumes used in this study area presented on Table 6-2 are based on the *Glen Ivy Senior Community Traffic Analysis*, prepared by Urban Crossroads, Inc. for the following traffic scenarios under both Without and With Project alternatives for RIRO at Driveway 4 and Full Access at Driveway 4; Existing 2020, Existing plus Ambient Growth (EA) 2023, EA plus Cumulative Projects (EAC) 2023, and Horizon Year 2040.



The ADT volumes vary for each roadway segment based on the existing traffic volumes and the combination of project traffic distributions. In addition, the off-site traffic noise analysis maintains a peak hour to average daily traffic (peak-to-daily) relationship of approximately 6.19%. The *General Plan Noise Element* (11) requires that future on-site traffic noise impacts be assessed using the maximum capacity design standard for highways and major roads. However, this analysis relies on a comparative analysis of the off-site traffic noise impacts, without and with project ADT traffic volumes from the Project traffic study. The use of the maximum capacity design standards is typically reserved for determining the future long-range on-site traffic noise impacts, not the comparative contributions associated with the off-site Project traffic noise level impacts.

The average daily traffic (ADT) volumes used for this study are presented on Table 6-2. Table 6-3 provides the time of day (daytime, evening, and nighttime) vehicle splits and Table 6-4 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.

ID	Roadway	Segment	Receiving Land Use ¹	Classification ²	Centerline Distance to Receiving Land Use (Feet) ³	Vehicle Speed (mph)
1	Temescal Canyon Rd.	n/o Lawson Rd.	Non-Sensitive	Collector	37'	40
2	Temescal Canyon Rd.	n/o Trilogy Pkwy.	Non-Sensitive	Collector	37'	40
3	Temescal Canyon Rd.	s/o Dwy. 4	Sensitive	Collector	37'	40
4	Trilogy Pkwy.	w/o Dwy. 1	Sensitive	Major	59'	45
5	Trilogy Pkwy.	w/o Temescal Canyon Rd.	Non-Sensitive	Major	59'	45

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

² Glen Ivy Senior Community Traffic Analysis, Urban Crossroads, Inc.

³ Based upon the right-of-way distances for each roadway classification provided in the General Plan Circulation Element.



		Segment	Average Daily Traffic Volumes ¹											
ID			Existing 2020		Existing Plus Ambient Growth (EA) 2023		Existing Plus Ambient Growth Plus Cumulative Projects (EAC) 2023			Horizon Year (HY) 2040				
	Roadway		Without Project	With Project RIRO at Dwy. 4	With Project Full Access at Dwy. 4	Without Project	With Project RIRO at Dwy. 4	With Project Full Access at Dwy. 4	Without Project	With Project RIRO at Dwy. 4	With Project Full Access at Dwy. 4	Without Project	With Project RIRO at Dwy. 4	With Project Full Access at Dwy. 4
1	Temescal Canyon Rd.	n/o Lawson Rd.	17,280	17,742	17,742	18,337	18,799	18,799	24,370	24,832	24,832	30,390	30,852	30,852
2	Temescal Canyon Rd.	n/o Trilogy Pkwy.	16,257	16,720	16,721	17,252	17,715	17,716	34,273	34,736	34,737	39,937	40,400	40,401
3	Temescal Canyon Rd.	s/o Dwy. 4	13,928	14,106	14,106	14,781	14,959	14,959	31,855	32,033	32,033	36,707	36,885	36,885
4	Trilogy Pkwy.	w/o Dwy. 1	4,734	4,806	4,806	5,024	5,096	5,096	6,930	7,002	7,002	8,579	8,651	8,651
5	Trilogy Pkwy.	w/o Temescal Canyon Rd.	4,734	5,107	4,976	5,024	5,397	5,266	6,930	7,303	7,172	8,579	8,952	8,821

TABLE 6-2: AVERAGE DAILY TRAFFIC VOLUMES

¹ Glen Ivy Senior Community Traffic Analysis, Urban Crossroads, Inc.



		Total of Time of								
Vehicle Type	Daytime	Evening	Nighttime	Day Splits						
Riverside County (Expressway, Arterial, Major)										
Autos	75.55%	14.02%	10.43%	100.00%						
Medium Trucks	48.00%	2.00%	50.00%	100.00%						
Heavy Trucks	48.00%	2.00%	50.00%	100.00%						
Riverside County (Secondary, Collector)										
Autos	75.55%	13.96%	10.49%	100.00%						
Medium Trucks	48.92%	2.17%	48.91%	100.00%						
Heavy Trucks	47.30%	5.40%	47.30%	100.00%						

TABLE 6-3: TIME OF DAY VEHICLE SPLITS

¹ County of Riverside Office of Industrial Hygiene, 2017.

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

TABLE 6-4: TRAFFIC FLOW BY VEHICLE TYPE (VEHICLE MIX)

	Т				
Roadway	Autos	Medium Trucks	Heavy Trucks	Total	
Expressway, Arterial, Major ¹	92.00%	3.00%	5.00%	100.00%	
Secondary, Collector ¹	97.42%	1.84%	0.74%	100.00%	

¹ County of Riverside Office of Industrial Hygiene, 2017.

6.3 ON-SITE TRAFFIC NOISE PREDICTION MODEL INPUTS

Table 6-5 presents the on-site roadway parameters including the ADT volumes used for this study. The on-site roadway parameters are based on the County of Riverside General Plan Circulation Element roadway classifications and consistent with the County of Riverside office of Industrial Hygiene Requirements for Determining and Mitigating Traffic Noise Impacts to Residential Structures. (20)

The maximum two-way traffic volumes at a level of service C, shown on Table 6-5, were obtained from Figure C-3 of the 2008 County of Riverside General Plan Circulation Element (21) and reflect future long-range traffic conditions needed to assess the on-site traffic noise environment and to identify the appropriate noise mitigation measures that address the worst-case future noise conditions. Consistent with the County of Riverside Office of Industrial Hygiene noise study requirements, hard site conditions were used to analyze the potential on-site traffic noise impacts for the Project study area. (20) Hard site conditions account for the sound propagation loss over a reflective surface between the source and the receiver.



Roadway Segment	Classification ¹	Lanes	Average Daily Traffic Volume ²	Speed Limit (mph) ²	Site Conditions ²
Temescal Canyon Road	Major	4	27,300	40	Hard
Trilogy Parkway	Major	4	27,300	40	Hard

TABLE 6-5: ON-SITE ROADWAY PARAMETERS

¹ Road classifications based upon the County of Riverside General Plan Circulation Element.

² County of Riverside Office of Industrial Hygiene Requirements for Determining and Mitigating Traffic Noise Impacts to Residential Structures.



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7 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 *Glen Ivy Senior Community Traffic Analysis*. (3) Noise contour boundaries represent the equal levels of noise exposure and are measured in CNEL from the center of the roadway.

7.1 NOISE CONTOURS

Noise contours were used to assess the Project's incremental traffic-related noise impacts at land uses adjacent to roadways conveying Project traffic. The noise contours represent the distance to noise levels of a constant value and are measured from the center of the roadway for the 70, 65, and 60 dBA noise levels. The noise contours do not consider the effect of any existing noise barriers or topography that may attenuate ambient noise levels. In addition, because the noise contours reflect modeling of vehicular noise on area roadways, they appropriately do not reflect noise contributions from the surrounding stationary noise sources within the Project study area. Tables 7-1 to 7-12 present a summary of the exterior traffic noise levels for each traffic condition.

ID	Road	Segment	Receiving	CNEL at Nearest Receiving Land Use (dBA) ²	Distance to Contour from Centerline (Feet)		
			Land Use ¹		70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Temescal Canyon Rd.	n/o Lawson Rd.	Non-Sensitive	73.3	61	132	284
2	Temescal Canyon Rd.	n/o Trilogy Pkwy.	Non-Sensitive	74.7	76	165	355
3	Temescal Canyon Rd.	s/o Dwy. 4	Sensitive	74.4	72	156	336
4	Trilogy Pkwy.	w/o Dwy. 1	Sensitive	71.1	70	151	326
5	Trilogy Pkwy.	w/o Temescal Canyon Rd.	Non-Sensitive	71.2	71	154	331

TABLE 7-1:	EXISTING	WITHOUT	PROJECT	CONTOURS

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

² The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the nearest receiving land use.



ID	Road	Segment	Receiving	CNEL at Nearest Receiving Land Use (dBA) ²	Distance to Contour from Centerline (Feet)		
			Land Use ¹		70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Temescal Canyon Rd.	n/o Lawson Rd.	Non-Sensitive	71.8	49	105	227
2	Temescal Canyon Rd.	n/o Trilogy Pkwy.	Non-Sensitive	71.6	47	101	218
3	Temescal Canyon Rd.	s/o Dwy. 4	Sensitive	70.8	42	90	195
4	Trilogy Pkwy.	w/o Dwy. 1	Sensitive	69.5	RW	118	254
5	Trilogy Pkwy.	w/o Temescal Canyon Rd.	Non-Sensitive	69.8	RW	123	264

TABLE 7-2: EXISTING PLUS PROJECT RIRO AT DRIVEWAY 4 CONTOURS

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

² The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the nearest receiving land use.

 $"\mathsf{RW}"$ = Location of the respective noise contour falls within the right-of-way of the road.

TABLE 7-3: EXISTING PLUS PROJECT FULL ACCESS AT DRIVEWAY 4 CONTOURS

ID Road	Pood	Segment	Receiving Land Use ¹	CNEL at Nearest Receiving Land Use (dBA) ²	Distance to Contour from Centerline (Feet)		
	Noau				70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Temescal Canyon Rd.	n/o Lawson Rd.	Non-Sensitive	71.8	49	105	227
2	Temescal Canyon Rd.	n/o Trilogy Pkwy.	Non-Sensitive	71.6	47	101	218
3	Temescal Canyon Rd.	s/o Dwy. 4	Sensitive	70.8	42	90	195
4	Trilogy Pkwy.	w/o Dwy. 1	Sensitive	69.5	RW	118	254
5	Trilogy Pkwy.	w/o Temescal Canyon Rd.	Non-Sensitive	69.7	RW	121	260

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

² The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the nearest receiving land use.

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

TABLE 7-4: EA 2023 WITHOUT PROJECT CONTOURS

ID	Road	Segment	Receiving	CNEL at Nearest Receiving Land Use (dBA) ²	Distance to Contour from Centerline (Feet)		
			Land Use ¹		70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Temescal Canyon Rd.	n/o Lawson Rd.	Non-Sensitive	72.0	50	108	232
2	Temescal Canyon Rd.	n/o Trilogy Pkwy.	Non-Sensitive	71.7	48	103	222
3	Temescal Canyon Rd.	s/o Dwy. 4	Sensitive	71.0	43	93	201
4	Trilogy Pkwy.	w/o Dwy. 1	Sensitive	69.7	RW	121	261
5	Trilogy Pkwy.	w/o Temescal Canyon Rd.	Non-Sensitive	69.7	RW	121	261

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

² The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the nearest receiving land use.



ID	Road	Segment	Receiving Land Use ¹	CNEL at Nearest Receiving Land Use (dBA) ²	Distance to Contour from Centerline (Feet)		
					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Temescal Canyon Rd.	n/o Lawson Rd.	Non-Sensitive	72.1	51	109	236
2	Temescal Canyon Rd.	n/o Trilogy Pkwy.	Non-Sensitive	71.8	49	105	226
3	Temescal Canyon Rd.	s/o Dwy. 4	Sensitive	71.1	44	94	202
4	Trilogy Pkwy.	w/o Dwy. 1	Sensitive	69.8	RW	123	264
5	Trilogy Pkwy.	w/o Temescal Canyon Rd.	Non-Sensitive	70.0	59	127	274

TABLE 7-5: EA 2023 WITH PROJECT RIRO AT DRIVEWAY 4 CONTOURS

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

² The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the nearest receiving land use.

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

TABLE 7-6: EA 2023 WITH PROJECT FULL ACCESS AT DRIVEWAY 4 CONTOURS

ID	Road	Segment	Receiving Land Use ¹	CNEL at Nearest Receiving Land Use (dBA) ²	Distance to Contour from Centerline (Feet)		
					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Temescal Canyon Rd.	n/o Lawson Rd.	Non-Sensitive	72.1	51	109	236
2	Temescal Canyon Rd.	n/o Trilogy Pkwy.	Non-Sensitive	71.8	49	105	226
3	Temescal Canyon Rd.	s/o Dwy. 4	Sensitive	71.1	44	94	202
4	Trilogy Pkwy.	w/o Dwy. 1	Sensitive	69.8	RW	123	264
5	Trilogy Pkwy.	w/o Temescal Canyon Rd.	Non-Sensitive	69.9	RW	125	270

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

² The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the nearest receiving land use.

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

TABLE 7-7: EAC 2023 WITHOUT PROJECT CONTOURS

ID	Road	Segment	Receiving	CNEL at Nearest Receiving Land Use (dBA) ²	Distance to Contour from Centerline (Feet)		
			Land Use ¹		70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Temescal Canyon Rd.	n/o Lawson Rd.	Non-Sensitive	73.2	60	130	280
2	Temescal Canyon Rd.	n/o Trilogy Pkwy.	Non-Sensitive	74.7	76	163	352
3	Temescal Canyon Rd.	s/o Dwy. 4	Sensitive	74.3	72	155	335
4	Trilogy Pkwy.	w/o Dwy. 1	Sensitive	71.1	70	150	324
5	Trilogy Pkwy.	w/o Temescal Canyon Rd.	Non-Sensitive	71.1	70	150	324

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

² The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the nearest receiving land use.



ID	Road	Segment	Receiving	CNEL at Nearest Receiving Land Use (dBA) ²	Distance to Contour from Centerline (Feet)		
			Land Use ¹		70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Temescal Canyon Rd.	n/o Lawson Rd.	Non-Sensitive	73.3	61	132	284
2	Temescal Canyon Rd.	n/o Trilogy Pkwy.	Non-Sensitive	74.7	76	165	355
3	Temescal Canyon Rd.	s/o Dwy. 4	Sensitive	74.4	72	156	336
4	Trilogy Pkwy.	w/o Dwy. 1	Sensitive	71.1	70	151	326
5	Trilogy Pkwy.	w/o Temescal Canyon Rd.	Non-Sensitive	71.3	72	156	335

TABLE 7-8: EAC WITH PROJECT RIRO AT DRIVEWAY 4 CONTOURS

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

² The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the nearest receiving land use.

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

TABLE 7-9: EAC 2023 WITH PROJECT FULL ACCESS AT DRIVEWAY 4 CONTOURS

ID	Road	Segment	Receiving Land Use ¹	CNEL at Nearest Receiving Land Use (dBA) ²	Distance to Contour from Centerline (Feet)		
U					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Temescal Canyon Rd.	n/o Lawson Rd.	Non-Sensitive	73.3	61	132	284
2	Temescal Canyon Rd.	n/o Trilogy Pkwy.	Non-Sensitive	74.7	76	165	355
3	Temescal Canyon Rd.	s/o Dwy. 4	Sensitive	74.4	72	156	336
4	Trilogy Pkwy.	w/o Dwy. 1	Sensitive	71.1	70	151	326
5	Trilogy Pkwy.	w/o Temescal Canyon Rd.	Non-Sensitive	71.2	71	154	331

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

² The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the nearest receiving land use.

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

TABLE 7-10: HY 2040 WITHOUT PROJECT CONTOURS

ID	Road	Segment	Receiving	CNEL at Nearest Receiving Land Use (dBA) ²	Distance to Contour from Centerline (Feet)		
			Land Use ¹		70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Temescal Canyon Rd.	n/o Lawson Rd.	Non-Sensitive	74.1	70	151	325
2	Temescal Canyon Rd.	n/o Trilogy Pkwy.	Non-Sensitive	75.3	84	181	389
3	Temescal Canyon Rd.	s/o Dwy. 4	Sensitive	75.0	79	171	368
4	Trilogy Pkwy.	w/o Dwy. 1	Sensitive	72.0	80	173	373
5	Trilogy Pkwy.	w/o Temescal Canyon Rd.	Non-Sensitive	72.0	80	173	373

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

² The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the nearest receiving land use.



ID	Road	Cormont	Receiving	CNEL at Nearest	Distance to Contour from Centerline (Feet)		
	Road	Segment	Land Use ¹	Receiving Land Use (dBA) ²	70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Temescal Canyon Rd.	n/o Lawson Rd.	Non-Sensitive	74.2	71	152	328
2	Temescal Canyon Rd.	n/o Trilogy Pkwy.	Non-Sensitive	75.4	85	182	392
3	Temescal Canyon Rd.	s/o Dwy. 4	Sensitive	75.0	80	171	369
4	Trilogy Pkwy.	w/o Dwy. 1	Sensitive	72.1	81	174	376
5	Trilogy Pkwy.	w/o Temescal Canyon Rd.	Non-Sensitive	72.2	83	178	384

TABLE 7-11: HY 2040 WITH PROJECT RIRO AT DRIVEWAY 4 CONTOURS

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

² The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the nearest receiving land use.

 $"\mathsf{RW}"$ = Location of the respective noise contour falls within the right-of-way of the road.

TABLE 7-12: HY 2040 WITH PROJECT FULL ACCESS AT DRIVEWAY 4 CONTOURS

	Road Segment		Receiving	CNEL at Nearest	Distance to Contour from Centerline (Feet)		
ID	Road	Land Use ¹ Land Land Land Land Land Land	Receiving Land Use (dBA) ²	70 dBA CNEL	65 dBA CNEL	60 dBA CNEL	
1	Temescal Canyon Rd.	n/o Lawson Rd.	Non-Sensitive	74.2	71	152	328
2	Temescal Canyon Rd.	n/o Trilogy Pkwy.	Non-Sensitive	75.4	85	182	392
3	Temescal Canyon Rd.	s/o Dwy. 4	Sensitive	75.0	80	171	369
4	Trilogy Pkwy.	w/o Dwy. 1	Sensitive	72.1	81	174	376
5	Trilogy Pkwy.	w/o Temescal Canyon Rd.	Non-Sensitive	72.1	82	177	380

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

² The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the nearest receiving land use.

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

7.2 EXISTING 2020 PROJECT RIRO AT DRIVEWAY 4 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 *Glen Ivy Senior Community Traffic Analysis* prepared by Urban Crossroads, Inc. This condition is provided solely for informational purposes and will not occur, since the Project will not be fully developed and occupied under Existing conditions. Therefore, no mitigation measures are considered to reduce the Existing Plus Project traffic noise level increases. The future EA, EAC and HY traffic noise conditions that include all cumulative projects are used to determine the significance of the Project off-site traffic noise level increases on the study area roadway segments. Table 7-1 shows the Existing without Project conditions CNEL noise levels. The Existing without Project exterior noise levels are expected to range from 69.4 to 71.7 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 7-2 shows the Existing with Project RIRO at Driveway 4 conditions will range from 69.5 to 71.8 dBA CNEL. Table 7-13 shows that the Project off-site traffic noise level impacts will range from 0.0 to 0.4 dBA CNEL.

7.3 EXISTING 2020 PROJECT FULL ACCESS AT DRIVEWAY 4 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 *Glen lvy Senior Community Traffic Analysis* prepared by Urban Crossroads, Inc. This condition is provided solely for informational purposes and will not occur, since the Project will not be fully developed and occupied under Existing conditions. Therefore, no mitigation measures are considered to reduce the Existing Plus Project traffic noise level increases. The future EA, EAC and HY traffic noise conditions that include all cumulative projects are used to determine the significance of the Project off-site traffic noise level increases on the study area roadway segments. Table 7-1 shows the Existing without Project conditions CNEL noise levels. The Existing without Project exterior noise levels are expected to range from 69.4 to 71.7 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 7-3 shows the Existing with Project Full Access at Driveway 4 conditions will range from 69.5 to 71.8 dBA CNEL. Table 7-14 shows that the Project off-site traffic noise level impacts will range from 0.0 to 0.3 dBA CNEL.

7.4 EA 2023 PROJECT RIRO AT DRIVEWAY 4 TRAFFIC NOISE LEVEL INCREASES

Table 7-4 presents the Existing plus Ambient Growth (EA) without Project conditions CNEL noise levels. The EA without Project exterior noise levels are expected to range from 69.7 to 72.0 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 7-5 shows the EA with Project RIRO at Driveway 4 conditions will range from 69.8 to 72.1 dBA CNEL. Table 7-15 shows that the Project off-site traffic noise level increases will range from 0.1 to 0.3 dBA CNEL. Based on the significance criteria for off-site traffic noise presented in Table 4-2, land uses adjacent to the study area roadway segments would experience *less than significant* noise level increases due to unmitigated Project-related traffic noise levels.

7.5 EA 2023 PROJECT FULL ACCESS AT DRIVEWAY 4 TRAFFIC NOISE LEVEL INCREASES

Table 7-4 presents the Existing plus Ambient Growth (EA) without Project conditions CNEL noise levels. The EA without Project exterior noise levels are expected to range from 69.7 to 72.0 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 7-6 shows the EA with Project Full Access at Driveway 4 conditions will range from 69.8 to 72.1 dBA CNEL. Table 7-16 shows that the Project off-site traffic noise level increases will range from 0.1 to 0.2 dBA CNEL. Based on the significance criteria for off-site traffic noise presented in Table 4-2, land uses adjacent to the study area roadway segments would experience *less than significant* noise level increases due to unmitigated Project-related traffic noise levels.

7.6 EAC 2023 PROJECT RIRO AT DRIVEWAY 4 TRAFFIC NOISE LEVEL INCREASES

Table 7-7 presents the Existing plus Ambient Growth Plus Cumulative Projects (EAC) without Project conditions CNEL noise levels. The EAC without Project exterior noise levels are expected



to range from 71.1 to 74.7 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 7-8 shows the EAC with Project RIRO at Driveway 4 conditions will range from 71.1 to 74.7 dBA CNEL. Table 7-17 shows that the Project off-site traffic noise level increases will range from 0.0 to 0.2 dBA CNEL. Based on the significance criteria for off-site traffic noise presented in Table 4-2, land uses adjacent to the study area roadway segments would experience *less than significant* noise level increases due to unmitigated Projectrelated traffic noise levels.

7.7 EAC 2023 PROJECT FULL ACCESS AT DRIVEWAY 4 TRAFFIC NOISE LEVEL INCREASES

Table 7-7 presents the Existing plus Ambient Growth Plus Cumulative Projects (EAC) without Project conditions CNEL noise levels. The EAC without Project exterior noise levels are expected to range from 71.1 to 74.7 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 7-9 shows the EAC with Project Full Access at Driveway 4 conditions will range from 71.1 to 74.7 dBA CNEL. Table 7-18 shows that the Project off-site traffic noise level increases will range from 0.0 to 0.1 dBA CNEL. Based on the significance criteria for off-site traffic noise presented in Table 4-2, land uses adjacent to the study area roadway segments would experience *less than significant* noise level increases due to unmitigated Project-related traffic noise levels.

7.8 HY 2040 PROJECT RIRO AT DRIVEWAY 4 TRAFFIC NOISE LEVEL INCREASES

Table 7-10 presents the Horizon Year (HY) without Project conditions CNEL noise levels. The HY without Project exterior noise levels are expected to range from 72.0 to 75.3 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 7-11 shows the HY with Project RIRO at Driveway 4 conditions will range from 72.1 to 75.4 dBA CNEL. Table 7-19 shows that the Project off-site traffic noise level increases will range from 0.0 to 0.2 dBA CNEL. Based on the significance criteria for off-site traffic noise presented in Table 4-2, land uses adjacent to the study area roadway segments would experience *less than significant* noise level increases due to unmitigated Project-related traffic noise levels.

7.9 HY 2040 PROJECT FULL ACCESS AT DRIVEWAY 4 TRAFFIC NOISE LEVEL INCREASES

Table 7-10 presents the Horizon Year (HY) without Project conditions CNEL noise levels. The HY without Project exterior noise levels are expected to range from 72.0 to 75.3 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 7-12 shows the HY with Project Full Access at Driveway 4 conditions will range from 72.1 to 75.4 dBA CNEL. Table 7-20 shows that the Project off-site traffic noise level increases will range from 0.0 to 0.1 dBA CNEL. Based on the significance criteria for off-site traffic noise presented in Table 4-2, land uses adjacent to the study area roadway segments would experience *less than significant* noise level increases due to unmitigated Project-related traffic noise levels.



ID	Road Segment		Receiving		IEL at Receivi and Use (dBA	Incremental Noise Level Increase Threshold ³		
		, , , , , , , , , , , , , , , , , , ,	Land Use ¹	No Project	With Project	Project Addition	Limit	Exceeded?
1	Temescal Canyon Rd.	n/o Lawson Rd.	Non-Sensitive	71.7	71.8	0.1	3.0	No
2	Temescal Canyon Rd.	n/o Trilogy Pkwy.	Non-Sensitive	71.4	71.6	0.2	3.0	No
3	Temescal Canyon Rd.	s/o Dwy. 4	Sensitive	70.8	70.8	0.0	1.5	No
4	Trilogy Pkwy.	w/o Dwy. 1	Sensitive	69.4	69.5	0.1	1.5	No
5	Trilogy Pkwy.	w/o Temescal Canyon Rd.	Non-Sensitive	69.4	69.8	0.4	5.0	No

TABLE 7-13: EXISTING WITH PROJECT RIRO AT DRIVEWAY 4 TRAFFIC NOISE LEVEL INCREASES

² The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving land use.

³ Does the Project create an incremental noise level increase exceeding the significance criteria (Table 4-2)?

TABLE 7-14: EXISTING WITH PROJECT FULL ACCESS AT DRIVEWAY 4 TRAFFIC NOISE LEVEL INCREASES

ID	Road Segment		Receiving		IEL at Receivi and Use (dBA	Incremental Noise Level Increase Threshold ³		
		, , , , , , , , , , , , , , , , , , ,	Land Use ¹	No Project	With Project	Project Addition	Limit	Exceeded?
1	Temescal Canyon Rd.	n/o Lawson Rd.	Non-Sensitive	71.7	71.8	0.1	3.0	No
2	Temescal Canyon Rd.	n/o Trilogy Pkwy.	Non-Sensitive	71.4	71.6	0.2	3.0	No
3	Temescal Canyon Rd.	s/o Dwy. 4	Sensitive	70.8	70.8	0.0	1.5	No
4	Trilogy Pkwy.	w/o Dwy. 1	Sensitive	69.4	69.5	0.1	1.5	No
5	Trilogy Pkwy.	w/o Temescal Canyon Rd.	Non-Sensitive	69.4	69.7	0.3	5.0	No

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

² The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving land use.



ID	Road Segment		Receiving		IEL at Receivi and Use (dBA	Incremental Noise Level Increase Threshold ³		
		, i i i i i i i i i i i i i i i i i i i	Land Use ¹	No Project	With Project	Project Addition	Limit	Exceeded?
1	Temescal Canyon Rd.	n/o Lawson Rd.	Non-Sensitive	72.0	72.1	0.1	3.0	No
2	Temescal Canyon Rd.	n/o Trilogy Pkwy.	Non-Sensitive	71.7	71.8	0.1	3.0	No
3	Temescal Canyon Rd.	s/o Dwy. 4	Sensitive	71.0	71.1	0.1	1.5	No
4	Trilogy Pkwy.	w/o Dwy. 1	Sensitive	69.7	69.8	0.1	1.5	No
5	Trilogy Pkwy.	w/o Temescal Canyon Rd.	Non-Sensitive	69.7	70.0	0.3	5.0	No

TABLE 7-15: EA 2023 WITH PROJECT RIRO AT DRIVEAY 4 TRAFFIC NOISE LEVEL INCREASES

² The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving land use.

³ Does the Project create an incremental noise level increase exceeding the significance criteria (Table 4-2)?

TABLE 7-16: EA 2023 WITH PROJECT FULL ACCESS AT DRIVEWAY 4 TRAFFIC NOISE LEVEL INCREASES

ID	Road Segment		Receiving		IEL at Receivi and Use (dBA	Incremental Noise Level Increase Threshold ³		
			Land Use ¹	No Project	With Project	Project Addition	Limit	Exceeded?
1	Temescal Canyon Rd.	n/o Lawson Rd.	Non-Sensitive	72.0	72.1	0.1	3.0	No
2	Temescal Canyon Rd.	n/o Trilogy Pkwy.	Non-Sensitive	71.7	71.8	0.1	3.0	No
3	Temescal Canyon Rd.	s/o Dwy. 4	Sensitive	71.0	71.1	0.1	1.5	No
4	Trilogy Pkwy.	w/o Dwy. 1	Sensitive	69.7	69.8	0.1	1.5	No
5	Trilogy Pkwy.	w/o Temescal Canyon Rd.	Non-Sensitive	69.7	69.9	0.2	5.0	No

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

² The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving land use.



ID	Road Segment		Receiving		IEL at Receivi and Use (dBA	Incremental Noise Level Increase Threshold ³		
		, j	Land Use ¹	No Project	With Project	Project Addition	Limit	Exceeded?
1	Temescal Canyon Rd.	n/o Lawson Rd.	Non-Sensitive	73.2	73.3	0.1	3.0	No
2	Temescal Canyon Rd.	n/o Trilogy Pkwy.	Non-Sensitive	74.7	74.7	0.0	3.0	No
3	Temescal Canyon Rd.	s/o Dwy. 4	Sensitive	74.3	74.4	0.1	1.5	No
4	Trilogy Pkwy.	w/o Dwy. 1	Sensitive	71.1	71.1	0.0	1.5	No
5	Trilogy Pkwy.	w/o Temescal Canyon Rd.	Non-Sensitive	71.1	71.3	0.2	3.0	No

TABLE 7-17: EAC 2023 WITH PROJECT RIRO AT DRIVEAY 4 TRAFFIC NOISE LEVEL INCREASES

² The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving land use.

³ Does the Project create an incremental noise level increase exceeding the significance criteria (Table 4-2)?

TABLE 7-18: EAC 2023 WITH PROJECT FULL ACCESS AT DRIVEWAY 4 TRAFFIC NOISE LEVEL INCREASES

ID	Road	Segment	Receiving		IEL at Receivi and Use (dBA	0	Level I	ntal Noise ncrease shold ³
			Land Use ¹	No Project	With Project	Project Addition	Limit	Exceeded?
1	Temescal Canyon Rd.	n/o Lawson Rd.	Non-Sensitive	73.2	73.3	0.1	3.0	No
2	Temescal Canyon Rd.	n/o Trilogy Pkwy.	Non-Sensitive	74.7	74.7	0.0	3.0	No
3	Temescal Canyon Rd.	s/o Dwy. 4	Sensitive	74.3	74.4	0.1	1.5	No
4	Trilogy Pkwy.	w/o Dwy. 1	Sensitive	71.1 71.1 0.0		0.0	1.5	No
5	Trilogy Pkwy.	w/o Temescal Canyon Rd.	Non-Sensitive	71.1	71.2	0.1	3.0	No

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

² The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving land use.



ID	Road Segment		Receiving		IEL at Receivi and Use (dBA	Incremental Noise Level Increase Threshold ³		
		, , , , , , , , , , , , , , , , , , ,	Land Use ¹	No Project	With Project	Project Addition	Limit	Exceeded?
1	Temescal Canyon Rd.	n/o Lawson Rd.	Non-Sensitive	74.1	74.2	0.1	3.0	No
2	Temescal Canyon Rd.	n/o Trilogy Pkwy.	Non-Sensitive	75.3	75.4	0.1	3.0	No
3	Temescal Canyon Rd.	s/o Dwy. 4	Sensitive	75.0	75.0	0.0	1.5	No
4	Trilogy Pkwy.	w/o Dwy. 1	Sensitive	72.0	72.1	0.1	1.5	No
5	Trilogy Pkwy.	w/o Temescal Canyon Rd.	Non-Sensitive	72.0	72.2	0.2	3.0	No

TABLE 7-19: HY 2040 WITH PROJECT RIRO AT DRIVEAY 4 TRAFFIC NOISE LEVEL INCREASES

² The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving land use.

³ Does the Project create an incremental noise level increase exceeding the significance criteria (Table 4-2)?

TABLE 7-20: HY 2040 WITH PROJECT FULL ACCESS AT DRIVEAY 4 TRAFFIC NOISE LEVEL INCREASES

ID	Road	Segment	Receiving		IEL at Receivi and Use (dBA	-	Level I	ntal Noise ncrease shold ³
			Land Use ¹	No Project	With Project	Project Addition	Limit	Exceeded?
1	Temescal Canyon Rd.	n/o Lawson Rd.	Non-Sensitive	74.1	74.2	0.1	3.0	No
2	Temescal Canyon Rd.	n/o Trilogy Pkwy.	Non-Sensitive	75.3	75.4	0.1	3.0	No
3	Temescal Canyon Rd.	s/o Dwy. 4	Sensitive	75.0	75.0	0.0	1.5	No
4	Trilogy Pkwy.	w/o Dwy. 1	Sensitive	72.0 72.1 0.1		0.1	1.5	No
5	Trilogy Pkwy.	w/o Temescal Canyon Rd.	Non-Sensitive	72.0	72.1	0.1	3.0	No

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

² The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving land use.



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8 ON-SITE TRANSPORTATION NOISE IMPACTS

An on-site exterior noise impact analysis has been completed to determine the noise exposure levels that would result from adjacent transportation noise sources in the Project study area, and to identify potential noise mitigation measures that would achieve acceptable Project exterior and interior noise levels. The primary source of transportation noise affecting the Project site is anticipated to be from Temescal Canyon Road and Trilogy Parkway. The Project would also be exposed to background traffic noise from the I-15 Freeway. However, due to the distance, topography and intervening structures, traffic noise from Freeway will not make a substantive contribution to the existing ambient noise conditions. This section analyzes on-site exterior and interior noise levels at the Project buildings.

8.1 EXTERIOR NOISE ANALYSIS

Using the FHWA traffic noise prediction model, and the parameters outlined in Section 6, the expected future exterior noise levels at the first-floor building façades were calculated. Table 8-1 presents a summary of future exterior noise level impacts at the first-floor receiver locations. The on-site transportation noise level impacts indicate that the unmitigated exterior noise levels will range from 67.5 to 75.0 dBA CNEL. The on-site traffic noise analysis calculations are provided in Appendix 8.1. Based on Exhibit 3-A, land use for nursing homes is considered *conditionally acceptable* as noise approaches 70 dBA CNEL and *normally unacceptable* up to 80 dBA CNEL. For *normally unacceptable* conditions, a detailed analysis of the noise reduction requirements must be made with needed noise insulation features included in the design and outdoor areas must be shielded. Since the Project does not include any exposed outdoor areas facing Temescal Canyon Road and Trilogy Parkway, the on-site traffic noise analysis focuses on the noise sensitive interior spaces.

Receiver Location	Roadway	Unmitigated Exterior Noise Level (dBA CNEL)	Land Use Compatibility ¹
Memory Care	Temescal Cyn. Rd.	75.0	Normally Unacceptable
Assisted Living	Temescal Cyn. Rd.	69.2	Conditionally Acceptable
Memory Care	Trilogy Pkwy.	74.2	Normally Unacceptable
Independent Living	Trilogy Pkwy.	71.7	Normally Unacceptable

TABLE 8-1: UNMITIGATED EXTERIOR TRAFFIC NOISE LEVELS

¹ Based on the General Plan land use compatibility standards for Nursing Homes as shown on Exhibit 3-A.



8.2 INTERIOR NOISE ANALYSIS

To ensure that the Project provides an acceptable interior noise environment, this analysis relies on the County of Riverside 45 dBA CNEL interior noise limit for new construction.

8.2.1 NOISE REDUCTION METHODOLOGY

The interior noise level is the difference between the predicted exterior noise level at the building façade and the noise reduction of the structure. Typical building construction will provide a Noise Reduction (NR) of approximately 12 dBA with "windows open" and a minimum 25 dBA noise reduction with "windows closed." (6) (22) However, sound leaks, cracks and openings within the window assembly can greatly diminish its effectiveness in reducing noise. Several methods are used to improve interior noise reduction, including: [1] weather-stripped solid core exterior doors; [2] upgraded dual glazed windows; [3] mechanical ventilation/air conditioning; and [4] exterior wall/roof assembles free of cut outs or openings.

8.2.2 INTERIOR NOISE LEVEL ASSESSMENT

Table 8-3 shows that the future unmitigated exterior noise levels at the building façades are expected to range from 69.2 to 75.0 dBA CNEL requiring an interior noise level reduction ranging from 24.2 to 30.0 dBA CNEL. Therefore, a windows-closed condition requiring a means of mechanical ventilation (e.g. air conditioning), upgraded windows and glass doors with a minimum sound transmission class (STC) rating of 34 are required for windows and doors facing Temescal Canyon Road and Trilogy Parkway as shown on Exhibit 8-A. Table 8-2 shows that with the upgraded windows, the interior noise levels will range from 37.2 to 43.7 dBA CNEL. The interior noise level assessment demonstrates that the Project will satisfy the County of Riverside 45 dBA CNEL interior noise level requirements with the required upgraded windows.

Receiver Location	Roadway	Noise Level at Façade ¹	Required Interior NR ²	Estimated Interior NR ³	Upgraded Windows ⁴	Interior Noise Level ⁵
Memory Care	Temescal Cyn. Rd.	75.0	30.0	32.0	Yes	43.0
Assisted Living	Temescal Cyn. Rd.	69.2	24.2	32.0	Yes	37.2
Memory Care	Trilogy Pkwy.	74.2	29.2	32.0	Yes	42.2
Independent Living	Trilogy Pkwy.	71.7	26.7	32.0	No	39.7

¹ Exterior noise level at the facade with a windows closed condition requiring a means of mechanical ventilation (e.g. air conditioning). ² Noise reduction required to satisfy the 45 dBA CNEL interior noise limits.

³ Minimum noise reduction based on approximately 2 dBA less than the upgraded STC rating for all windows/glass doors..

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

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



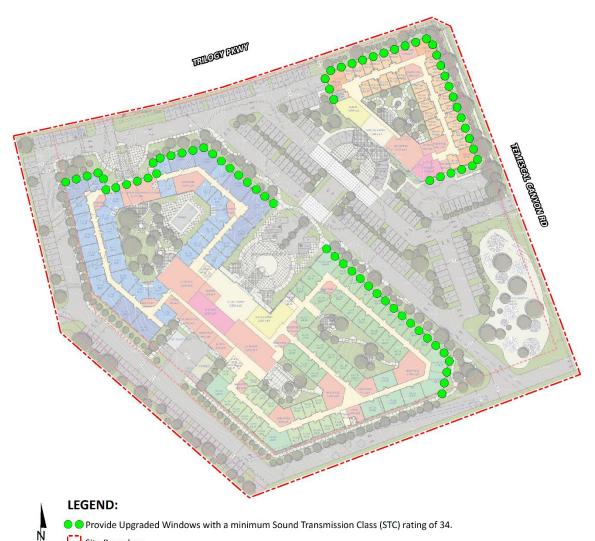


EXHIBIT 8-B: ON-SITE INTERIOR NOISE RECOMMENDATIONS

Site Boundary

13032-03 Noise Study



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9 SENSITIVE RECEIVER LOCATIONS

To assess the potential for long-term operational and short-term construction noise impacts, the following sensitive receiver locations, as shown on Exhibit 9-A, were identified as representative locations for analysis. Sensitive receivers are generally defined as locations where people reside or where the presence of unwanted sound could otherwise adversely affect the use of the land. Noise-sensitive land uses are generally considered to include schools, hospitals, single-family dwellings, mobile home parks, churches, libraries, and recreation areas. Moderately noise-sensitive land uses typically include multi-family dwellings, hotels, motels, dormitories, outpatient clinics, cemeteries, golf courses, country clubs, athletic/tennis clubs, and equestrian clubs. Land uses that are considered relatively insensitive to noise include business, commercial, and professional developments. Land uses that are typically not affected by noise include: industrial, manufacturing, utilities, agriculture, undeveloped land, parking lots, warehousing, liquid and solid waste facilities, salvage yards, and transit terminals.

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

- R1: Location R1 represents the existing noise sensitive residence at 24120 Warm Spring Drive, approximately 1,004 feet west of the Project site. R1 is placed in the private outdoor living areas (backyard) facing the Project site. A 24-hour noise measurement near this location, L1, is used to describe the existing ambient noise environment.
- R2: Location R2 represents the existing noise sensitive residence located 396 feet east of Temescal Canyon Road at 24423 Swift Deer Trail. R2 is placed in the private outdoor living areas (backyard) facing the Project site. A 24-hour noise measurement was taken near this location, L3, to describe the existing ambient noise environment.
- R3: Location R3 represents the Glen Ivy RV Park located 89 feet south of the Project site at 24601 Glen Ivy Road. Since there are no private outdoor living areas (backyards) facing the Project site, receiver R3 is placed at the nearest RV parking stall. A 24-hour noise measurement near this location, L4, is used to describe the existing ambient noise environment.
- R4: Location R4 represents the Glen Ivy RV Park outdoor pool area located 92 feet west of the Project site. Since there are no private outdoor living areas (backyards) facing the Project site, receiver R4 is placed on the pool deck. A 24-hour noise measurement near this location, L5, is used to describe the existing ambient noise environment.







LEGEND:

Receiver Locations

Distance from receiver to Project site boundary (in feet)

N



10 CONSTRUCTION IMPACTS

This section analyzes potential impacts resulting from the short-term construction activities associated with the development of the Project. Exhibit 10-A shows the construction noise source locations in relation to the nearby sensitive receiver locations previously described in Section 9.

10.1 CONSTRUCTION NOISE LEVELS

Noise generated by the Project construction equipment will include a combination of trucks, power tools, concrete mixers, and portable generators that when combined can reach high levels. The number and mix of construction equipment are expected to occur in the following stages:

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

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

10.2 CONSTRUCTION REFERENCE NOISE LEVELS

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





EXHIBIT 10-A: TYPICAL CONSTRUCTION NOISE SOURCE LOCATIONS

LEGEND: Construction Activity Receiver Locations N

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



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

TABLE 10-1: CONSTRUCTION REFERENCE NOISE LEVELS

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

10.3 CADNAA NOISE PREDICTION MODEL

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

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



when sound from a localized stationary source (i.e., a point source) propagates uniformly outward in a spherical pattern. A default ground attenuation factor of 0.0 was used in the CadnaA noise analysis to account for hard site conditions. Appendix 10.1 includes the detailed noise model inputs used to estimate the Project construction noise levels presented in this section.

10.4 CONSTRUCTION NOISE ANALYSIS

Using the reference construction equipment noise levels and the CadnaA noise prediction model, calculations of the Project construction noise level impacts at the nearby sensitive receiver locations were completed. To assess the worst-case construction noise levels, the Project construction noise analysis relies on the highest noise level impacts when the equipment with the highest reference noise level is operating at the closest point from the edge of primary construction activity (Project site boundary) to each receiver location. As shown on Table 10-2, the construction noise levels are expected to range from 51.8 to 72.4 dBA L_{eq}, and the highest construction levels are expected to range from 61.9 to 72.4 dBA L_{eq} at the nearby receiver locations. Appendix 10.1 includes the detailed CadnaA construction noise model inputs.

The construction noise analysis presents a conservative approach with the highest noise-levelproducing equipment for each stage of Project construction operating at the closest point from primary construction activity to the nearby sensitive receiver locations. This scenario is unlikely to occur during typical construction activities and likely overstates the construction noise levels which will be experienced at each receiver location.

Receiver Location ¹	Construction Noise Levels (dBA Leq)							
	Site Preparation	Grading	Building Construction	Paving	Architectural Coating	Highest Levels ²		
R1	61.9	60.1	58.2	57.8	51.8	61.9		
R2	66.7	64.9	63.0	62.6	56.6	66.7		
R3	72.4	70.6	68.7	68.3	62.3	72.4		
R4	72.4	70.6	68.7	68.3	62.3	72.4		

TABLE 10-2: CONSTRUCTION EQUIPMENT NOISE LEVEL SUMMARY

¹Noise receiver locations are shown on Exhibit 10-A.

² Construction noise level calculations based on distance from the project site boundaries (construction activity area) to nearby receiver locations. CadnaA construction noise model inputs are included in Appendix 10.1.

10.5 CONSTRUCTION NOISE LEVEL COMPLIANCE

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



- .	Construction Noise Levels (dBA Leq)					
Receiver Location ¹	Highest Construction Noise Levels ² Threshold ³		Threshold Exceeded? ⁴			
R1	61.9	80	No			
R2	66.7	80	No			
R3	72.4	80	No			
R4	72.4	80	No			

TABLE 10-3: CONSTRUCTION NOISE LEVEL COMPLIANCE

¹Noise receiver locations are shown on Exhibit 10-A.

² Highest construction noise level calculations based on distance from the construction noise source activity to nearby receiver locations as shown on Table 10-2.

³ Construction noise level thresholds as shown on Table 4-2.

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

10.6 CONSTRUCTION VIBRATION IMPACTS

Construction activity can result in varying degrees of ground vibration, depending on the equipment and methods used, distance to the affected structures and soil type. It is expected that ground-borne vibration from Project construction activities would cause only intermittent, localized intrusion. Ground-borne vibration levels resulting from typical construction activities occurring within the Project site were estimated by data published by the Federal Transit Administration (FTA). (9) However, while vehicular traffic is rarely perceptible, construction has the potential to result in varying degrees of temporary ground vibration, depending on the specific construction activities and equipment used. Ground vibration levels associated with various types of construction equipment are summarized on Table 10-4. Based on the representative vibration levels presented for various construction equipment types, it is possible to estimate the potential Project construction vibration levels using the following vibration assessment methods defined by the FTA. To describe the human response (annoyance) associated with vibration impacts the FTA provides the following equation: $PPV_{equip} = PPV_{ref} \times (25/D)^{1.5}$

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

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

Using the vibration source level of construction equipment provided on Table 10-4 and the construction vibration assessment methodology published by the FTA, it is possible to estimate



the Project vibration impacts. Table 10-5 presents the expected Project related vibration levels at the nearby receiver locations. At distances ranging from 89 to 1,004 feet from Project construction activities, construction vibration velocity levels are estimated to range from 0.000 to 0.009 in/sec RMS and will remain below the County of Riverside threshold of 0.01 in/sec RMS at all receiver locations, as shown on Table 10-5. Therefore, the Project-related vibration impacts are considered *less than significant* during the construction activities at the Project site.

Receiver ¹	Distance	Receiver Levels (in/sec) RMS ²				Threshold		
	to Const. Activity (Feet)	Small Bulldozer	Jack- hammer	Loaded Trucks	Large Bulldozer	Peak Vibration	(in/sec) RMS⁴	Threshold Exceeded? ⁵
R1	1,004'	0.000	0.000	0.000	0.000	0.000	0.01	No
R2	396'	0.000	0.000	0.001	0.001	0.001	0.01	No
R3	89'	0.000	0.004	0.008	0.009	0.009	0.01	No
R4	92'	0.000	0.004	0.008	0.009	0.009	0.01	No

TABLE 10-5: PROJECT CONSTRUCTION VIBRATION LEVELS

¹Receiver locations are shown on Exhibit 10-A.

² Based on the Vibration Source Levels of Construction Equipment included on Table 6-8. Vibration levels in PPV are converted to RMS velocity using a 0.71 conversion factor identified in the Caltrans Transportation and Construction Vibration Guidance Manual, September 2013.

³ Source: County of Riverside General Plan Noise Element, Policy N 16.3.

⁴ Does the vibration level exceed the maximum acceptable vibration threshold?

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

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- 20. **County of Riverside, Office of Industrial Hygiene.** *Requirements for Determining and Mitigating Traffic Noise Impacts to Residential Structures.* April 2015.
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12 CERTIFICATION

The contents of this noise study report represent an accurate depiction of the noise environment and impacts associated with the proposed Glen Ivy Senior Community 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.

Bill Lawson, P.E., INCE Principal URBAN CROSSROADS, INC. 1133 Camelback #8329 Newport Beach, CA 92658 (949) 581-3148 blawson@urbanxroads.com



EDUCATION

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

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

PROFESSIONAL REGISTRATIONS

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

PROFESSIONAL AFFILIATIONS

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

PROFESSIONAL CERTIFICATIONS

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



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APPENDIX 3.1:

COUNTY OF RIVERSIDE MUNICIPAL CODE



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Chapter 9.52 - NOISE REGULATION

Sections:

9.52.010 - Intent.

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

(Ord. 847 § 1, 2006)

9.52.020 - Exemptions.

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

- A. Facilities owned or operated by or for a governmental agency;
- B. Capital improvement projects of a governmental agency;
- C. The maintenance or repair of public properties;
- D. Public safety personnel in the course of executing their official duties, including, but not limited to, sworn peace officers, emergency personnel and public utility personnel. This exemption includes, without limitation, sound emanating from all equipment used by such personnel, whether stationary or mobile;
- E. Public or private schools and school-sponsored activities;
- F. Agricultural operations on land designated "Agriculture" in the Riverside County general plan, or land zoned A-I (light agriculture), A-P (light agriculture with poultry), A-2 (heavy agriculture), A-D (agriculture-dairy) or C/V (citrus/vineyard), provided such operations are carried out in a manner consistent with accepted industry standards. This exemption includes, without limitation, sound emanating from all equipment used during such operations, whether stationary or mobile;
- G. Wind energy conversion systems (WECS), provided such systems comply with the WECS noise provisions of Riverside County Ordinance No. 348;
- H. Private construction projects located one-quarter of a mile or more from an inhabited dwelling;
- I. Private construction projects located within one-quarter of a mile from an inhabited dwelling, provided that:

- 1. Construction does not occur between the hours of six p.m. and six a.m. during the months of June through September, and
- 2. Construction does not occur between the hours of six p.m. and seven a.m. during the months of October through May;
- J. Property maintenance, including, but not limited to, the operation of lawnmowers, leaf blowers, etc., provided such maintenance occurs between the hours of seven a.m. and eight p.m.;
- K. Motor vehicles, other than off-highway vehicles. This exemption does not include sound emanating from motor vehicle sound systems;
- L. Heating and air conditioning equipment;
- M. Safety, warning and alarm devices, including, but not limited to, house and car alarms, and other warning devices that are designed to protect the public health, safety, and welfare;
- N. The discharge of firearms consistent with all state laws.

(Ord. 847 § 2, 2006)

9.52.030 - Definitions.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

(Ord. 847 § 3, 2006)

9.52.040 - General sound level standards.

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

TABLE 1

Sound Level Standards (Db L max)

GENERAL PLAN	GENERAL	GENERAL	DENSITY	MAXIMUM DECIBEL
FOUNDATION	PLAN LAND	PLAN LAND		LEVEL
COMPONENT	USE	USE		
	DESIGNATION	DESIGNATION		
		NAME 65		

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

1	L				
	СО	Office Commercial		65	55
	СТ	Tourist Commercial		65	55
	СС	Community Center		65	55
	LI	Light Industrial		75	55
	HI	Heavy Industrial		75	75
	BP	Business Park		65	45
	PF	Public Facility		65	45
	SP	Specific Plan- Residential		55	45
		Specific Plan- Commercial		65	55
		Specific Plan- Light Industrial		75	55
		Specific Plan- Heavy Industrial		75	75
Rural Community	EDR	Estate Density Residential	2 AC	55	45

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

(Ord. 847 § 4, 2006)

9.52.050 - Sound level measurement methodology.

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

(Ord. 847 § 5, 2006)

9.52.060 - Special sound sources standards.

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

- A. Motor Vehicles.
 - 1. Off-Highway Vehicles.
 - a. No person shall operate an off-highway vehicle unless it is equipped with a USDA-qualified spark arrester and a constantly operating and properly maintained muffler. A muffler is not considered constantly operating and properly maintained if it is equipped with a cutout, bypass or similar device.
 - b. No person shall operate an off-highway vehicle unless the noise emitted by the vehicle is not more than ninety-six (96) dBA if the vehicle was manufactured on or after January 1, 1986 or is not more than one hundred one (101) dBA if the vehicle was manufactured before January 1, 1986. For purposes of this subsection, emitted noise shall be measured a distance of twenty (20) inches from the vehicle tailpipe using test procedures established by the Society of Automotive Engineers under Standard J-1287.
 - 2. Sound Systems. No person shall operate a motor vehicle sound system, whether affixed to the vehicle or not, between the hours of ten p.m. and eight a.m., such that the sound system is audible to the human ear inside any inhabited dwelling. No person shall operate a motor vehicle sound system, whether affixed to the vehicle or not, at any other time such that the sound system is audible to the human ear at a distance greater than one hundred (100) feet from the vehicle.
- Β. Power Tools and Equipment. No person shall operate any power tools or equipment between the hours of ten p.m. and eight a.m. such that the power tools or equipment 69

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

- C. Audio Equipment. No person shall operate any audio equipment, whether portable or not, between the hours of ten p.m. and eight a.m. such that the equipment is audible to the human ear inside an inhabited dwelling other than a dwelling in which the equipment may be located. No person shall operate any audio equipment, whether portable or not, at any other time such that the equipment is audible to the human ear at a distance greater than one hundred (100) feet from the equipment.
- D. Sound-Amplifying Equipment and Live Music. No person shall install, use or operate sound-amplifying equipment, or perform, or allow to be performed, live music unless such activities comply with the following requirements. To the extent that these requirements conflict with any conditions of approval attached to an underlying land use permit, these requirements shall control:
 - 1. Sound-amplifying equipment or live music is prohibited between the hours of ten p.m. and eight a.m.
 - Sound emanating from sound-amplifying equipment or live music at any other time shall not be audible to the human ear at a distance greater than two hundred (200) feet from the equipment or music.

(Ord. 847 § 6, 2006)

9.52.070 - Exceptions.

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

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

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

- B. Requirements for Approval. The appropriate decisionmaking body or officer shall not approve an exception application unless the applicant demonstrates that the activities described in the application would not be detrimental to the health, safety or general welfare of the community. In determining whether activities are detrimental to the health, safety or general welfare of the community, the appropriate decisionmaking body or officer shall consider such factors as the proposed duration of the activities and their location in relation to sensitive receptors. If an exception application is approved, reasonable conditions may be imposed to minimize the public detriment, including, but not limited to, restrictions on sound level, sound duration and operating hours.
- C. Appeals. The director of building and safety's decision on an application for a construction-related exception is considered final. The planning director's decision on an application for a single-event exception is considered final. After making a decision on an application for a continuous-events exception, the appropriate decisionmaking body or officer shall mail notice of the decision to the applicant. Within ten (10) calendar days after the mailing of such notice, the applicant or an interested person may appeal the decision to the board of supervisors. Upon receipt of an appeal and payment of the appropriate appeal fee, the clerk of the board shall set the matter for hearing not less than five days nor more than thirty (30) days thereafter and shall give written notice of the hearing officer or body. The board of supervisors shall render its decision within thirty (30) days after the appeal hearing is closed.
- D. Effect of a Pending Continuous-Events Exception Application. For a period of one hundred eighty (180) days from the effective date of this chapter, no person creating any sound prohibited by this chapter shall be considered in violation of this chapter if the sound is related to a use that is operating pursuant to an approved land use permit, if an application for a continuous-events exception has been filed to sanction the sound and if a decision on the application is pending.

9.52.080 - Enforcement.

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

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

9.52.090 - Duty to cooperate.

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

(Ord. 847 § 9, 2006)

9.52.100 - Violations and penalties.

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

- A. For the first violation within a one hundred eighty (180) day period, the minimum mandatory fine shall be five hundred dollars (\$500.00).
- B. For the second violation within a one hundred eighty (180) day period, the minimum mandatory fine shall be seven hundred fifty dollars (\$750.00).
- C. For any further violations within a one hundred eighty (180) day period, the minimum mandatory fine shall be one thousand dollars (\$1,000.00) or imprisonment in the county jail for a period not exceeding six months, or both.

(Ord. 847 § 10, 2006)

APPENDIX 5.1:

STUDY AREA PHOTOS



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L1_E 33, 45' 56.610000", 117, 29' 39.370000"



L1_N 33, 45' 56.630000", 117, 29' 39.350000"



33, 45' 56.610000", 117, 29' 39.370000"



33, 45' 56.570000", 117, 29' 39.430000"



L2_E 33, 46' 1.320000", 117, 29' 15.120000"



L2_N 33, 46' 1.320000", 117, 29' 15.120000"



L2_S 33, 46' 1.260000", 117, 29' 15.290000"



L2_W 33, 46' 1.220000", 117, 29' 15.310000"



L3_E 33, 45' 58.860000", 117, 29' 5.230000"



L3_N 33, 45' 58.910000", 117, 29' 5.760000"



L3_S 33, 45' 58.830000", 117, 29' 5.290000"



L3_W 33, 45' 58.820000", 117, 29' 5.340000"



L4_E 33, 45' 48.630000", 117, 29' 13.200000"



L4_N 33, 45' 48.700000", 117, 29' 13.360000"



L4_S 33, 45' 48.610000", 117, 29' 13.200000"



33, 45' 48.600000", 117, 29' 13.200000"



L5_E 33, 45' 56.110000", 117, 29' 19.740000"



L5_N 33, 45' 56.140000", 117, 29' 19.710000"



L5_S 33, 45' 56.070000", 117, 29' 19.710000"



L5_W 33, 45' 56.060000", 117, 29' 19.710000"

APPENDIX 5.2:

NOISE LEVEL MEASUREMENT WORKSHEETS



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						24-Ho	ur Noise L	evel Meas	urement S	ummary						
Date:	Wednesday	, November	11, 2020		Location.			-			Meter:	Piccolo II			JN:	13032
Project:	Glen Ivy Ser	nior Commur	nity			Drive near o	country club	at 24120 Wa	rm Springs D	Drive.					Analyst:	P. Mara
							Hourly L	dBA Readings	(unadiusted)							
							e ve ve ev	<u> </u>								
85.0																
Value (Value (Value (Value (Value) (
<u> </u>																
60.0 ک 55.0																
A J N N N N N N N N N N	20.8	49.2 49.8	<u> </u>	48.3	55.6	<mark>56.5</mark>		3.6		<u>, п</u>	<u>.</u>		46.6 45.4	47.7	47.6 47.6	51.4
± 40.0 35.0) <u> </u>	- 64 64	20.	- 48		20. 50.	47	23 [.]	4	43. 43.	50 <mark>.</mark>		45. 45.	4	4	
33.0	0	1 2	3	4 5	6	7 8	9	10 11	12 1	.3 14	15 16	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}
	0	50.8	52.7	49.3	52.5	52.4	52.1	52.0	51.4	50.7	49.8	49.6	49.4	50.8	10.0	60.8
	1 2	49.2 49.8	51.7 52.0	47.0 48.2	51.6 51.8	51.4 51.6	51.1 51.2	50.8 51.0	49.8 50.3	48.9 49.7	47.6 48.6	47.4 48.5	47.1 48.3	49.2 49.8	10.0 10.0	59.2 59.8
Night	3	50.3	52.0	48.6	52.5	52.3	51.2	51.6	50.8	50.2	49.2	49.0	48.7	50.3	10.0	60.3
_	4	48.3	51.2	46.2	50.9	50.5	50.1	49.7	48.8	48.1	46.8	46.6	46.3	48.3	10.0	58.3
	5	52.5	56.6	50.4	56.4	56.0	55.1	54.6	52.7	51.9	51.0	50.8	50.5	52.5	10.0	62.5
	6 7	55.6 56.5	61.0 64.3	52.8 53.0	60.7 64.0	60.4 63.7	59.8 62.2	59.1 60.0	55.1 55.6	54.3 54.7	53.3 53.6	53.2 53.4	52.9 53.1	55.6 56.5	10.0 0.0	65.6 56.5
	8	50.5	56.5	47.6	56.1	55.7	54.5	53.5	55.6	54.7	48.2	53.4 48.0	47.7	50.5 50.9	0.0	50.5
	9	47.3	53.1	44.5	52.7	52.2	50.9	50.0	47.7	46.5	45.0	44.8	44.6	47.3	0.0	47.3
	10	52.4	62.6	41.7	62.2	61.9	60.3	58.7	50.5	45.3	42.6	42.3	41.8	52.4	0.0	52.4
	11	53.6	65.6	40.0	65.3	64.7	62.3	59.3	46.6	43.1	40.8	40.4	40.1	53.6	0.0	53.6
Day	12 13	48.2 45.7	57.4 55.4	39.4 36.8	57.0 54.7	56.4 53.7	54.3 51.6	52.8 50.5	48.8 45.9	44.5 42.4	40.5 38.0	40.0 37.5	39.6 37.0	48.2 45.7	0.0 0.0	48.2 45.7
	13	43.5	53.4	37.3	52.8	52.0	49.9	47.7	42.7	40.4	38.0	37.5	37.4	43.5	0.0	43.5
	15	48.7	60.6	38.8	59.9	58.7	55.5	53.1	47.1	44.0	39.8	39.3	38.9	48.7	0.0	48.7
	16	50.4	60.1	43.8	59.2	57.8	55.2	54.0	51.2	47.8	44.5	44.2	43.9	50.4	0.0	50.4
	17 18	48.1 46.6	53.9 52.7	44.7 43.2	53.6 52.3	53.2 51.8	52.1 50.6	51.3 49.5	48.6 47.0	47.0 45.5	45.3 43.8	45.0 43.5	44.7 43.3	48.1 46.6	0.0 0.0	48.1 46.6
	18	45.4	49.9	43.2	49.6	49.4	48.7	49.5	47.0	43.5	43.8	43.3	43.3	40.0	5.0	50.4
Evening	20	47.7	51.4	45.3	51.2	50.9	50.5	50.0	48.3	47.1	45.9	45.7	45.4	47.7	5.0	52.7
	21	47.6	52.6	44.5	52.4	52.0	51.1	50.3	47.9	46.6	45.1	44.9	44.6	47.6	5.0	52.6
Night	22	47.6	51.2	45.3	51.0	50.7	50.0	49.5	48.1	47.3	46.0	45.7	45.4	47.6	10.0	57.6
Timeframe	23 Hour	51.4 L _{eq}	64.9 L _{max}	43.8 <i>L</i> _{min}	64.1 L1%	63.1 L2%	56.6 L5%	52.9 L8%	48.5 L25%	46.3 L50%	44.4 L90%	44.2 L95%	43.9 L99%	51.4	10.0 L _{eg} (dBA)	61.4
	Min	43.5	52.7	- <i>min</i> 36.8	52.3	51.8	49.9	47.7	42.7	40.4	38.0	37.5	37.0	24 110.00		Nichtting
Day	Max	56.5	65.6	53.0	65.3	64.7	62.3	60.0	55.6	54.7	53.6	53.4	53.1	24-Hour	Daytime	Nighttime
Energy /		50.8		erage:	57.5	56.8	54.9	53.4	48.6	45.9	43.3	43.0	42.7	50.7	50.3	51.3
Evening	Min Max	45.4 47.7	49.9 52.6	42.3 45.3	49.6 52.4	49.4 52.0	48.7 51.1	48.0 50.3	46.0 48.3	44.7 47.1	43.1 45.9	42.8 45.7	42.4 45.4		Hour CNEL (a	
Energy /		47.0	-	erage:	51.1	50.8	50.1	49.4	48.3	47.1	44.7	43.7	44.2			
Night	Min	47.6	51.2	43.8	50.9	50.5	50.0	49.5	48.1	46.3	44.4	44.2	43.9	1	57.7	
	Max	55.6	64.9	52.8	64.1	63.1	59.8	59.1	55.1	54.3	53.3	53.2	52.9	1	J/./	
Energy A	Average	51.3	Ave	erage:	54.6	54.3	53.1	52.4	50.6	49.7	48.5	48.3	48.1			



						24-Ho	ur Noise L	evel Meas	urement S	ummary						
		y, November nior Commur			Location:	L2 - Located Temescal Ca		e Project site n existing va		arkway and	Meter:	Piccolo I			JN: Analyst:	13032 P. Mara
							Hourly L _{eq} (dBA Readings	(unadjusted)							
85.0	0															
(Yap) 80.0 75.0 70.0																
70.0 65.0 ت 60.0						4 1	0	0 0			<u>m</u>					
60.0 ٽــ 60.0 55.0 <u>ح</u>	0 + 4 +	61.9	63.9	65.2 65.7	64.7	67.4 67.1		67.0 66.2	65.3	65.5	68.3 66.2	63.4	63.8 52.4		<u> </u>	
A 55.0 Jun 50.0 OH 45.0	58.4	58.4	0									0	62	<mark></mark>	<mark>59.3</mark> 58.7	57.3
± 40.0 35.0	0 ++															
	0	1 2	3	4 5	6	7 8	9 2	10 11	. 12 1	3 14	15 16	17	18 19	20	21 22	23
Timeframe	110	,	,	,	140/	120/			eginning	1500/	100%	105%	100%		A di	
Timejrame	Hour 0	L _{eq} 58.4	L _{max} 79.6	L _{min} 46.8	L1%	L2%	L5% 63.0	L8% 61.0	L25% 55.0	L50% 53.0	L90% 49.0	L95% 49.0	L99% 48.0	L _{eq} 58.4	Adj. 10.0	Adj. L _{eq} 68.4
	1	58.4	78.6	49.7	69.0	67.0	63.0	61.0	55.0	53.0	51.0	51.0	50.0	58.4	10.0	68.4
	2	61.9	80.5	47.6	73.0	72.0	68.0	65.0	59.0	54.0	50.0	49.0	48.0	61.9	10.0	71.9
Night	3	63.9 65.2	79.9 83.4	50.1 52.3	73.0 74.0	72.0 73.0	70.0 71.0	68.0 70.0	62.0 64.0	58.0 60.0	53.0 56.0	52.0 55.0	51.0 54.0	63.9 65.2	10.0 10.0	73.9 75.2
	4 5	65.7	79.3	53.3	74.0	73.0	71.0	70.0	65.0	61.0	57.0	56.0	54.0	65.7	10.0	75.2
	6	64.7	81.8	51.9	74.0	72.0	70.0	69.0	64.0	60.0	55.0	55.0	52.0	64.7	10.0	74.7
	7	67.4	92.3	48.7	76.0	74.0	72.0	70.0	65.0	61.0	54.0	53.0	50.0	67.4	0.0	67.4
	8 9	67.1	81.2	45.4	76.0	75.0	73.0	72.0	67.0	62.0	55.0	53.0	49.0	67.1	0.0	67.1
	9 10	66.8 67.0	82.5 85.3	47.2 49.3	76.0 77.0	75.0 75.0	72.0 72.0	71.0 71.0	66.0 66.0	61.0 62.0	54.0 55.0	52.0 54.0	49.0 51.0	66.8 67.0	0.0 0.0	66.8 67.0
	11	66.2	83.0	47.0	76.0	74.0	72.0	71.0	65.0	61.0	54.0	53.0	50.0	66.2	0.0	66.2
Day	12	65.3	84.8	49.0	75.0	73.0	71.0	69.0	64.0	60.0	54.0	53.0	50.0	65.3	0.0	65.3
Duy	13	66.3	85.3	49.3	77.0	75.0	71.0	69.0	65.0	61.0	56.0	54.0	52.0	66.3	0.0	66.3
	14 15	65.5 68.3	83.6 89.9	52.6 53.4	75.0 80.0	73.0 77.0	70.0 72.0	68.0 70.0	65.0 65.0	62.0 63.0	57.0 58.0	56.0 57.0	54.0 55.0	65.5 68.3	0.0 0.0	65.5 68.3
	16	66.2	90.2	49.7	73.0	70.0	68.0	67.0	65.0	62.0	57.0	56.0	53.0	66.2	0.0	66.2
	17	63.4	77.9	49.1	71.0	70.0	67.0	66.0	64.0	61.0	55.0	54.0	51.0	63.4	0.0	63.4
	18	63.8	83.9	51.3	74.0	70.0	67.0	66.0	63.0	60.0	54.0	53.0	52.0	63.8	0.0	63.8
Evening	19 20	62.4 60.9	83.7 82.0	52.2 50.5	71.0 70.0	68.0 66.0	66.0 64.0	65.0 63.0	62.0 61.0	59.0 57.0	56.0 53.0	55.0 52.0	54.0 51.0	62.4 60.9	5.0 5.0	67.4 65.9
Lvening	20	59.3	76.6	49.6	68.0	66.0	64.0	63.0	59.0	55.0	52.0	51.0	50.0	59.3	5.0	64.3
Night	22	58.7	78.0	50.7	69.0	66.0	63.0	62.0	56.0	54.0	52.0	52.0	51.0	58.7	10.0	68.7
_	23	57.3	73.5	50.6	68.0	65.0	62.0	60.0	55.0	53.0	52.0	51.0	51.0	57.3	10.0	67.3
Timeframe	Hour Min	L _{eq} 63.4	L _{max} 77.9	L _{min} 45.4	L1% 71.0	<i>L2%</i> 70.0	<i>L5%</i> 67.0	<i>L8%</i> 66.0	L25% 63.0	<i>L50%</i> 60.0	<i>L90%</i> 54.0	<i>L95%</i> 52.0	L99% 49.0		L _{eq} (dBA)	
Day	Max	68.3	92.3	53.4	80.0	77.0	73.0	72.0	67.0	63.0	58.0	57.0	55.0	24-Hour	Daytime	Nighttime
Energy	Average	66.3	Ave	erage:	75.5	73.4	70.6	69.2	65.0	61.3	55.3	54.0	51.3	64.8	65.7	62.7
Evening	Min	59.3	76.6	49.6	68.0	66.0	64.0	63.0	59.0	55.0	52.0	51.0	50.0			
Energy	Max Average	62.4 61.0	83.7 Ave	52.2 erage:	71.0 69.7	68.0 66.7	66.0 64.7	65.0 63.7	62.0 60.7	59.0 57.0	56.0 53.7	55.0 52.7	54.0 51.7	24-	Hour CNEL (d	ивај
	Min	57.3	73.5	46.8	68.0	65.0	62.0	60.0	55.0	53.0	49.0	49.0	48.0		60 0	
Night	Max	65.7	83.4	53.3	74.0	73.0	71.0	70.0	65.0	61.0	57.0	56.0	54.0		69.8	
Energy	Average	62.7	Ave	erage:	71.6	69.7	66.8	65.1	59.4	56.2	52.8	52.2	51.0			



		/, November nior Commu			Location	: L3 - Located	east of the	evel Measu Project site o sidential hom	on Swift Dee	er Trail near	Meter:	Piccolo II				13032 P. Mara
						11.011.	Hourly L _{eq}	dBA Readings	(unadjusted)						
85.0	י															
85.0 (Vgp) 65.0 1 1 1 1 1 1 1 1 1 1																
45.0 1 1 1 1 1 1 1 1	2) 	48.4	50.5	52.4	55.1	56.6 53.9	48.7	50.7 52.3		51.7 48.9	51.6		51.5 50.8	51.9	47.9 48.2	49.7
	0	1 2	3	4 5	6	7 8	9	10 11 Hour Be	12 eginning	13 14	15 10	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	49.3	55.1	46.8	54.9	54.4	52.6	51.7	49.3	48.4	47.4	47.2	46.9	49.3	10.0	59.3
	1 2	48.4 50.7	53.1 52.9	45.8	52.9	52.6 52.6	51.6 52.2	50.7 51.9	48.8 51.3	47.6	46.3 49.5	46.1 49.3	45.9 49.1	48.4 50.7	10.0	58.4
Night	2	50.7	52.9	49.0 47.8	52.7 53.7	52.6	52.2	51.9	51.3	50.4 50.2	49.5	49.3	49.1	50.7	10.0 10.0	60.7 60.5
in Birt	4	52.4	56.8	49.9	56.6	56.2	55.3	54.5	52.8	51.9	50.6	50.3	50.0	52.4	10.0	62.4
	5	54.6	59.3	52.3	59.0	58.2	56.7	56.1	55.0	54.2	53.0	52.7	52.4	54.6	10.0	64.6
	6	55.1	59.7	53.0	59.5	59.2	58.0	56.7	55.3	54.6	53.6	53.3	53.1	55.1	10.0	65.1
	7	56.6	61.7	53.8	61.5	61.1	59.6	58.6	57.0	56.0	54.6	54.3	54.0	56.6	0.0	56.6
	8 9	53.9 48.7	59.9 57.0	49.0	59.7 56.5	59.3 55.8	57.7 54.0	56.6 52.7	54.6 48.6	53.0	50.2 44.7	49.7 44.4	49.2 44.1	53.9 48.7	0.0	53.9 48.7
	9 10	48.7	60.1	44.0 42.3	50.5 59.6	55.8	54.0 56.1	54.5	48.6 51.4	46.5 48.0	44.7	44.4	44.1	48.7 50.7	0.0 0.0	48.7 50.7
	11	52.3	64.5	42.1	64.0	63.1	60.0	56.3	48.9	45.9	43.1	42.7	42.2	52.3	0.0	52.3
Dav	12	49.1	58.1	43.1	57.7	57.2	54.9	53.1	48.9	46.3	44.0	43.6	43.2	49.1	0.0	49.1
Day	13	51.7	63.8	43.0	62.8	61.7	58.4	55.6	49.8	47.0	43.9	43.5	43.1	51.7	0.0	51.7
	14	48.9	59.0	43.7	58.3	57.3	54.5	52.2	47.8	46.3	44.5	44.2	43.8	48.9	0.0	48.9
	15	51.6	60.2	46.0	59.8	59.0	56.5	54.9	51.9	50.0	47.0	46.5	46.1	51.6	0.0	51.6
	16 17	56.8 49.4	65.3 59.1	46.8 43.7	64.9 58.8	64.4 58.0	63.3 55.4	62.3 53.5	58.2 48.5	50.1 45.9	47.6 44.4	47.3 44.0	46.9 43.8	56.8 49.4	0.0 0.0	56.8 49.4
	17	49.4 51.5	61.3	43.7	60.9	60.3	55.4 58.1	55.9	48.5 50.8	43.9	44.4	44.0	43.8	49.4 51.5	0.0	49.4 51.5
	19	50.8	59.0	46.1	58.5	58.1	56.4	54.6	50.9	48.5	46.8	46.5	46.2	50.8	5.0	55.8
Evening	20	51.9	60.7	48.4	60.5	59.9	57.3	54.8	51.0	49.9	48.9	48.7	48.4	51.9	5.0	56.9
	21	47.9	54.9	44.7	54.7	54.2	52.1	50.7	48.0	46.6	45.2	45.0	44.8	47.9	5.0	52.9
Night	22	48.2	52.9	45.9	52.8	52.5	51.2	50.2	48.3	47.5	46.4	46.2	46.0	48.2	10.0	58.2
	23 Hour	49.7 L _{eq}	54.9	45.7 L _{min}	54.6 L1%	54.3 L2%	53.5 L5%	52.8 L8%	50.6 L25%	48.4 L50%	46.5 L90%	46.2 L95%	45.8 L99%	49.7	10.0 L _{eq} (dBA)	59.7
	Min	L _{eq} 48.7	L _{max} 57.0	42.1	56.5	55.8	54 .0	52.2	47.8	45.9	43.1	42.7	42.2			
Day	Max	56.8	65.3	53.8	64.9	64.4	63.3	62.3	58.2	56.0	54.6	54.3	54.0	24-Hour	Daytime	Nighttime
Energy	Average	52.7		verage:	60.4	59.7	57.4	55.5	51.4	48.6	46.0	45.7	45.3	52.1	52.3	51.7
Evening	Min	47.9	54.9	44.7	54.7	54.2	52.1	50.7	48.0	46.6	45.2	45.0	44.8			
Ű	Max	51.9	60.7	48.4	60.5	59.9	57.3	54.8	51.0	49.9	48.9	48.7	48.4	24	Hour CNEL (a	dBA)
Energy	Average Min	50.5 48.2	52.9	verage: 45.7	57.9 52.7	57.4 52.5	55.3 51.2	53.4 50.2	50.0 48.3	48.3 47.5	47.0 46.3	46.7	46.5 45.8	4		
Night	Max	48.2 55.1	52.9	43.7 53.0	52.7	52.5	51.2	56.7	48.3 55.3	47.5 54.6	40.3 53.6	53.3	45.8 53.1		58.4	
Energy	Average	51.7		verage:	55.2	54.8	53.8	53.0	51.4	50.4	49.1	48.8	48.6	1		



						24-Ho	ur Noise Le	evel Meas	urement S	ummary						
Date:	Wednesday	, Novembe	r 11, 2020		Location:					Road near	Meter:	Piccolo II			JN:	13032
Project:	Glen Ivy Se	nior Commu	inity			the Glen lvy	RV Park at 2	24601 Glen Iv	vy Road.						Analyst:	P. Mara
							Hourly L _{eq} (dBA Readings	(unadjusted)							
85.0	`															
- 80 0	ר 🕂															
(80.0 75.0 70.0 65.0 60.0																
60 (
<u>></u> 55.0 <u>−</u> 50.0			' vi	66.6 58.7	60.1	59.1 60.3	<mark>7.6</mark>	57.6 5.3	<mark>- 61.1</mark>	56.7	58.0 58.6		57.3 59.1	56.0	<u>o</u> . o	
A 55.0 A 50.0 O 45.0 H 40.0	22.0	51.8	55.5	_ 🖉 🖓						55.3				26	<mark>51.9</mark> 53.0	52.1
35.0) ++	1 2	2	4 5		7 8		10 11	12 1	L3 14	15 10	. 17	10 10	20	21 22	
	0	1 2	3	4 5	6	7 8	9 1	-	eginning	13 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	52.0	59.5	48.2	58.9	58.2	56.5	55.0	52.3	50.4	48.8	48.5	48.3	52.0	10.0	62.0
	1	51.8	59.4	47.9	59.0	58.2	56.0	54.7	52.0	50.5	48.6	48.3	48.0	51.8	10.0	61.8
Night	2	53.1 55.5	61.2 64.5	49.6 50.3	60.8 64.0	59.8 63.3	57.4 60.9	55.9 58.9	52.9 55.2	51.7 53.4	50.3 51.1	50.0 50.8	49.7 50.5	53.1 55.5	10.0 10.0	63.1 65.5
	4	56.6	64.8	52.0	64.3	63.6	61.3	59.8	57.0	54.9	52.8	52.4	52.1	56.6	10.0	66.6
	5	58.7	67.0	54.1	66.6	65.8	63.7	61.8	58.8	57.0	54.8	54.5	54.2	58.7	10.0	68.7
	6	60.1	68.0	56.2	67.3	66.2	64.3	63.2	60.4	58.7	57.0	56.6	56.3	60.1	10.0	70.1
	8	59.1 60.3	68.6 74.4	53.8 49.5	68.0 73.5	67.0 71.9	64.4 67.0	62.6 63.1	58.8 55.9	56.8 53.1	54.6 50.3	54.2 50.0	53.9 49.6	59.1 60.3	0.0 0.0	59.1 60.3
	9	57.6	68.5	48.6	68.1	67.3	64.6	62.3	55.9	53.0	49.8	49.2	48.8	57.6	0.0	57.6
	10	57.6	70.5	47.1	69.7	68.6	64.3	61.0	55.2	51.9	48.3	47.8	47.2	57.6	0.0	57.6
	11	55.3	66.7	47.0	66.0	65.0	61.7	59.4	54.1	51.5	48.3	47.7	47.2	55.3	0.0	55.3
Day	12 13	61.1 56.7	74.3 70.3	46.6 46.3	73.3 69.6	72.5 68.2	69.6 63.4	65.0 59.7	55.6 53.1	51.7 50.3	47.7 47.4	47.2 46.9	46.7 46.4	61.1 56.7	0.0 0.0	61.1 56.7
	13	55.3	67.3	40.3	66.8	65.6	61.7	59.1	53.6	50.6	47.4	40.9	40.4	55.3	0.0	55.3
	15	58.0	71.2	48.2	70.5	69.1	64.6	61.2	55.0	52.2	49.3	48.9	48.4	58.0	0.0	58.0
	16	58.6	82.2	50.0	81.6	80.1	74.3	69.0	59.2	54.3	50.8	50.4	50.1	58.6	0.0	58.6
	17 18	57.4 57.3	69.9 69.8	47.8 47.7	69.3 69.1	68.1 67.8	64.2 63.7	61.2 61.2	54.8 54.8	52.0 51.9	48.8 48.8	48.4 48.3	47.9 47.8	57.4 57.3	0.0 0.0	57.4 57.3
	18	59.1	72.8	49.1	72.0	70.5	65.9	62.3	55.4	52.8	50.1	48.5	47.8	59.1	5.0	64.1
Evening	20	56.0	67.6	50.1	67.2	66.2	62.1	58.8	53.9	52.4	50.7	50.5	50.2	56.0	5.0	61.0
	21	51.9	60.6	47.2	60.2	59.5	57.0	55.2	51.8	50.2	47.9	47.6	47.3	51.9	5.0	56.9
Night	22 23	53.0 52.1	64.6 62.4	47.0 46.8	64.1 61.9	63.1 60.9	59.0 57.3	55.7 55.0	51.0 51.4	49.5 49.7	47.6 47.6	47.3 47.2	47.0 46.9	53.0 52.1	10.0 10.0	63.0 62.1
Timeframe	Hour	L eq	L max	L _{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	52.1	L _{eq} (dBA)	02.1
Day	Min	55.3	66.7	46.3	66.0	65.0	61.7	59.1	53.1	50.3	47.4	46.9	46.4	24-Hour	Daytime	Nighttime
	Max	61.1	82.2	53.8	81.6	80.1	74.3	69.0	59.2	56.8	54.6	54.2	53.9			
	Average Min	58.2 51.9	60.6	erage: 47.2	70.5 60.2	69.3 59.5	65.3 57.0	62.1 55.2	55.5 51.8	52.4 50.2	49.3 47.9	48.9 47.6	48.4 47.3	57.3	57.9	55.9
Evening	Max	59.1	72.8	50.1	72.0	70.5	65.9	62.3	55.4	52.8	50.7	50.5	50.2	24-	Hour CNEL (a	
Energy	Average	56.6		erage:	66.5	65.4	61.6	58.8	53.7	51.8	49.6	49.3	48.9			
Night	Min	51.8	59.4	46.8	58.9	58.2	56.0	54.7	51.0	49.5	47.6	47.2	46.9		62.9	
-	Max Average	60.1 55.9	68.0	56.2 erage:	67.3 63.0	66.2 62.1	64.3 59.6	63.2 57.8	60.4 54.6	58.7 52.9	57.0 51.0	56.6 50.6	56.3 50.3		~	
Lincigy	. Weituge	- 55.5	AV	0.050.	05.0	02.1		57.0	54.0	52.5	51.0					



		/, November nior Commur			Location:		by the wes at 24601 Gle	•	Project site n	near the Gler	Meter:	Piccolo II				13032 P. Mara
85.0 80.0							Hourly L _{eq}	dBA Readings	(unadjusted)							
(Vap) (Vap) (Vap) (5.0)) (5.0 (5.0)) (5.0) (5.0)) (5.0) (5.0)) (5.0) (5.0)) (5.0) (5.0)) (5.0) (5.0)) (5.0) (5.0)																
A 55.0 In 50.0 OF 45.0 40.0	23.0	51.8	25.5	56.6	60.1	59.1 60.3	57.6	57.6 55.3	61.1	55.3	58.0 58.6	57.4	59.1	26.0	<mark>51.9</mark> 53.0	52.1
35.0	ŏ ↓ ↓ 0	1 2	3	4 5	6	7 8	9	10 11	12 1 eginning	13 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	52.0 51.8	59.5 59.4	48.2 47.9	58.9 59.0	58.2 58.2	56.5 56.0	55.0 54.7	52.3 52.0	50.4 50.5	48.8 48.6	48.5 48.3	48.3 48.0	52.0 51.8	10.0 10.0	62.0 61.8
	2	53.1	61.2	49.6	60.8	59.8	57.4	55.9	52.0	51.7	50.3	48.3 50.0	48.0	53.1	10.0	63.1
Night	3	55.5	64.5	50.3	64.0	63.3	60.9	58.9	55.2	53.4	51.1	50.8	50.5	55.5	10.0	65.5
_	4	56.6	64.8	52.0	64.3	63.6	61.3	59.8	57.0	54.9	52.8	52.4	52.1	56.6	10.0	66.6
	5	58.7	67.0	54.1	66.6	65.8	63.7	61.8	58.8	57.0	54.8	54.5	54.2	58.7	10.0	68.7
	6	60.1	68.0	56.2	67.3	66.2	64.3	63.2	60.4	58.7	57.0	56.6	56.3	60.1	10.0	70.1
	7 8	59.1 60.3	68.6 74.4	53.8 49.5	68.0 73.5	67.0 71.9	64.4 67.0	62.6 63.1	58.8 55.9	56.8 53.1	54.6 50.3	54.2 50.0	53.9 49.6	59.1 60.3	0.0	59.1 60.3
	8 9	57.6	68.5	49.5	73.5 68.1	67.3	67.0 64.6	62.3	55.9	53.1	49.8	49.2	49.6	57.6	0.0 0.0	57.6
	10	57.6	70.5	47.1	69.7	68.6	64.3	61.0	55.2	51.9	48.3	47.8	47.2	57.6	0.0	57.6
	11	55.3	66.7	47.0	66.0	65.0	61.7	59.4	54.1	51.5	48.3	47.7	47.2	55.3	0.0	55.3
Day	12	61.1	74.3	46.6	73.3	72.5	69.6	65.0	55.6	51.7	47.7	47.2	46.7	61.1	0.0	61.1
Day	13	56.7	70.3	46.3	69.6	68.2	63.4	59.7	53.1	50.3	47.4	46.9	46.4	56.7	0.0	56.7
	14	55.3	67.3	47.1	66.8	65.6	61.7	59.1	53.6	50.6	47.9	47.5	47.2	55.3	0.0	55.3
	15 16	58.0 58.6	71.2 82.2	48.2 50.0	70.5 81.6	69.1 80.1	64.6 74.3	61.2 69.0	55.0 59.2	52.2 54.3	49.3 50.8	48.9 50.4	48.4 50.1	58.0 58.6	0.0 0.0	58.0 58.6
	10	57.4	69.9	47.8	69.3	68.1	64.2	61.2	59.2	52.0	48.8	48.4	47.9	58.0	0.0	57.4
	18	57.3	69.8	47.7	69.1	67.8	63.7	61.2	54.8	51.9	48.8	48.3	47.8	57.3	0.0	57.3
	19	59.1	72.8	49.1	72.0	70.5	65.9	62.3	55.4	52.8	50.1	49.6	49.2	59.1	5.0	64.1
Evening	20	56.0	67.6	50.1	67.2	66.2	62.1	58.8	53.9	52.4	50.7	50.5	50.2	56.0	5.0	61.0
	21	51.9	60.6	47.2	60.2	59.5	57.0	55.2	51.8	50.2	47.9	47.6	47.3	51.9	5.0	56.9
Night	22 23	53.0 52.1	64.6 62.4	47.0 46.8	64.1 61.9	63.1 60.9	59.0 57.3	55.7 55.0	51.0 51.4	49.5 49.7	47.6 47.6	47.3 47.2	47.0 46.9	53.0 52.1	10.0 10.0	63.0 62.1
Timeframe	Hour	L eq	L max	40.8	L1%	L2%	57.5 L5%	L8%	L25%	49.7 L50%	47.0 L90%	L95%	40.9 L99%	J2.1	L _{eq} (dBA)	02.1
	Min	55.3	- max 66.7	46.3	66.0	65.0	61.7	59.1	53.1	50.3	47.4	46.9	46.4	24 110.00		Nightting
Day	Max	61.1	82.2	53.8	81.6	80.1	74.3	69.0	59.2	56.8	54.6	54.2	53.9	24-Hour	Daytime	Nighttime
Energy	Average	58.2		erage:	70.5	69.3	65.3	62.1	55.5	52.4	49.3	48.9	48.4	57.3	57.9	55.9
Evening	Min	51.9	60.6	47.2	60.2	59.5	57.0	55.2	51.8	50.2	47.9	47.6	47.3			
	Max Average	59.1 56.6	72.8	50.1 erage:	72.0 66.5	70.5 65.4	65.9 61.6	62.3 58.8	55.4 53.7	52.8 51.8	50.7 49.6	50.5 49.3	50.2 48.9	24	-Hour CNEL (d	лБА)
	Min	51.8	59.4	46.8	58.9	58.2	56.0	54.7	53.7	49.5	49.6	49.3	46.9			
Night	Max	60.1	68.0	56.2	67.3	66.2	64.3	63.2	60.4	58.7	57.0	56.6	56.3		62.9	
Energy	Average	55.9		erage:	63.0	62.1	59.6	57.8	54.6	52.9	51.0	50.6	50.3			



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APPENDIX 7.1:

OFF-SITE TRAFFIC NOISE LEVEL CALCULATIONS



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	FHW	/A-RD-77-108	HIGH	IWAY NO	DISE PF	REDICTIO	N MOE	DEL			
	o: Existing e: Temescal C t: n/o Lawson	,				Project N Job Nur			y Senior Co	om.	
SITE S	PECIFIC IN	PUT DATA							L INPUTS		
Highway Data				S	ite Con	ditions (H	lard = 1	10, So	ft = 15)		
	Percentage: our Volume:	6.19% 1,070 vehicle				dium Truc avy Truck	ks (2 A		15 15 15		
Ven Near/Far Lan	icle Speed:	40 mph 12 feet		v	ehicle I	Nix					
ivear/Far Lan	e Distance:	12 teet			Veh	icleType	L	Day	Evening	Night	Daily
Site Data								75.5%	14.0%	10.5%	97.42%
Barr Barrier Type (0-Wa	rier Height:	0.0 feet				edium Tru Ieavy Tru		18.9% 17.3%		48.9% 47.3%	1.84% 0.74%
Centerline Dis		37.0 feet									
Centerline Dist. to		37.0 feet		N	oise Sc	Autos:			et)		
Barrier Distance to	o Observer:	0.0 feet				Autos: n Trucks:	0.0				
Observer Height (A	Above Pad):	5.0 feet				n Trucks: v Trucks:	2.2		Grade Adju	istment [.]	0.0
Pa	d Elevation:	0.0 feet			neav	y macks.	0.0	00	or ado r lajo	iotimonit.	0.0
Roa	d Elevation:	0.0 feet		L	ane Equ	uivalent D)istanc	e (in f	eet)		
R	oad Grade:	0.0%				Autos:	36.8	51			
	Left View:	-90.0 degre				n Trucks:	36.6				
	Right View:	90.0 degre	es		Heav	y Trucks:	36.6	34			
FHWA Noise Mode	I Calculations	6									
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fresne	e/ I	Barrier Atte	n Berr	n Atten
Autos:	66.51	-1.15		1.88		-1.20		4.56	0.00		0.000
Medium Trucks:	77.72	-18.39		1.93		-1.20		4.87	0.00		0.000
Heavy Trucks:	82.99	-22.34		1.92		-1.20	-	5.61	0.00	00	0.000
Unmitigated Noise											
	Leq Peak Hou	1.7		Leq Eve		Leq Ni	•		Ldn	CN	IEL
Autos:	66.		66.1		64.8		58.8		67.2		67.8
Medium Trucks:	60.	-	58.2		50.7		59.5		65.7		65.7
Heavy Trucks:	61.		59.4		56.0		60.7		66.9		67.0
Vehicle Noise:	68.		67.5		65.5		64.5		71.4		71.7
Centerline Distance	e to Noise Co	ntour (in feet)	70 dl	24	65 dE	24	6	0 dBA		dBA
			Ldn:	70 di 46		65 dE 99	м		213		59 59
		~	Lan: NEL	46		99 103			213	4:	
		0	VEL.	48		103			223	40	00

	FHW	A-RD-77-108	HIGI	HWAY N	IOISE PF	REDICTI	он мс	DEL			
Scenario: Existir Road Name: Teme: Road Segment: s/o Dv	scal Ca	anyon Rd.					Name: umber:		vy Senior C	om.	
SITE SPECIFI		PUT DATA							L INPUT	s	
Highway Data				5	Site Con	ditions	Hard =	10, So	oft = 15)		
Average Daily Traffic (A	dt): 13	3.928 vehicle	s					Autos:	15		
Peak Hour Percenta	ae:	6.19%			Me	dium Tru	icks (2	Axles):	15		
Peak Hour Volur	-	862 vehicles	s		He	avy Truc	ks (3+.	, Axles):	15		
Vehicle Spe	ed:	40 mph		Ŀ,	/ehicle I						
Near/Far Lane Distan	ce:	12 feet		-		n ix cleTvpe		Dav	Evening	Night	Dailv
Site Data					veni		utos:	75.5%	•	10.5%	
						م dium Tr		48.9%		48.9%	
Barrier Heig		0.0 feet				leavy Tr					
Barrier Type (0-Wall, 1-Ber	·	0.0			'	icavy II	uchs.	41.3%	0.470	47.3%	0.749
Centerline Dist. to Barr		37.0 feet		1	Voise So	urce El	evation	s (in fe	eet)		
Centerline Dist. to Observ		37.0 feet				Autos	: 0	000			
Barrier Distance to Observ		0.0 feet			Mediur	n Trucks	: 2	297			
Observer Height (Above Pa	·	5.0 feet			Heav	y Trucks	: 8	006	Grade Ad	iustment	0.0
Pad Elevati		0.0 feet		-	_						
Road Elevati		0.0 feet		1	ane Equ				reet)		
Road Gra		0.0%				Autos		.851			
Left Vi		-90.0 degree				n Trucks		.610			
Right Vie	ew:	90.0 degree	es		Heav	y Trucks	:: 36	.634			
FHWA Noise Model Calcula						1					
VehicleType REME		Traffic Flow	Di	stance		Road	Fres		Barrier Att		m Atten
	6.51	-2.08		1.88		-1.20		-4.56		000	0.00
	7.72	-19.32		1.93	-	-1.20		-4.87		000	0.00
Heavy Trucks: 8	2.99	-23.28		1.92	2	-1.20		-5.61	0.0	000	0.00
Unmitigated Noise Levels					<u> </u>						
VehicleType Leq Peal				Leq Ev		Leq	Vight		Ldn		VEL
Autos:	65.1		65.2		63.9		57.		66.		66.
Medium Trucks:	59.1		57.3		49.8		58.		64.		64.
Heavy Trucks:	60.4		58.5		55.1		59.		65.9		66.
Vehicle Noise:	67.1	-	66.6		64.6		63.	6	70.	5	70.
Centerline Distance to Nois	se Cor	ntour (in feet,)	70							
			Lala	70 0		65 0		6	0 dBA		dBA
			Ldn:	4	-	8			184		97
			VEL:						193		16

Scenario: Existing			Drain at N	ma: Clan	Ivy Senior Co	
Road Name: Temescal Canvon Rd				nber: 13032		om.
Road Segment: n/o Trilogy Pkwy.	-		300 1101	IDEI. 13032	-	
· · · ·		-				
SITE SPECIFIC INPUT DAT Highway Data	A	Site Co	nditions (H		EL INPUTS	
Average Daily Traffic (Adt): 16,257 veh	viclos	0.00 00	inditionio (ii	Autos	,	
Peak Hour Percentage: 6.19%	10103	N	ledium Truci			
Peak Hour Volume: 1.006 veh	nicles		leavy Trucks	. ,		
Vehicle Speed: 40 mp				(******		
Near/Far Lane Distance: 12 fee		Vehicle				
		Ve	hicleType	Day	•	Night Daily
Site Data		_	Au			10.5% 97.42
Barrier Height: 0.0 fe	et	1	Aedium Truc			48.9% 1.84
Barrier Type (0-Wall, 1-Berm): 0.0			Heavy Truc	ks: 47.39	% 5.4%	47.3% 0.74
Centerline Dist. to Barrier: 37.0 fe	et	Noise S	Source Elev	ations (in i	feet)	
Centerline Dist. to Observer: 37.0 fe	et		Autos:	0.000		
Barrier Distance to Observer: 0.0 fe	et	Medi	um Trucks:	2.297		
Observer Height (Above Pad): 5.0 fe	et		avv Trucks:	8.006	Grade Adiu	stment: 0.0
Pad Elevation: 0.0 fe	et					
Road Elevation: 0.0 fe	et	Lane E	quivalent D		feet)	
Road Grade: 0.0%			Autos:	36.851		
Left View: -90.0 de	0		um Trucks:	36.610		
Right View: 90.0 de	grees	Hei	avy Trucks:	36.634		
FHWA Noise Model Calculations						
VehicleType REMEL Traffic Flo	ow Distant	ce Finit	e Road	Fresnel	Barrier Atte	n Berm Atter
Autos: 66.51 -1	1.41	1.88	-1.20	-4.56	0.00	0.00
Medium Trucks: 77.72 -18	3.65	1.93	-1.20	-4.87	0.00	0.00
Heavy Trucks: 82.99 -22	2.61	1.92	-1.20	-5.61	0.00	0.00
	and harrior a	ttenuation)			
Unmitigated Noise Levels (without Topo	and burner at			1.1	Ldn	CNEL
		q Evening	Leq Ni	gnt		
				58.5	67.0	67
VehicleType Leq Peak Hour Leq	Day Le	q Evening	5		67.0 65.4	67 65
VehicleType Leq Peak Hour Leq Autos: 65.8	Day Le 65.9	q Evening 64.	5 5	58.5		•••
VehicleType Leq Peak Hour Leq Autos: 65.8 Medium Trucks: 59.8	Day Le 65.9 58.0	q Evening 64. 50.	5 5 8	58.5 59.2	65.4	65
VehicleType Leq Peak Hour Leq Autos: 65.8 Medium Trucks: 59.8 Heavy Trucks: 61.1	Day Let 65.9 58.0 59.2 67.2	q Evening 64. 50. 55.	5 5 8	58.5 59.2 60.4	65.4 66.6	65 66
Vehicle Type Leq Peak Hour Leq Autos: 65.8 Medium Trucks: 59.8 Heavy Trucks: 61.1 Vehicle Noise: 67.8	Day Ler 65.9 58.0 59.2 67.2 feet)	q Evening 64. 50. 55.	5 5 8	58.5 59.2 60.4 64.2	65.4 66.6	65 66
Vehicle Type Leq Peak Hour Leq Autos: 65.8 Medium Trucks: 59.8 Heavy Trucks: 61.1 Vehicle Noise: 67.8	Day Ler 65.9 58.0 59.2 67.2 feet)	q Evening 64. 50. 55. 65.	5 5 8 2	58.5 59.2 60.4 64.2	65.4 66.6 71.1	65 66 71

	FHV	VA-RD-77-108 H	IGHWA	Y N	OISE PE	REDICTIC	ON MOI	DEL			
	io: Existing te: Trilogy Pkw nt: w/o Dwy. 1	y.				Project N Job Nu			vy Senior C	om.	
	SPECIFIC IN	PUT DATA							L INPUTS	5	
Highway Data				S	Site Con	ditions (F	Hard =	10, Sc	oft = 15)		
Average Daily	Traffic (Adt):	4,734 vehicles						Autos:	15		
Peak Hour	Percentage:	6.19%			Me	dium Truc	cks (2 A	xles):	15		
Peak H	lour Volume:	293 vehicles			He	avy Truck	(3+ A	xles):	15		
Ve	hicle Speed:	45 mph			/ehicle l	Mise					
Near/Far La	ne Distance:	48 feet				icleType	-	Day	Evening	Night	Daily
Site Data				-	Ven			77.5%	•	10.5%	
	rrier Heiaht:	0.0 feet			Me	edium Tru		48.0%		50.0%	3.00%
Barrier Type (0-W		0.0			ŀ	leavy Tru	icks:	48.0%	2.0%	50.0%	5.00%
Centerline Dis	. ,	59.0 feet									
Centerline Dist		59.0 feet		^	loise Sc	ource Ele			eet)		
Barrier Distance	to Observer:	0.0 feet				Autos:		000			
Observer Height (Above Pad):	5.0 feet				n Trucks:					
• •	ad Elevation:	0.0 feet			Heav	y Trucks:	8.0	006	Grade Adj	ustment.	0.0
	ad Elevation:	0.0 feet		L	ane Eq	uivalent I	Distand	e (in i	feet)		
	Road Grade:	0.0%				Autos:	54.1	129			
	Left View:	-90.0 degrees			Mediu	n Trucks:	53.9	966			
	Right View:	90.0 degrees			Heav	y Trucks:	53.9	982			
FHWA Noise Mode	el Calculation:	s									
VehicleType	REMEL	Traffic Flow	Distand	e	Finite	Road	Fresn	el	Barrier Atte	en Ber	m Atten
Autos:	68.46	-7.53	-	0.62	2	-1.20		4.69	0.0	00	0.000
Medium Trucks:	79.45	-22.40	-	0.60)	-1.20		-4.88	0.0	00	0.000
Heavy Trucks:	84.25	-20.18	-	0.60)	-1.20		-5.35	0.0	00	0.000
Unmitigated Noise			arrier at	ten	uation)						
	Leq Peak Hou			q Ev	rening	Leq N			Ldn		VEL
Autos:	59		9.3		57.9		51.9		60.3		60.9
Medium Trucks:	55		3.4		45.6		54.8		60.9		61.0
Heavy Trucks:	62).4		52.6		61.8		68.0		68.0
Vehicle Noise:	64		3.3		59.2		62.9		69.3	1	69.4
Centerline Distance	ce to Noise Co	ontour (in feet)	-	70 d	ID A	65 dl	DA.	4	0 dBA	FE	dBA
		1.	in:	70 a 53		05 di 115			247		ава 32
		CNE		54	-	117	-		247		32 41
		CNE		52		(1)			201	5	- 1

Monday, December 14, 2020

Monday, December 14, 2020

				HWAY N							
Scenario:	Existing					Project Na	ame: G	len Iv	y Senior C	om.	
Road Name:	Trilogy Pkw	у.				Job Nun	nber: 1	3032			
Road Segment:	w/o Temeso	al Canyon R	d.								
	PECIFIC IN	PUT DATA							LINPUT	S	
Highway Data					Site Con	ditions (H	ard = 1	10, So	ft = 15)		
Average Daily Tr	affic (Adt):	4,734 vehicle	es				A	utos:	15		
Peak Hour Pe	ercentage:	6.19%			Me	dium Truck	ks (2 A.	xles):	15		
Peak Hou	ur Volume:	293 vehicle	es		He	avy Trucks	s (3+ A	xles):	15		
Vehic	cle Speed:	45 mph		-	Vehicle I	Mix					
Near/Far Lane	Distance:	48 feet		F		icleTvpe	L	Dav	Evenina	Niaht	Dailv
Site Data						Aut	tos: 7	7.5%	14.0%	10.5%	92.00%
Barri	er Height:	0.0 feet			Me	edium Truc	ks: 4	18.0%	2.0%	50.0%	3.00%
Barrier Type (0-Wal	•	0.0			ŀ	leavy Truc	:ks: 4	18.0%	2.0%	50.0%	5.00%
Centerline Dist.	to Barrier:	59.0 feet			Noise Sc	ource Elev	ations	(in fe	et)		
Centerline Dist. to	Observer:	59.0 feet		F		Autos:	0.0		.,		
Barrier Distance to	Observer:	0.0 feet			Mediu	n Trucks:	2.2	97			
Observer Height (Al	bove Pad):	5.0 feet			Heav	y Trucks:	8.0	06	Grade Ad	iustment	: 0.0
	Elevation:	0.0 feet		-							
	Elevation:	0.0 feet		-	Lane Eq	uivalent D			eet)		
Ro	ad Grade:	0.0%				Autos:	54.1				
	Left View:	-90.0 degre				n Trucks:	53.9				
F	Right View:	90.0 degre	ees		Heav	y Trucks:	53.9	82			
FHWA Noise Model											
VehicleType	REMEL	Traffic Flow		stance	Finite		Fresne		Barrier Att		m Atten
Autos:	68.46	-7.53	-	-0.6	-	-1.20		4.69		000	0.00
Medium Trucks:	79.45	-22.40	-	-0.6	-	-1.20		4.88		000	0.00
Heavy Trucks:	84.25	-20.18	-	-0.6	-	-1.20	-	5.35	0.0	000	0.00
Unmitigated Noise L										-	
	eq Peak Hou			Leq E	vening	Leq Nig			Ldn		NEL
Autos:	59. 55		59.3 53.4		57.9 45.6		51.9 54.8		60.3 60.9		60. 61.
Medium Trucks:	55. 62	-	53.4 60.4		45.6 52.6		54.8 61.8		60.9	-	
Heavy Trucks: Vehicle Noise:					02.0						68.
	64		63.3		59.2		62.9		69.3	5	69.
Centerline Distance	to Noise Co	ntour (in fee	t)	70	dBA	65 dB	Δ	6	0 dBA	55	dBA
			Ldn:		<i>ив</i> я 3	115		0	247		06A 532
				-	-						541
		(NEL:		54	117			251		

	FHW	/A-RD-77-108 H	IGHWA	Y NOISE PR	REDICTI	ON MO	DEL					
	o: E+P RIRO e: Temescal C t: n/o Trilogy F	,		Project Name: Glen Ivy Senior Com. Job Number: 13032								
SITE S	PECIFIC IN	PUT DATA			N	OISE	ODE		5			
Highway Data				Site Con	ditions	(Hard =	10, So	ft = 15)				
Average Daily 1	raffic (Adt): 1	6,720 vehicles				,	Autos:	15				
Peak Hour H	Percentage:	6.19%		Me	dium Tru	icks (2 A	xles):	15				
Peak Ho	our Volume:	1,035 vehicles		He	avy Truc	cks (3+ A	(xles):	15				
Veh	icle Speed:	40 mph		Vehicle I	Mix							
Near/Far Lan	e Distance:	12 feet			icleTvpe		Dav	Evening	Night	Dailv		
Site Data							75.5%	•	10.5%			
	rier Height:	0.0 feet		Me	, edium Tr		48.9%		48.9%	1.849		
Barrier Type (0-Wa	•	0.0 reet			leavy Ti		47.3%		47.3%			
Centerline Dis	. ,	37.0 feet					-					
Centerline Dist. t		37.0 feet		Noise So				et)				
Barrier Distance t		0.0 feet			Autos		000					
Observer Height (A		5.0 feet			n Truck		297	~				
÷ (d Elevation:		Heav	y Truck	s: 8.0	006	Grade Adj	ustment	0.0			
	d Elevation:	0.0 feet		Lane Eq	uivalent	Distand	e (in f	eet)				
F	oad Grade:	0.0%			Autos	s: 36.	351					
	Left View:	-90.0 degrees		Mediu	n Truck	s: 36.0	510					
	Right View:	90.0 degrees		Heav	y Truck	s: 36.0	534					
FHWA Noise Mode												
VehicleType	REMEL		Distanc		Road	Fresn	-	Barrier Atte		m Atten		
Autos:	66.51	-1.29		1.88	-1.20		-4.56	0.0		0.00		
Medium Trucks:	77.72	-18.53		1.93	-1.20		-4.87	0.0		0.00		
Heavy Trucks:	82.99	-22.48		1.92	-1.20		-5.61	0.0	00	0.00		
Unmitigated Noise			rrier at	tenuation)								
	Leq Peak Hou			Evening	Leq	Night		Ldn		VEL		
Autos:	65.			64.7		58.7		67.1		67.		
Medium Trucks:	59.			50.6		59.3		65.5		65.		
Heavy Trucks:	61.			55.9		60.5		66.7		66.		
Vehicle Noise:	67.		.4	65.4		64.3		71.3		71.		
Centerline Distanc	e to Noise Co	ntour (in feet)			67	AD A		0 484	57	dD A		
			in:	'0 dBA 45		dBA 7	6	0 dBA 208		dBA 49		

FRWA-RD	-77-108 HIG		IOISE PI	EDICIIC					
Scenario: E+P RIRO					lame: Glei		ior Com	-	
Road Name: Temescal Canyon Road Segment: n/o Lawson Rd.	i Ră.			JOD NU	mber: 130	32			
SITE SPECIFIC INPUT	DATA		Cite Con		Hard = 10,				
Highway Data			Sile Con	uiuons (i			5)		
Average Daily Traffic (Adt): 17,742				-li	Auto				
Peak Hour Percentage: 6.19 Peak Hour Volume: 1.098	% vehicles				:ks (2 Axle 's (3+ Axle	·			
	mph				3 (3+ Axie	3). 13			
,	feet	١	Vehicle I	Nix					
	ICCL		Veh	cleType	Daj			ght	Daily
Site Data					itos: 75.				97.42
Barrier Height: 0.	D feet			edium Tru				8.9%	1.849
Barrier Type (0-Wall, 1-Berm): 0.0	D		ŀ	leavy Tru	cks: 47.	3% 5.	4% 4	7.3%	0.749
) feet	1	Noise Sc	urce Ele	vations (ii	feet)			
) feet			Autos:					
) feet		Mediur	n Trucks:	2.297				
) feet		Heav	y Trucks:	8.006	Grade	e Adjust	ment:	0.0
) feet		F		N-4	··· 6 61			
) feet	4	Lane Equ	Autos:	36.851	n reet)			
	0%		Madiu	n Trucks:					
) degrees) degrees			y Trucks:					
FHWA Noise Model Calculations									
	c Flow D	istance	Finite	Road	Fresnel	Barrie	r Atten	Bern	n Atter
Autos: 66.51	-1.03	1.88	В	-1.20	-4.5	i6	0.000		0.00
Medium Trucks: 77.72	-18.27	1.93	3	-1.20	-4.8	7	0.000		0.00
Heavy Trucks: 82.99	-22.23	1.92	2	-1.20	-5.6	1	0.000		0.00
Unmitigated Noise Levels (without To	po and barr	ier atten	uation)						
	Leq Day	Leg Ev		Leq N	•	Ldn		CN	
Autos: 66.2	66.2		64.9		58.9		67.3		68
Medium Trucks: 60.2	58.4		50.9		59.6		65.8		65
Heavy Trucks: 61.5	59.5		56.1		60.8		67.0		67
Vehicle Noise: 68.2	67.6		65.6		64.6		71.5		71
Centerline Distance to Noise Contour	(in feet)	70 c		65 d	24	60 dBA		55 c	
	Ldn:			05 di 101		217		55 C 46	
	CNEL:			10		217		40	
	GIVEL.	43	3	10:	,	221		40	0

	FH\	VA-RD-77-108 H	IIGHWAY	NOISE P	REDICT		DEL			
	io: E+P RIRO e: Temescal (nt: s/o Dwy. 4	Canyon Rd.				t Name: (lumber: '		vy Senior C	om.	
SITE	SPECIFIC IN	IPUT DATA				NOISE N	IODE	L INPUT	s	
Highway Data				Site Cor	nditions	(Hard =	10, So	oft = 15)		
Average Daily	Traffic (Adt):	14,106 vehicles				,	Autos:	15		
Peak Hour	Percentage:	6.19%		Me	edium Tr	ucks (2 A	xles):	15		
Peak H	our Volume:	873 vehicles		He	avy Tru	cks (3+ A	xles):	15		
Vei	hicle Speed:	40 mph		Vehicle	Mix					
Near/Far La	ne Distance:	12 feet			icleType		Day	Evening	Night	Daily
Site Data				101			75.5%	•	10.5%	
				м	Iedium T		48.9%		48.9%	1.84%
Barrier Type (0-W	rier Height:	0.0 feet 0.0			Heavy T		47.3%		47.3%	
Centerline Dis	. ,	0.0 37.0 feet								0.7 170
Centerline Dist		37.0 feet		Noise S	ource E	levations	s (in fe	eet)		
Barrier Distance		0.0 feet			Auto		000			
Observer Height (5.0 feet		Mediu	m Truck	is: 2.2	297			
	ad Elevation:	0.0 feet		Hea	vy Truck	is: 8.0	006	Grade Adj	iustment.	: 0.0
	ad Elevation:	0.0 feet		Lane Eo	uivalen	t Distand	e (in	feet)		
	Road Grade:	0.0%			Auto					
	Left View:	-90.0 degrees		Mediu	m Truck					
	Right View:	90.0 degrees		Hea	vy Truck	s: 36.0	534			
FHWA Noise Mode	el Calculation	s								
VehicleType	REMEL	Traffic Flow	Distance	Finite	Road	Fresn	el	Barrier Atte	en Ber	m Atten
Autos:	66.51	-2.03	1	.88	-1.20		-4.56	0.0	000	0.000
Medium Trucks:	77.72	-19.27	1	.93	-1.20		-4.87	0.0	000	0.000
Heavy Trucks:	82.99	-23.22	1	.92	-1.20		-5.61	0.0	000	0.000
Unmitigated Noise			arrier atte	enuation)						
	Leq Peak Hou			Evening	Leq	Night		Ldn		NEL
Autos:	65		5.2	63.9		57.9		66.3		67.0
Medium Trucks:	59		7.4	49.9		58.6		64.8		64.8
Heavy Trucks:	60		3.5	55.1		59.8		66.0		66.1
Vehicle Noise:	67		5.6	64.6		63.6		70.5	5	70.8
Centerline Distance	e to Noise Co	ontour (in feet)								
) dBA		dBA	6	60 dBA		dBA
			dn:	40		86		186		01
		CNE	EL:	42	9	90		195	4	19

Monday, December 14, 2020

	FHWA-RD-7	7-108 HIG	HWAY I	NOISE PR	REDICTIO	N MODEL	-	
Scenario: E+P RI Road Name: Trilogy Road Segment: w/o Dw	Pkwy.					ame: Gler nber: 130	n Ivy Senior (32	Com.
SITE SPECIFIC	INPUT DA	ATA					DEL INPUT	S
Highway Data				Site Con	ditions (H	lard = 10,	Soft = 15)	
Average Daily Traffic (Ad): 4,806 ve	ehicles				Auto	os: 15	
Peak Hour Percentage	e: 6.19%			Med	dium Truc	ks (2 Axle	s): 15	
Peak Hour Volum	e: 297 ve	ehicles		Hea	avy Truck	s (3+ Axle	s): 15	
Vehicle Spee	<i>d:</i> 45 m	ph	ŀ	Vehicle N	lix			
Near/Far Lane Distanc	e: 48 fe	et	-		cleType	Dav	/ Evening	Night Daily
Site Data						tos: 77.	•	10.5% 92.00%
Barrier Heigh	<i>t:</i> 0.0 f	oot		Me	dium Truc	cks: 48.0	0% 2.0%	50.0% 3.00%
Barrier Type (0-Wall, 1-Bern		661		E	leavy Truc	cks: 48.	0% 2.0%	50.0% 5.00%
Centerline Dist. to Barrie		eet	-	N- i 0-			. fr - 4)	
Centerline Dist. to Observe	r: 59.0 f	eet	-	Noise So	urce Elev Autos:	0.000	i reetj	
Barrier Distance to Observe	r: 0.0 f	eet		Martin	n Trucks:	2.297		
Observer Height (Above Pac): 5.0 f	eet			v Trucks:	2.297	Grade Ac	ljustment: 0.0
Pad Elevatio	n: 0.0 f	eet		neav	y TTUCKS.	0.000	Graue Au	justinent. 0.0
Road Elevatio	n: 0.0 f	eet		Lane Equ	ıivalent D	istance (in feet)	
Road Grad	e: 0.0%				Autos:	54.129		
Left View	v: -90.0 c	legrees		Mediur	n Trucks:	53.966		
Right View	<i>v:</i> 90.0 c	legrees		Heav	y Trucks:	53.982		
FHWA Noise Model Calculat	ions							
VehicleType REMEL	Traffic F	low Di	istance	Finite	Road	Fresnel	Barrier At	ten Berm Atten
		-7.46	-0.6		-1.20	-4.6		000 0.00
		22.33	-0.6	-	-1.20	-4.8		000 0.00
Heavy Trucks: 84	.25 -2	20.11	-0.6	60	-1.20	-5.3	85 0.	000 0.00
Unmitigated Noise Levels (v	vithout Topo	and barr	ier atter	nuation)				
VehicleType Leq Peak		q Day		vening	Leq Ni		Ldn	CNEL
Autos:	59.2	59.4		57.9		51.9	60.	
Medium Trucks:	55.3	53.4		45.6		54.8	61.	
Heavy Trucks:	62.3	60.4		52.7		61.9	68.	
Vehicle Noise:	64.6	63.4		59.3		63.0	69.	4 69.
Centerline Distance to Noise	Contour (in	n feet)						
				dBA	65 dE		60 dBA	55 dBA
		Ldn:	-	54	116		249	537
		CNEL:	5	55	118		254	547

	FHV	VA-RD-77-108	HIGHW	AY N	OISE PF	REDICT		ODEL					
Road Nam	io: E+P FULL e: Temescal C nt: n/o Lawson	,		Project Name: Glen Ivy Senior Com. Job Number: 13032									
SITE	SPECIFIC IN	PUT DATA				I	NOISE	MODE	L INPUT	s			
Highway Data				S	Site Conditions (Hard = 10, Soft = 15)								
Average Daily	Traffic (Adt):	17,742 vehicles	3					Autos.	15				
Peak Hour	Percentage:	6.19%			Me	dium T	rucks (2	2 Axles).	15				
Peak H	our Volume:	1,098 vehicles	5		He	avy Tru	ıcks (3-	+ Axles).	15				
Ve	hicle Speed:	40 mph		v	ehicle l	Mix							
Near/Far La	ne Distance:	12 feet		-		icleTyp	е	Day	Evening	Night	Daily		
Site Data							Autos:		-	10.5%			
Bai	rier Height:	0.0 feet			Me	edium 1	rucks:	48.9%	6 2.2%	48.9%	1.84%		
Barrier Type (0-W		0.0			F	leavy 1	Trucks:	47.3%	6 5.4%	47.3%	0.74%		
Centerline Di	. ,	37.0 feet		-									
Centerline Dist.	to Observer:	37.0 feet		N	loise So				eet)				
Barrier Distance	to Observer:	0.0 feet				Auto		0.000					
Observer Height (Above Pad):	5.0 feet			Mediur			2.297	Crada Aa	ivotmont			
Pa	Pad Elevation: 0.0 feet					y Trucl	(S.	8.006	Grade Ad	justinent.	0.0		
Roa	Road Elevation: 0.0 feet					uivalen	t Dista	nce (in	feet)				
1	Road Grade:	0.0%				Auto	os: 3	6.851					
	Left View:	-90.0 degree	s		Mediur	n Trucl	ks: 3	6.610					
	Right View:	90.0 degree	s		Heav	y Trucl	ks: 3	6.634					
FHWA Noise Mode	el Calculation	s											
VehicleType	REMEL	Traffic Flow	Dista	nce	Finite	Road	Fre	snel	Barrier Att	en Ber	m Atten		
Autos:	66.51	-1.03		1.88		-1.20		-4.56	0.	000	0.00		
Medium Trucks:	77.72	-18.27		1.93	,	-1.20		-4.87	0.	000	0.00		
Heavy Trucks:	82.99	-22.23		1.92		-1.20		-5.61	0.	000	0.00		
Unmitigated Noise			-										
VehicleType	Leq Peak Hou			.eq Ev		Leg	Night		Ldn		VEL		
Autos:	66		66.2		64.9			3.9	67.		68.		
Medium Trucks:	60		58.4		50.9			9.6	65.		65.		
Heavy Trucks:	61	-	59.5		56.1).8	67.		67.		
Vehicle Noise:	68		67.6		65.6		64	4.6	71.	5	71.		
Centerline Distanc	e to Noise Co	ontour (in feet)		70 d	DA I	65	dBA		60 dBA	FF	dBA		
			Ldn:	47			101		217		067		
			VEL:	47			101		217		88		
		UI	× <u> </u>	49			100		441	4	00		

	FHV	VA-RD-77-108	HIGH	HWAY N		REDICT	ION MO	DEL					
Scenario: E+P R Road Name: Trilogy Road Segment: w/o Te	/ Pkw				Project Name: Glen Ivy Senior Com. Job Number: 13032								
SITE SPECIFI	C IN	PUT DATA							L INPUT	5			
Highway Data					Site Con	ditions	(Hard =	10, So	oft = 15)				
Average Daily Traffic (A	dt):	5,107 vehicle	s				,	Autos:	15				
Peak Hour Percenta	ge:	6.19%					ucks (2 A	/					
Peak Hour Volur	ne:	316 vehicle	s		He	avy Tru	cks (3+ A	(xles):	15				
Vehicle Spe	ed:	45 mph			Vehicle I	<i>lix</i>							
Near/Far Lane Distan	ce:	48 feet		-		cleType	2	Dav	Evening	Night	Dailv		
Site Data								77.5%	•	10.5%			
Barrier Heig	ht.	0.0 feet			Me	dium T	rucks:	48.0%	2.0%	50.0%	3.00%		
Barrier Type (0-Wall, 1-Ber		0.0			F	leavy T	rucks:	48.0%	2.0%	50.0%	5.00%		
Centerline Dist. to Barr		59.0 feet		H	Noise So	urco E	lovation	(in fi	0.04)				
Centerline Dist. to Observ	er:	59.0 feet		Ľ	140/36 30	Auto		000	eey				
Barrier Distance to Observ	er:	0.0 feet			Madiu	n Truck		297					
Observer Height (Above Pa	ad):	5.0 feet				v Truck	0	006	Grade Adj	ustment	. 0 0		
Pad Elevati	on:	0.0 feet			Tieav	y muck	3. 0.0	000	0/000/10	aounon	. 0.0		
Road Elevati	on:	0.0 feet		1	Lane Equ	iivalent	t Distand	e (in	feet)				
Road Gra	de:	0.0%				Auto		129					
Left Vie		-90.0 degre	es			n Truck							
Right Vie	ew:	90.0 degre	es		Heav	y Truck	s: 53.	982					
FHWA Noise Model Calcula	ations	5											
VehicleType REME	L	Traffic Flow	Dis	stance	Finite	Road	Fresn	el	Barrier Atte	en Ber	m Atten		
	8.46	-7.20		-0.6	-	-1.20		-4.69		000	0.00		
	9.45	-22.07		-0.6	-	-1.20		-4.88		000	0.00		
Heavy Trucks: 8	4.25	-19.85		-0.6	0	-1.20		-5.35	0.0	000	0.00		
Unmitigated Noise Levels													
VehicleType Leq Peal				Leq E		Leq	Night		Ldn		NEL		
Autos:	59.		59.6		58.2		52.2		60.7		61.		
Medium Trucks:	55		53.7		45.9		55.1		61.3		61.		
Heavy Trucks:	62	-	60.7		52.9		62.1		68.3	-	68.		
Vehicle Noise:	64	.9	63.7		59.5		63.3		69.7	,	69.		
Centerline Distance to Nois	se Co	ntour (in feet)										
			L		dBA		dBA	6	60 dBA		dBA		
											60		
			Ldn: NEL	5	6 7		21 23		260 264	-	69		

	FHV	VA-RD-77-108	HIGHW	AY N	OISE PI	REDICT	ION MO	DEL			
Road Nam	io: E+P FULL ne: Temescal C nt: n/o Trilogy I	,					Name: lumber:		vy Senior C	om.	
SITE	SPECIFIC IN	PUT DATA							L INPUT	5	
Highway Data				5	Site Con	ditions	(Hard =	10, S	oft = 15)		
Average Daily								Autos.			
	Percentage:	6.19%					ucks (2)				
	lour Volume:	1,035 vehicles			He	avy Truc	cks (3+)	Axles).	15		
	hicle Speed:	40 mph		١	/ehicle	Mix					
Near/Far La	ne Distance:	12 feet			Veh	icleType	•	Day	Evening	Night	Daily
Site Data						1	Autos:	75.5%	14.0%	10.5%	97.42%
Ba	rrier Height:	0.0 feet			M	edium Ti	rucks:	48.9%	5 2.2%	48.9%	1.84%
Barrier Type (0-W		0.0			I	Heavy T	rucks:	47.3%	5.4%	47.3%	0.74%
Centerline Di		37.0 feet		٨	loise So	ource El	levation	s (in f	eet)		
Centerline Dist.		37.0 feet				Auto		000	1		
Barrier Distance		0.0 feet			Mediu	m Truck		297			
Observer Height (· · · ·	5.0 feet				v Truck		006	Grade Ad	iustment	: 0.0
	ad Elevation:	0.0 feet									
	ad Elevation:	0.0 feet		L	.ane Eq		t Distan		feet)		
1	Road Grade:	0.0%				Auto					
	Left View:	-90.0 degree	s			m Truck					
	Right View:	90.0 degree	s		Heav	ry Truck	s: 36.	634			
FHWA Noise Mode	el Calculations	s									
VehicleType	REMEL	Traffic Flow	Dista	nce	Finite	Road	Fresr	el	Barrier Atte	en Ber	m Atten
Autos:	66.51	-1.29		1.88	3	-1.20		-4.56	0.0	000	0.000
Medium Trucks:	77.72	-18.53		1.93	3	-1.20		-4.87	0.0	000	0.000
Heavy Trucks:	82.99	-22.48		1.92	2	-1.20		-5.61	0.0	000	0.000
Unmitigated Noise	e Levels (with	out Topo and I	barrier	atteni	uation)						
VehicleType	Leq Peak Hou			eq Ev	rening	Leq	Night		Ldn		NEL
Autos:	65		6.0		64.7		58.7		67.1		67.7
Medium Trucks:	59		58.1		50.6		59.3		65.5		65.6
Heavy Trucks:	61	.2 !	59.3		55.9		60.5	5	66.7	7	66.8
Vehicle Noise:	67	.9 (67.4		65.4		64.3	3	71.3	3	71.6
Centerline Distant	ce to Noise Co	ontour (in feet)									
				70 d			dBA	1	60 dBA		dBA
		1	.dn:	45	5	g	97		208	4	49
		CN	IEL:	47	7	1	01		218	4	69

Monday, December 14, 2020

Monday, December 14, 2020

	FHW	A-RD-77-108	HIGHW	AY NO	DISE PF	REDICTIC	ON MOI	DEL			
Scenario: Road Name: Road Segment:		anyon Rd.				Project N Job Nui			vy Senior C	om.	
	ECIFIC INF	PUT DATA							L INPUT	5	
Highway Data				S	ite Con	ditions (H	lard =	10, Sc	oft = 15)		
Average Daily Tra	ffic (Adt): 14	4,106 vehicles					A	Autos:	15		
Peak Hour Pe	rcentage:	6.19%				dium Truc		/			
Peak Hou	r Volume:	873 vehicles			He	avy Truck	is (3+ A	xles):	15		
	le Speed:	40 mph		V	ehicle I	<i>lix</i>					
Near/Far Lane	Distance:	12 feet			Vehi	cleType		Day	Evening	Night	Daily
Site Data						AL	itos:	75.5%	14.0%	10.5%	97.42%
Barrie	r Height:	0.0 feet			Me	edium Tru	cks:	48.9%	2.2%	48.9%	1.84%
Barrier Type (0-Wall,		0.0			ŀ	łeavy Tru	cks:	47.3%	5.4%	47.3%	0.74%
Centerline Dist. I	,	37.0 feet		N	oico Sa	urce Ele	vation	(in fr	nof)		
Centerline Dist. to	Observer:	37.0 feet		N	0136 30	Autos:		000	ey		
Barrier Distance to	Observer:	0.0 feet			Mediur	n Trucks:		297			
Observer Height (Ab	ove Pad):	5.0 feet				y Trucks:		006	Grade Adj	ustment	0.0
Pad	Elevation:	0.0 feet									
	Elevation:	0.0 feet		L	ane Equ	ivalent E			feet)		
	ad Grade:	0.0%				Autos:					
	_eft View:	-90.0 degree				n Trucks:					
Ri	ight View:	90.0 degree	5		Heav	y Trucks:	36.6	534			
FHWA Noise Model C	Calculations										
		Traffic Flow	Dista		Finite		Fresn	-	Barrier Atte		m Atten
Autos:	66.51	-2.03		1.88		-1.20		-4.56	0.0		0.00
Medium Trucks:	77.72	-19.27		1.93		-1.20		-4.87	0.0		0.00
Heavy Trucks:	82.99	-23.22		1.92		-1.20		-5.61	0.0	000	0.00
Unmitigated Noise L			arrier	attenu	ation)						
	q Peak Hour			eq Eve		Leq N	•		Ldn		NEL
Autos:	65.2		5.2		63.9		57.9		66.3		67.0
Medium Trucks:	59.2		7.4		49.9		58.6		64.8		64.
Heavy Trucks:	60.5		8.5		55.1		59.8		66.0		66.
Vehicle Noise:	67.2		6.6		64.6		63.6		70.5	0	70.8
Centerline Distance t	o Noise Cor	ntour (in feet)									
			, L	70 dl		65 dl		6	i0 dBA		dBA
		-	dn:	40		86			186		101
		CN	EL:	42		90			195	2	19

SITE SPECIFIC INPUT D	yon Rd.					Glen Iv	vy Senior C	om			
Road Segment: w/o Temescal Can SITE SPECIFIC INPUT D	yon Rd.			Project Name: Glen Ivy Senior Com. Job Number: 13032							
SITE SPECIFIC INPUT D	Road Segment: w/o Temescal Canyon Rd.					13032					
SITE SPECIFIC INPUT D Highway Data											
	ATA						L INPUT	5			
nignway Data			Site Conditions (Hard = 10, Soft = 15)								
Average Daily Traffic (Adt): 4,976	vehicles					Autos:					
Peak Hour Percentage: 6.19%	6		Med	dium Tr	ucks (2 A	Axles):	15				
	vehicles		Hea	avy Tru	cks (3+ A	Axles):	15				
	mph	ŀ	Vehicle N	lix							
Near/Far Lane Distance: 48 1	reet		Vehi	cleType	9	Day	Evening	Night	Daily		
Site Data	-				Autos:	77.5%	14.0%	10.5%	92.00		
Barrier Height: 0.0	feet		Me	edium T	rucks:	48.0%	2.0%	50.0%	3.00		
Barrier Type (0-Wall, 1-Berm): 0.0			h	leavy T	rucks:	48.0%	2.0%	50.0%	5.00		
	feet	ŀ	Noine C-		lovatic	a /in *	a fi				
Centerline Dist. to Observer: 59.0	feet	ŀ	Noise So	Auto			eet)				
Barrier Distance to Observer: 0.0	feet		Mediun			200 297					
Observer Height (Above Pad): 5.0	feet			y Truck		297	Grade Ad	iustmont	0.0		
Pad Elevation: 0.0		neav	y TTUCK	s. o.	000	Graue Auj	usuneni.	0.0			
Road Elevation: 0.0	feet		Lane Equ	ıivalen	t Distand	ce (in i	feet)				
Road Grade: 0.0	%			Auto	s: 54.	129					
Left View: -90.0	degrees		Mediun	n Truck	s: 53.	966					
Right View: 90.0	degrees		Heav	y Truck	s: 53.	982					
FHWA Noise Model Calculations											
VehicleType REMEL Traffic		tance	Finite		Fresn	-	Barrier Att		m Atten		
Autos: 68.46	-7.31	-0.6		-1.20		-4.69		000	0.00		
	-22.18	-0.6		-1.20		-4.88		000	0.00		
Heavy Trucks: 84.25	-19.96	-0.6	50	-1.20		-5.35	0.0	000	0.00		
Unmitigated Noise Levels (without Top	1										
	.eq Day	Leq E	vening	Leq	Night		Ldn		VEL		
Autos: 59.3	59.5		58.1		52.1		60.5		61		
Medium Trucks: 55.5	53.6		45.8		55.0		61.2		61		
Heavy Trucks: 62.5 Vehicle Noise: 64.7	60.6 63.6		52.8		62.0		68.2		68 69		
			59.4		63.2	<u>.</u>	69.5)	69		
Centerline Distance to Noise Contour (in feet)	70	dBA	67	dBA		O dBA	57	dD A		
	Ldn:		dBA 55		dBA 19	6	0 dBA 255		dBA 50		
	CNEL:		56		21		255		50 60		

	FHV	VA-RD-77-108	HIGHV	AY N	OISE PF	EDICTIO	N MOI	DEL			
Scenario: Road Name: Road Segment:		у.		Project Name: Glen Ivy Senior Com. Job Number: 13032							
	PECIFIC IN	PUT DATA							L INPUT	S	
Highway Data				5	Site Con	ditions (H					
Average Daily Tr	. ,	4,806 vehicles						lutos:	15		
Peak Hour Pe	•	6.19%				dium Truc		,	15		
	ur Volume:	297 vehicles			Hea	avy Truck	s (3+ A	xles):	15		
	cle Speed:	45 mph		١	/ehicle N	lix					
Near/Far Lane	Distance:	48 feet			Vehi	cleType	1	Day	Evening	Night	Daily
Site Data						Au	tos:	77.5%	14.0%	10.5%	92.00
Barri	er Height:	0.0 feet			Me	dium Tru	cks: 4	48.0%	2.0%	50.0%	3.00
Barrier Type (0-Wal		0.0			E	leavy Tru	cks: 4	48.0%	2.0%	50.0%	5.00
Centerline Dist.	to Barrier:	59.0 feet			laisa Sa	urce Elev	ations	(in fo	of		
Centerline Dist. to	Observer:	59.0 feet		1	10/36 30	Autos:	0.0		eŋ		
Barrier Distance to	Observer:	0.0 feet			Modiur	n Trucks:	2.2				
Observer Height (Al	bove Pad):	5.0 feet				y Trucks:	8.0		Grade Ad	iustment	. 0.0
Pad	Elevation:	0.0 feet								actinoni	. 0.0
Road	Elevation:	0.0 feet		L	ane Equ	ivalent D			eet)		
Ro	ad Grade:	0.0%				Autos:	54.1				
	Left View:	-90.0 degree	s			n Trucks:	53.9				
F	Right View:	90.0 degree	s		Heav	y Trucks:	53.9	982			
FHWA Noise Model	Calculation	5									
VehicleType	REMEL	Traffic Flow	Dista	nce	Finite	Road	Fresne	el I	Barrier Att	en Ber	m Atter
Autos:	68.46	-7.46		-0.62	-	-1.20		4.69		000	0.00
Medium Trucks:	79.45	-22.33		-0.60		-1.20		4.88		000	0.00
Heavy Trucks:	84.25	-20.11		-0.60		-1.20		-5.35	0.0	000	0.00
Unmitigated Noise L											
	eq Peak Hou			.eq Ev	rening	Leq Ni	•		Ldn	-	NEL
Autos:	59		59.4		57.9		51.9		60.4	-	61
Medium Trucks:	55		53.4 50.4		45.6 52.7		54.8 61.9		61.0 68.0	-	61
Heavy Trucks: Vehicle Noise:	62	-								-	68
	64		53.4		59.3		63.0		69.4	1	69
Centerline Distance	to Noise Co	ontour (in feet)		70 a	IRΔ	65 dE	24	6	0 dBA	55	dBA
		,	dn:	54		116		0	249		537
		-	IFI ·	5!		118			249 254		547
		Ch		0.	, ,	110			204		~ `

ISE PREDICTION MODEL
Project Name: Glen Ivy Senior Com. Job Number: 13032
NOISE MODEL INPUTS
e Conditions (Hard = 10, Soft = 15)
Autos: 15
Medium Trucks (2 Axles): 15
Heavy Trucks (3+ Axles): 15
hicle Mix
VehicleType Day Evening Night Daily
Autos: 75.5% 14.0% 10.5% 97.42%
Medium Trucks: 48.9% 2.2% 48.9% 1.84%
Heavy Trucks: 47.3% 5.4% 47.3% 0.74%
•
ise Source Elevations (in feet)
Autos: 0.000
Medium Trucks: 2.297
Heavy Trucks: 8.006 Grade Adjustment: 0.0
ne Equivalent Distance (in feet)
Autos: 36.851
Medium Trucks: 36.610
Heavy Trucks: 36.634
Finite Road Fresnel Barrier Atten Berm Atten
-1.20 -4.56 0.000 0.000
-1.20 -4.87 0.000 0.000
-1.20 -5.61 0.000 0.000
tion)
ning Leq Night Ldn CNEL
65.1 59.1 67.5 68.1
51.0 59.7 65.9 66.0
56.3 60.9 67.1 67.2
56.3 60.9 67.1 67.2
56.3 60.9 67.1 67.2 65.8 64.7 71.7 72.0
56.3 60.9 67.1 67.2 65.8 64.7 71.7 72.0 A 65 dBA 60 dBA 55 dBA
56.3 60.9 67.1 67.2 65.8 64.7 71.7 72.0

Monday, December 14, 2020

Monday, December 14, 2020

	FHW	A-RD-77-108 HI	GHWAY N	IOISE PF	REDICTION	N MODE	EL	
Scenario: Road Name: Road Segment:	Temescal C				Project Na Job Num		en Ivy Senior C 032	com.
SITE SI	PECIFIC INI	PUT DATA			NO	SE MO	DEL INPUT	S
Highway Data				Site Con	ditions (Ha	ard = 10), Soft = 15)	
	ercentage:	7,252 vehicles 6.19% 1,068 vehicles 40 mph		He	dium Truck avy Trucks	s (2 Axi	,	
Near/Far Lane		12 feet		Vehicle I		-		
Site Data	Biotanioo.	12 1001		Vehi	icleType Aut	Di os: 75	ay Evening 5.5% 14.0%	Night Daily 10.5% 97.42
Barri	er Height:	0.0 feet		Me	edium Truc	ks: 48	3.9% 2.2%	48.9% 1.84
Barrier Type (0-Wal		0.0		ŀ	leavy Truc	ks: 47	7.3% 5.4%	47.3% 0.74
Centerline Dist.		37.0 feet	1	Noise Sc	ource Eleva	ations (in feet)	
	Observer:	37.0 feet 0.0 feet 5.0 feet 0.0 feet 0.0 feet		Heav	Autos: n Trucks: y Trucks: u ivalent D i	0.00 2.29 8.00	7 6 Grade Adj	iustment: 0.0
	ad Grade:	0.0%	Ľ	Lune Ly	Autos:	36.85	, ,	
	Left View: Right View:	-90.0 degrees 90.0 degrees			n Trucks: ry Trucks:	36.61 36.63	0	
FHWA Noise Model	Calculations		1					
VehicleType			Distance	Finite		Fresnel		
Autos:	66.51	-1.15	1.8	-	-1.20			0.0 0.0
Medium Trucks:	77.72	-18.39	1.9	-	-1.20			0.0 0.0
Heavy Trucks:	82.99	-22.35	1.9	-	-1.20	-5	.61 0.0	0.0 0.0
Unmitigated Noise L								
	eq Peak Hour			vening	Leq Nig		Ldn	CNEL
Autos: Medium Trucks:	66.0 60.0			64.8 50.7		58.8 59.5	67.2 65.7	
Heavy Trucks:	61.4		-	56.0		59.5 60.7	66.9	
Vehicle Noise:	68.			65.5		64.5	71.4	
Centerline Distance	to Noise Cor	ntour (in feet)						
		,,	70 0	dBA	65 dB/	4	60 dBA	55 dBA
		Ldr	n: 4	6	99		213	458
		CNEL	.: 4	8	103		222	479

	FHV	VA-RD-77-108	HIGH	WAY NO	DISE PRED	стіс	N MOD	EL			
Scenari									y Senior C	com.	
	e: Trilogy Pkw nt: w/o Dwy. 1	y.			J	ob Nui	nber: 13	3032			
SITE	SPECIFIC IN	PUT DATA							L INPUT	S	
Highway Data				Si	ite Conditi	ons (H	lard = 1	0, So	ft = 15)		
Average Daily	Traffic (Adt):	5,024 vehicles	s				A	utos:	15		
Peak Hour	Percentage:	6.19%			Mediur	n Truc	ks (2 Ax	des):	15		
Peak H	our Volume:	311 vehicles	s		Heavy	Truck	s (3+ Ax	des):	15		
Ve	hicle Speed:	45 mph		V	ehicle Mix						
Near/Far La	ne Distance:	48 feet		-	Vehicle	Tvpe	D	Dav	Evening	Night	Daily
Site Data							tos: 7	7.5%	•	10.5%	,
Bai	rier Heiaht:	0.0 feet			Mediu	m Tru	cks: 4	8.0%	2.0%	50.0%	3.009
Barrier Type (0-W		0.0			Hea	vy Tru	cks: 4	8.0%	2.0%	50.0%	5.009
Centerline Dis	. ,	59.0 feet				- 51		6- 6-	- 41		
Centerline Dist.		59.0 feet		N	oise Sourc	e Elev			el)		
Barrier Distance	to Observer:	0.0 feet			Medium T						
Observer Height (Above Pad):	5.0 feet			Heavy T				Grade Ad	iuctmont	
Pa	ad Elevation:	0.0 feet			neavy i	ucks.	0.00	90	Grade Au	usimeni	. 0.0
Roa	ad Elevation:	0.0 feet		Li	ane Equiva	lent D	Distance	e (in f	eet)		
1	Road Grade:	0.0%			,	Autos:	54.12	29			
	Left View:	-90.0 degree	es		Medium T						
	Right View:	90.0 degree	es		Heavy T	rucks:	53.9	82			
FHWA Noise Mode	el Calculation	s									
VehicleType	REMEL	Traffic Flow	Dist	tance	Finite Roa	ad	Fresne		Barrier Att	en Ber	m Atten
Autos:	68.46	-7.27		-0.62		.20		4.69		000	0.00
Medium Trucks:	79.45	-22.14		-0.60		.20		4.88		000	0.00
Heavy Trucks:	84.25	-19.92		-0.60	-1	.20	-	5.35	0.0	000	0.00
Unmitigated Noise					,						
	Leq Peak Hou	1.7		Leq Eve	•	Leq N	•		Ldn		NEL
Autos:	59		59.6		58.1		52.1		60.6		61.
Medium Trucks:	55		53.6		45.8		55.0		61.2		61.
Heavy Trucks:	62	-	60.6		52.9		62.1		68.2	-	68.
Vehicle Noise:	64		63.6		59.5		63.2		69.6	5	69.
Centerline Distance	e to Noise Co	ontour (in feet,)	70 dE	34	65 dE	RA	6	0 dBA	55	dBA
			Ldn:	55		119		0	257		i54

FHWA-RD-7	7-108 HIGHWA	T NOISE PI	REDICTIO	MODEL			
Scenario: EA Road Name: Temescal Canyon R Road Segment: s/o Dwy. 4	d.			ame: Glen I aber: 13032	vy Senior C	om.	
SITE SPECIFIC INPUT DA	TA	011 0				5	
Highway Data Average Daily Traffic (Adt): 14,761 ve Peak Hour Percentage: 6.19% Peak Hour Volume: 915 ve Vehicle Speed: 40 m Near/Far Lane Distance: 12 fe Site Data 6.19% Centerline Distance: 12 fe Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 37.0 f Centerline Dist. to Boserver: 0.0 f Barrier Istance to Observer: 0.0 f Patelevation: 0.0 f Road Elevation: 0.0 f	chicles ph et eet eet eet eet eet eet eet	Me He Vehicle I Veh M I Noise Sa Mediu Heau	dium Truck avy Trucks Mix icleType Aut edium Truc Heavy Truc Durce Elev Autos: m Trucks: ry Trucks:	ks: 48.99 ks: 47.39 ations (in f 0.000 2.297 8.006 istance (in	15 15 15 15 15 15 6 14.0% 6 5.4% Grade Adj	Night 10.5% 48.9% 47.3%	Daily 97.42 1.84 0.74
Right View: 90.0 c	legrees legrees		Autos: m Trucks: ıy Trucks:	36.851 36.610 36.634			
FHWA Noise Model Calculations VehicleType REMEL Traffic F	low Distanc	e Finite	Road	Fresnel	Barrier Atte	en Ber	n Atte
Autos: 66.51 Medium Trucks: 77.72	-1.83 19.06	1.88 1.93 1.92	-1.20 -1.20 -1.20	-4.56 -4.87 -5.61	0.0 0.0	000	0.0 0.0 0.0
Unmitigated Noise Levels (without Topo		,					
		Evening	Leq Nig		Ldn		IEL
Autos: 65.4 Medium Trucks: 59.4 Heavy Trucks: 60.7	65.4 57.6 58.7	64.1 50.1 55.3		58.1 58.8 60.0	66.5 65.0 66.2)	67 65 66
Vehicle Noise: 67.4	66.8	64.8		63.8	70.7	,	7
Centerline Distance to Noise Contour (ir	n feet)						
in the second		'0 dBA	65 dB.	A	60 dBA	55	dBA
				I			-
	Ldn:	41	89		192	4	13

	FHW	/A-RD-77-108 H	IGHWAY	NOISE P	REDICTIO		EL			
	rio: EA ne: Trilogy Pkwy nt: w/o Temeso				Project N Job Nur	lame: Gl nber: 13		∍nior Cor	n.	
SITE	SPECIFIC IN	PUT DATA			NO	ISE MO	DDEL IN	IPUTS		
Highway Data				Site Cor	nditions (H	lard = 10	0, Soft =	15)		
Average Daily	Traffic (Adt):	5,024 vehicles				AL	itos: 1	15		
	Percentage:	6.19%		Me	edium Truc	ks (2 Ax	<i>les):</i> 1	15		
Peak H	our Volume:	311 vehicles		He	avy Truck	s (3+ Ax	<i>les):</i> 1	15		
Ve	hicle Speed:	45 mph		Vehicle	Miv					
Near/Far La	ne Distance:	48 feet			icleType		av Eve	ening N	light	Daily
Site Data				VCI					10.5%	92.00%
				- M	edium Tru				50.0%	3.00%
ва Barrier Type (0-И	rrier Height:	0.0 feet 0.0			Heavy Tru				50.0%	5.00%
Centerline Di	. ,	59.0 feet								
Centerline Dist.		59.0 feet		Noise S	ource Elev		· /			
Barrier Distance		0.0 feet			Autos:	0.00	-			
Observer Height		5.0 feet		Mediu	m Trucks:	2.29				
•	ad Elevation:	0.0 feet		Hea	vy Trucks:	8.00	16 Gra	ade Adjus	stment:	0.0
	ad Elevation:	0.0 feet		Lane Eo	uivalent D	Distance	(in feet)			
	Road Grade:	0.0%			Autos:	54.12	. /			
	Left View:	-90.0 degrees		Mediu	m Trucks:					
	Right View:	90.0 degrees			vy Trucks:					
FHWA Noise Mod	el Calculations	;								
VehicleType	REMEL	Traffic Flow	Distance	Finite	Road	Fresnel	Bari	rier Atten	Bern	n Atten
Autos:	68.46	-7.27	-0.	.62	-1.20	-4	1.69	0.000	D	0.000
Medium Trucks:		-22.14		.60	-1.20		1.88	0.000		0.000
Heavy Trucks:		-19.92		.60	-1.20	-5	5.35	0.000	D	0.000
Unmitigated Nois				,						
VehicleType	Leq Peak Hou			Evening	Leq Ni		Ldr		CN	
Autos:	59.			58.1		52.1		60.6		61.2
Medium Trucks:	55.			45.8		55.0		61.2		61.2
Heavy Trucks:	62.			52.9		62.1		68.2		68.2
Vehicle Noise:	01.		.6	59.5		63.2		69.6		69.7
Centerline Distan	ce to Noise Co	ntour (in feet)	70) dBA	65 dE	24	60 dI	PA	55 (
		La		55	119		257		55 0	
		CNE		56	121		261		56	
		CNE	L.	50	121		20		50	55

Monday, December 14, 2020

Monday, December 14, 2020

	FHW	/A-RD-77-108 I	HIGHW#	Y NO	DISE PR	REDICTIO	N MOI	DEL			
	EAP RIRO Temescal C n/o Lawson	,				Project N Job Nur			y Senior C	om.	
SITE SI	PECIFIC IN	PUT DATA				NO	ISE N	IODE	L INPUT	5	
Highway Data				S	ite Con	ditions (H	lard =	10, So	ft = 15)		
	ercentage:	8,799 vehicles 6.19% 1,164 vehicles 40 mph			Hea	dium Truc avy Truck:	ks (2 A	/	15 15 15		
Near/Far Lane		12 feet		V	ehicle N						
Site Data	Diotanoo	12 1000			Vehi	cleType Au		Day 75.5%	Evening 14.0%	Night 10.5%	Daily 97.42%
Barri	er Height:	0.0 feet			Ме	edium Truc	cks:	48.9%	2.2%	48.9%	1.84%
Barrier Type (0-Wal		0.0			E	leavy Truc	cks:	47.3%	5.4%	47.3%	0.74%
Centerline Dist.		37.0 feet		N	oise So	urce Elev	ations	(in fe	et)		
	Observer:	37.0 feet 0.0 feet 5.0 feet 0.0 feet 0.0 feet		L	Heav	Autos: n Trucks: y Trucks: ivalent D	0.0 2.2 8.0	97 106	Grade Adj	ustment	: 0.0
	ad Grade:	0.0%				Autos:	36.8				
	Left View: Right View:	-90.0 degrees				n Trucks: y Trucks:	36.6 36.6				
FHWA Noise Model	Calculations	1									
VehicleType	REMEL	Traffic Flow	Distan	ce	Finite	Road	Fresn	e/	Barrier Atte	en Ber	m Atten
Autos:	66.51	-0.78		1.88		-1.20		4.56	0.0		0.00
Medium Trucks:	77.72	-18.02		1.93		-1.20		4.87	0.0		0.000
Heavy Trucks:	82.99	-21.98		1.92		-1.20		-5.61	0.0	00	0.000
Unmitigated Noise L			-								
	eq Peak Hou			q Eve	ening	Leq Ni	•		Ldn		NEL
Autos:	66. 60.		6.5 8.6		65.2 51.1		59.2		67.6		68.2
Medium Trucks: Heavy Trucks:	60. 61.		8.6 9.8		51.1 56.4		59.9 61.0		66.0 67.2		66.1 67.3
Vehicle Noise:	68.		9.8 7.9		56.4 65.9		64.9		71.8		72.1
Centerline Distance	to Noise Co	ntour (in feet)			-						
2 Diotanou				70 dl	BA	65 dE	A	6	0 dBA	55	dBA
		L	dn:	49		105			225	4	85
		CN	EL:	51		109			236	5	608

	FH\	VA-RD-77-108	B HIGH	WAY N	OISE PR	REDICT	ION MO	DDEL			
Road Nan	io: EAP RIRO ne: Temescal (nt: s/o Dwy. 4	Canyon Rd.					Name: lumber:		/y Senior C	Com.	
SITE	SPECIFIC IN	IPUT DATA				1	OISE	MODE		s	
Highway Data				S	Site Con	ditions	(Hard =	= 10, Se	oft = 15)		
Average Daily	Traffic (Adt):	14.959 vehicle	s					Autos:	15		
Peak Hour	Percentage:	6.19%			Med	dium Tr	ucks (2	Axles):	15		
Peak F	lour Volume:	926 vehicle	s		Hea	avy Tru	cks (3+	Axles):	15		
Ve	hicle Speed:	40 mph			/ehicle N		-	-			
Near/Far La	ne Distance:	12 feet		V		n ix cleType		Dav	Evening	Niaht	Dailv
Site Data					vern		= Autos:	75.5%	•	10.5%	
					M		rucks:	48.9%			
	rrier Height:	0.0 feet					rucks: rucks:				
Barrier Type (0-V	. ,	0.0				icavy i	IUCKS.	47.37	0 0.470	47.3%	0.74
Centerline Di		37.0 feet		N	loise So	urce E	levatior	ns (in f	eet)		
Centerline Dist.		37.0 feet				Auto	s: 0	.000			
Barrier Distance		0.0 feet			Mediun	n Truck	s: 2	.297			
Observer Height		5.0 feet			Heav	y Truck	s: 8	.006	Grade Ad	justment	0.0
	ad Elevation:	0.0 feet		-							
	ad Elevation:	0.0 feet		L	ane Equ				teet)		
	Road Grade:	0.0%				Auto		.851			
	Left View:	-90.0 degre			Mediun			.610			
	Right View:	90.0 degre	es		Heav	y Truck	S: 36	.634			
FHWA Noise Mod	el Calculation	s									
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fres	nel	Barrier Att	en Ber	m Atten
Autos:	66.51	-1.77		1.88	6	-1.20		-4.56	0.0	000	0.00
Medium Trucks:	77.72	-19.01		1.93	į	-1.20		-4.87	0.0	000	0.00
Heavy Trucks:	82.99	-22.97		1.92	1	-1.20		-5.61	0.0	000	0.00
Unmitigated Nois	e Levels (with	out Topo and	barri	er attenı	uation)						
VehicleType	Leq Peak Hou	ir Leq Day	V	Leq Ev	ening	Leq	Night		Ldn	CI	VEL
Autos:	65		65.5		64.2		58.		66.0		67.
Medium Trucks:	59		57.6		50.1		58.		65.0		65.
Heavy Trucks:			58.8		55.4		60.	-	66.2		66.
Vehicle Noise:	67	.4	66.9		64.9		63	.9	70.8	В	71.
Centerline Distan	ce to Noise Co	ontour (in feet	9	70.1							
			L	70 d			dBA		60 dBA		dBA
			Ldn:	42	/		90		193	4	17
		-	NEL	44			94		202		36

	FHV	VA-RD-77-108	HIGH	WAY N	NOISE PR	REDICTIC	N MODEL			
Scenario: E/	AP RIRO					Project N	ame: Glen	Ivy Senior C	Com.	
Road Name: Te	emescal C	Canyon Rd.				Job Nu	nber: 1303	2		
Road Segment: n/	o Trilogy I	Pkwy.								
	CIFIC IN	PUT DATA						EL INPUT	S	
Highway Data					Site Con	ditions (H	lard = 10, S	Soft = 15)		
Average Daily Traffi	c (Adt): 1	7,715 vehicles	5				Autos	s: 15		
Peak Hour Perce	entage:	6.19%					ks (2 Axles,			
Peak Hour V	/olume:	1,097 vehicles	5		Hea	avy Truck	s (3+ Axles,): 15		
Vehicle	· /· · · ·	40 mph			Vehicle N	lix				
Near/Far Lane Di	stance:	12 feet		-		cleType	Day	Evening	Night	Daily
Site Data							tos: 75.5	-	10.5%	97.429
Barrier	Heiaht:	0.0 feet			Me	dium Tru	cks: 48.9	% 2.2%	48.9%	1.849
Barrier Type (0-Wall, 1-		0.0			H	leavy Tru	cks: 47.3	% 5.4%	47.3%	0.74%
Centerline Dist. to	Barrier:	37.0 feet			Noise So	urce Elev	ations (in	feet)		
Centerline Dist. to Ob	server:	37.0 feet		F		Autos:	0.000			
Barrier Distance to Ob	oserver:	0.0 feet			Mediur	n Trucks:	2.297			
Observer Height (Abov	e Pad):	5.0 feet				v Trucks:	8.006	Grade Ad	iustment:	0.0
	evation:	0.0 feet				·				
Road Ele		0.0 feet		1	Lane Equ		istance (in	i feet)		
	Grade:	0.0%				Autos:	36.851			
=+	ft View:	-90.0 degree				n Trucks:	36.610			
Righ	nt View:	90.0 degree	s		Heav	y Trucks:	36.634			
FHWA Noise Model Ca	lculation	5								
VehicleType RI	EMEL	Traffic Flow	Dist	tance	Finite		Fresnel	Barrier Att	en Berr	m Atten
Autos:	66.51	-1.04		1.8	-	-1.20	-4.56		000	0.00
Medium Trucks:	77.72	-18.28		1.9	-	-1.20	-4.87		000	0.00
Heavy Trucks:	82.99	-22.23		1.9	2	-1.20	-5.61	0.0	000	0.00
Unmitigated Noise Lev	els (with	out Topo and	barrie	er atten	uation)					
	Peak Hou			Leq E	vening	Leq N	•	Ldn		IEL
Autos:	66		66.2		64.9		58.9	67.3	-	68.
Medium Trucks:	60		58.4		50.8		59.6	65.8	-	65.
	61	.5	59.5		56.1		60.8	67.0		67.
Heavy Trucks:							64.6	71.5	5	71.
Heavy Trucks: Vehicle Noise:	68	.2	67.6		65.6		04.0	71.5	<i>,</i>	
		-			65.6		04.0	71.3	,	
Vehicle Noise:		ontour (in feet)			dBA	65 dE	BA	60 dBA	55	dBA
Vehicle Noise:		ontour (in feet)		4		65 dE 101 105	BA		55	dBA 67 88

	FHV	/A-RD-77-108 H	IIGHWA				EL		
	o: EAP RIRO e: Trilogy Pkw t: w/o Dwy. 1	у.				<i>lame:</i> Gl mber: 13	en Ivy Senior 1032	Com.	
SITE S	SPECIFIC IN	PUT DATA			NO	DISE MO	DDEL INPU	TS	
Highway Data				Site	Conditions (I	Hard = 10	0, Soft = 15)		
Average Daily 1	Traffic (Adt):	5,096 vehicles				AL	itos: 15		
Peak Hour I	Percentage:	6.19%			Medium Truc	cks (2 Ax	les): 15		
Peak Ho	our Volume:	315 vehicles			Heavy Truck	(3+ Ax	les): 15		
Veh	nicle Speed:	45 mph		Vah	icle Mix	-			
Near/Far Lan	e Distance:	48 feet		ven			ay Evening	Nig	ht Doilu
Site Data				_	VehicleType		ay Evening 7.5% 14.0%		ht Daily 5% 92.00%
				-	AL Medium Tru		7.5% 14.0% B.0% 2.0%		.5% 92.00% .0% 3.00%
	rier Height:	0.0 feet					5.0% 2.0% B.0% 2.0%		.0% 3.00% .0% 5.00%
Barrier Type (0-Wa	. ,	0.0			Heavy Tru	CKS: 40	5.0% 2.0%	° 50.	0% 5.00%
Centerline Dis		59.0 feet		Nois	e Source Ele	vations ((in feet)		
Centerline Dist. t		59.0 feet			Autos:	0.00	10		
Barrier Distance t		0.0 feet		М	edium Trucks:	2.29	7		
Observer Height (A	,	5.0 feet			Heavy Trucks:	8.00	6 Grade A	Adjustm	ent: 0.0
	d Elevation:	0.0 feet		-				-	
	d Elevation:	0.0 feet		Lan	e Equivalent l		, ,		
F	Road Grade:	0.0%			Autos:				
	Left View:	-90.0 degrees			edium Trucks:				
	Right View:	90.0 degrees			Heavy Trucks:	53.98	32		
FHWA Noise Mode	l Calculations	3		1					
VehicleType	REMEL	Traffic Flow	Distance	e F	inite Road	Fresnel	Barrier A	Atten	Berm Atten
Autos:	68.46	-7.21		.62	-1.20			0.000	0.000
Medium Trucks:	79.45	-22.08		0.60	-1.20			0.000	0.000
Heavy Trucks:	84.25	-19.86	-(0.60	-1.20	-5	5.35 0	0.000	0.000
Unmitigated Noise	Levels (with	out Topo and b	arrier att	enuati	on)				
VehicleType	Leq Peak Hou	r Leq Day	Leq	Eveni	ng Leq N	light	Ldn		CNEL
Autos:	59.	4 59	9.6		58.2	52.2	60	D.6	61.3
Medium Trucks:	55.	6 53	3.7		45.9	55.1	61	1.3	61.3
Heavy Trucks:	62.	6 60).7		52.9	62.1	68	3.3	68.3
Vehicle Noise:	64.	.8 63	3.7		59.5	63.3	69	9.6	69.8
Centerline Distance	e to Noise Co	ntour (in feet)				1			
				0 dBA	65 d		60 dBA		55 dBA
			dn:	56	120		259		559
		CNE	=L:	57	123	3	264		569

Monday, December 14, 2020

Monday, December 14, 2020

	FHW	VA-RD-77-108 I	HIGHW/	AY NO	DISE PR	EDICTIO	N MOI	DEL			
Road Name	2: EAP RIRO 2: Trilogy Pkw 2: w/o Temeso	y. cal Canyon Rd.				Project N Job Nur			vy Senior C	om.	
SITE S	PECIFIC IN	PUT DATA				NO	ISE N	ODE	L INPUT	s	
Highway Data				S	ite Conc	litions (H	lard =	10, So	oft = 15)		
Average Daily 1	raffic (Adt):	5,397 vehicles					4	Autos:	15		
Peak Hour F	Percentage:	6.19%			Меа	lium Truc	ks (2 A	xles):	15		
Peak Ho	our Volume:	334 vehicles			Hea	vy Truck	s (3+ A	xles):	15		
Veh	icle Speed:	45 mph			ehicle M						
Near/Far Lan	e Distance:	48 feet		V		leType		Dav	Evening	Night	Daily
Site Data				_	venic			Jay 77.5%	•	10.5%	
				_	Mo	Au dium Truc		48.0%		50.0%	
	rier Height:	0.0 feet				eavy Truc		+0.0% 48.0%		50.0%	
Barrier Type (0-Wa		0.0				eavy mu	<i>n</i> a	+0.070	2.070	50.0%	5.007
Centerline Dis		59.0 feet		N	oise Sol	urce Elev	ations	in fe	eet)		
Centerline Dist. t		59.0 feet				Autos:	0.0	00			
Barrier Distance t		0.0 feet			Medium	Trucks:	2.2	97			
Observer Height (A	,	5.0 feet			Heavy	Trucks:	8.0	06	Grade Adj	iustment	: 0.0
	d Elevation: d Elevation:	0.0 feet 0.0 feet		1	ano Equ	ivalent D	ictanc	o (in f	foot)		
	oad Grade:	0.0 feet		-	апе сци	Autos:	54.1		eelj		
R	Left View:	-90.0 degrees			Madium	Trucks:	53.9				
	Right View:	90.0 degrees				Trucks:	53.9				
FHWA Noise Mode	I Calculations	5									
VehicleType	REMEL	Traffic Flow	Distan	се	Finite F	Road	Fresn	e/	Barrier Att	en Be	m Atten
Autos:	68.46	-6.96		-0.62		-1.20		4.69	0.0	000	0.00
Medium Trucks:	79.45	-21.83		-0.60		-1.20		4.88	0.0	000	0.00
Heavy Trucks:	84.25	-19.61		-0.60		-1.20		5.35	0.0	000	0.00
Unmitigated Noise			arrier a	ttenu	ation)						
	Leq Peak Hou			q Eve		Leq Ni	•		Ldn		NEL
Autos:	59.		9.9		58.5		52.4		60.9	-	61.
Medium Trucks:	55.		3.9		46.1		55.4		61.5		61.
Heavy Trucks:	62.	-	0.9		53.2		62.4		68.5	-	68.
Vehicle Noise:	65.		3.9		59.8		63.5		69.9	9	70.
Centerline Distance	e to Noise Co	ntour (in feet)		70 dE	24	65 dE	Δ	6	i0 dBA	55	dBA
		,	dn:	58		125		0	270		06A 581
		CN		59		125			270		591
		CN		33		121			217		551

	FHV	VA-RD-77-108	HIGH	WAY NC	DISE PREDIO	TION M	ODEL			
Road Nam	o: EAP FULL e: Temescal C nt: n/o Trilogy F					ct Name Number		vy Senior C	om.	
SITE	SPECIFIC IN	PUT DATA				NOISE	MODE		5	
Highway Data				Si	te Conditior	s (Hard	= 10, S	oft = 15)		
	Percentage:	6.19%			Medium			15		
		1,097 vehicles	5		Heavy T	rucks (31	Axies).	15		
	hicle Speed:	40 mph		Ve	ehicle Mix					
Near/Far Lar	ne Distance:	12 feet			VehicleTy	pe	Day	Evening	Night	Daily
Site Data						Autos:	75.5%	6 14.0%	10.5%	97.42%
Bar	rier Height:	0.0 feet			Medium	Trucks:	48.9%	6 2.2%	48.9%	1.84%
Barrier Type (0-W		0.0			Heavy	Trucks:	47.3%	6 5.4%	47.3%	0.74%
Centerline Dis	. ,	37.0 feet		-						
Centerline Dist. t		37.0 feet		N	oise Source			eet)		
Barrier Distance		0.0 feet					0.000			
Observer Height (Above Pad):	5.0 feet			Medium Tru		2.297			
. .	d Elevation:	0.0 feet			Heavy Tru	cks:	8.006	Grade Ad	ustment	: 0.0
	d Elevation:	0.0 feet		Lá	ane Equivale	nt Dista	nce (in	feet)		
F	Road Grade:	0.0%			AL	tos: 3	6.851			
	Left View:	-90.0 degree	s		Medium Tru	cks: 3	6.610			
	Right View:	90.0 degree	es		Heavy Tru	cks: 3	6.634			
FHWA Noise Mode	el Calculations	i								
VehicleType	REMEL	Traffic Flow	Dist	ance	Finite Road	Fre	snel	Barrier Att	en Ber	m Atten
Autos:	66.51	-1.04		1.88	-1.2	0	-4.56	0.0	000	0.00
Medium Trucks:	77.72	-18.28		1.93	-1.2	0	-4.87	0.0	000	0.00
Heavy Trucks:	82.99	-22.23		1.92	-1.2	0	-5.61	0.0	000	0.00
Unmitigated Noise	Levels (with	out Topo and	barrie	r attenu	ation)					
VehicleType	Leq Peak Hou	r Leq Day		Leq Eve	ening Le	q Night		Ldn	C	NEL
Autos:	66.	-	66.2		64.9		3.9	67.3		68.
Medium Trucks:	60.		58.4		50.8		9.6	65.8		65.
Heavy Trucks:	61.	5	59.5		56.1	60).8	67.0		67.
Vehicle Noise:	68.	2	67.6		65.6	64	1.6	71.5	5	71.
Centerline Distanc	e to Noise Co	ntour (in feet))							
				70 dE	BA 6	5 dBA		60 dBA		dBA
			Ldn:	47		101		217	4	67
			VEL:	49		105		226		88

					ON MODE				
Scenario: EAP FULL					lame: Gle		Senior C	om.	
Road Name: Temescal Canyon Rd.				JOD NU	mber: 130	J32			
Road Segment: n/o Lawson Rd.									
SITE SPECIFIC INPUT DATA					DISE MO			3	
Highway Data		S	ite Con	ditions (l	Hard = 10	, Soft	= 15)		
Average Daily Traffic (Adt): 18,799 vehicle	es				Au	tos:	15		
Peak Hour Percentage: 6.19%			Mee	dium Truo	cks (2 Axl	es):	15		
Peak Hour Volume: 1,164 vehicle	es		Hea	avy Truck	(s (3+ Axl	es):	15		
Vehicle Speed: 40 mph		v	ehicle A	lix					
Near/Far Lane Distance: 12 feet		-	Vehi	cleType	Da	v E	vening	Night	Daily
Site Data						.5%	14.0%	10.5%	
Barrier Height: 0.0 feet			Ме	dium Tru	icks: 48	.9%	2.2%	48.9%	1.84
Barrier Type (0-Wall, 1-Berm): 0.0		1	H	leavy Tru	icks: 47	.3%	5.4%	47.3%	0.749
Centerline Dist. to Barrier: 37.0 feet			laiaa Ca	uraa Ela	vations (in fact	4		
Centerline Dist. to Observer: 37.0 feet		N	oise so	Autos:			/		
Barrier Distance to Observer: 0.0 feet				n Trucks:	0.000	-			
Observer Height (Above Pad): 5.0 feet				v Trucks:			rade Adi	ustment	
Pad Elevation: 0.0 feet			neav	y mucks.	0.000	5 0	auc Auj	ustinoni	0.0
Road Elevation: 0.0 feet		L	ane Equ	ivalent l	Distance	(in fee	t)		
Road Grade: 0.0%				Autos:	36.85	1			
Left View: -90.0 degre	ees			n Trucks:	00.01	D			
Right View: 90.0 degre	ees		Heav	V Trucks:	36.63	4			
FHWA Noise Model Calculations									
VehicleType REMEL Traffic Flow	Dis	tance	Finite	Road	Fresnel	Ba	rrier Atte	en Ber	m Atter
Autos: 66.51 -0.78	3	1.88		-1.20	-4.	56	0.0	00	0.00
Medium Trucks: 77.72 -18.02	-	1.93		-1.20		87		000	0.00
Heavy Trucks: 82.99 -21.98	3	1.92		-1.20	-5.	61	0.0	000	0.00
Unmitigated Noise Levels (without Topo and		r attenu	ation)						
VehicleType Leq Peak Hour Leq Da		Leq Ev		Leq N	•	Lo	dn		NEL
Autos: 66.4	66.5		65.2		59.2		67.6		68
Medium Trucks: 60.4	58.6		51.1		59.9		66.0		66
Heavy Trucks: 61.7	59.8		56.4		61.0		67.2		67
Vehicle Noise: 68.4	67.9		65.9		64.9		71.8	1	72
Centerline Distance to Noise Contour (in fee	t)								_
		70 di	BA	65 d	BA	60 (dBA	55	dBA
	Ldn:	49 51		10	-		25 36		185 108

	FHW	A-RD-77-108 HIG	HWAY	NOISE PI	REDICTIO	ON MOD	DEL			
	: EAP FULL : Temescal Ca : s/o Dwy. 4	nyon Rd.				Vame: 0 mber: 1		ry Senior C	om.	
SITE S	PECIFIC INP	UT DATA						L INPUT	s	
Highway Data				Site Con	ditions (Hard = :	10, So	ft = 15)		
Average Daily T	raffic (Adt): 14	,959 vehicles				A	Autos:	15		
Peak Hour P	ercentage:	6.19%		Me	dium Tru	cks (2 A	xles):	15		
Peak Ho	ur Volume:	926 vehicles		He	avy Truci	ks (3+ A	xles):	15		
Veh	icle Speed:	40 mph		Vehicle I	Mix					
Near/Far Lan	e Distance:	12 feet			icleType	1.7	Day	Evening	Night	Daily
Site Data				ven			75.5%	•	10.5%	
					edium Tri		48.9%		48.9%	1.84%
	ier Height:	0.0 feet			Heavy Tru		47.3%		47.3%	0.74%
Barrier Type (0-Wa	. ,	0.0		,	leavy III	1043	+7.370	J.4 /0	47.370	0.7470
Centerline Dist		37.0 feet	[Noise So	ource Ele	vations	: (in fe	eet)		
Centerline Dist. to		37.0 feet			Autos	0.0	00			
Barrier Distance to		0.0 feet		Mediu	m Trucks	: 2.2	97			
Observer Height (A	bove Pad): d Elevation:	5.0 feet		Heav	/y Trucks	8.0	06	Grade Ad	iustment.	0.0
	d Elevation:	0.0 feet		Lane Eq	uivalont	Dictanc	o (in t	(act)		
	oad Grade:	0.0 feet 0.0%		LaneLy	Autos			eelj		
л				Modiu	m Trucks					
	Right View:	-90.0 degrees 90.0 degrees			/y Trucks	00.0				
	light view.	30.0 degrees		mour	ly mache		-0 -			
FHWA Noise Model										
VehicleType			listance		Road	Fresne		Barrier Att		m Atten
Autos:	66.51	-1.77	1.8		-1.20		4.56		000	0.000
Medium Trucks:	77.72	-19.01	1.9		-1.20		4.87		000	0.000
Heavy Trucks:	82.99	-22.97	1.9	92	-1.20	-	-5.61	0.0	000	0.000
Unmitigated Noise	Levels (withou		rier attei	nuation)						
	eq Peak Hour.	Leq Day		vening	Leq N	•		Ldn		VEL
Autos:	65.4			64.2		58.2		66.6		67.2
Medium Trucks:	59.4			50.1		58.9		65.0	-	65.1
Heavy Trucks:	60.7	58.8	3	55.4		60.0		66.2	2	66.3
Vehicle Noise:	67.4	66.9)	64.9		63.9		70.8	3	71.1
Centerline Distance	e to Noise Con	tour (in feet)								
				dBA	65 d		6	0 dBA		dBA
		Ldn.		42	90			193		17
		CNEL	: 4	14	94	Ļ		202	4	36
Centerline Distance	e to Noise Con	Ldn.	: 4	42	90)	6	193	4	17

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Monday, December 14, 2020

	FH\	VA-RD-77-108 H	HIGHWAY	r NC	ISE PRI	EDICT	ION MO	DEL			
Road Nam	io: EAP FULL ie: Trilogy Pkw nt: w/o Dwy. 1	ry.			F		t Name: (lumber:)		vy Senior C	om.	
	SPECIFIC IN	IPUT DATA							L INPUT	5	
Highway Data				Si	te Cond	itions	(Hard =	10, So	oft = 15)		
Average Daily	Traffic (Adt):	5,096 vehicles					,	Autos:	15		
Peak Hour	Percentage:	6.19%					ucks (2 A	/			
Peak H	lour Volume:	315 vehicles			Hea	vy Tru	cks (3+ A	(xles)	15		
	hicle Speed:	45 mph		Ve	ehicle M	ix					
Near/Far La	ne Distance:	48 feet			Vehic	leType	9	Day	Evening	Night	Daily
Site Data							Autos:	77.5%	14.0%	10.5%	92.00%
Bai	rrier Height:	0.0 feet			Med	lium T	rucks:	48.0%	2.0%	50.0%	3.00%
Barrier Type (0-W		0.0			He	eavy T	rucks:	48.0%	2.0%	50.0%	5.00%
Centerline Dis		59.0 feet		AL.	ine Cou	wee E	levation	n (im fi	a a fi		
Centerline Dist.	to Observer:	59.0 feet		/40	Jise Sou	Auto		5 (<i>III 1</i> 6	el)		
Barrier Distance	to Observer:	0.0 feet			Medium			297			
Observer Height (Above Pad):	5.0 feet			Heavy			206	Grade Adj	ustmen	H 0.0
Pa	ad Elevation:	0.0 feet								aoumoni	0.0
Roa	ad Elevation:	0.0 feet		Lá	ne Equi		t Distand		feet)		
I	Road Grade:	0.0%				Auto	••••••				
	Left View:	-90.0 degrees			Medium						
	Right View:	90.0 degrees	6		Heavy	Truck	s: 53.	982			
FHWA Noise Mode	el Calculation	s									
VehicleType	REMEL	Traffic Flow	Distance	•	Finite R		Fresn	-	Barrier Atte	en Bei	rm Atten
Autos:	68.46	-7.21		.62		-1.20		-4.69	0.0		0.000
Medium Trucks:	79.45	-22.08	-	.60		-1.20		-4.88	0.0		0.000
Heavy Trucks:	84.25	-19.86		.60		-1.20		-5.35	0.0	000	0.000
Unmitigated Noise					<u> </u>						
,1	Leq Peak Hou			Eve	ning	Leq	Night		Ldn		NEL
Autos:	59	•••••	9.6		58.2		52.2		60.6		61.3
Medium Trucks:	55 62		3.7 0.7		45.9 52.9		55.1 62.1		61.3 68.3		61.3 68.3
Heavy Trucks: Vehicle Noise:	64		3.7		52.9		63.3		69.6		69.8
Centerline Distance			0.1		55.5		00.0	,	09.0	,	09.0
Centerline Distant	e lo noisé Co	ontour (in reet)	7	0 dE	3A	65	dBA	F	0 dBA	55	dBA
		L	dn:	56			20	L	259		559
		CN		57			23		264		569
							-				

		A-RD-77-108 H	GIW	AT NOIS							
Scenario:								vy Senior C	Com.		
	Temescal Ca				Job	Number:	13032				
Road Segment:	n/o Lawson I	Rd.									
	PECIFIC INF	PUT DATA						L INPUT	s		
Highway Data				Site Conditions (Hard = 10, Soft = 15)							
Average Daily Tr	affic (Adt): 24	4,370 vehicles					Autos:				
Peak Hour Pe	•	6.19%			Medium T						
		1,509 vehicles			Heavy Tri	ıcks (3+)	Axles):	15			
	cle Speed:	40 mph		Veh	icle Mix						
Near/Far Lane	Distance:	12 feet			VehicleTyp	е	Day	Evening	Night	Daily	
Site Data						Autos:	75.5%	5 14.0%	10.5%	97.42	
Barri	er Height:	0.0 feet			Medium		48.9%		48.9%		
Barrier Type (0-Wal	•	0.0			Heavy	Trucks:	47.3%	5.4%	47.3%	0.74	
Centerline Dist.	to Barrier:	37.0 feet		Nois	e Source E	levation	s (in f	eet)			
Centerline Dist. to	Observer:	37.0 feet			Aut		000				
Barrier Distance to		0.0 feet		м	edium Truc		297				
Observer Height (Al	,	5.0 feet			Heavy Truc		006	Grade Ad	justment	: 0.0	
	Elevation:	0.0 feet									
	Elevation:	0.0 feet		Lan	e Equivaler			reet)			
	ad Grade:	0.0%			Aut		851				
	Left View:	-90.0 degrees			edium Truc		610				
P	Right View:	90.0 degrees			Heavy Truc	KS. 30.	634				
FHWA Noise Model	Calculations			- 1							
VehicleType	REMEL	Traffic Flow	Distan	ce F	inite Road	Fresr	nel	Barrier Att	en Bei	m Atten	
Autos:	66.51	0.35		1.88	-1.20		-4.56	0.0	000	0.00	
Medium Trucks:	77.72	-16.89		1.93	-1.20		-4.87		000	0.00	
Heavy Trucks:	82.99	-20.85		1.92	-1.20		-5.61	0.0	000	0.00	
Unmitigated Noise L	evels (witho.	ut Topo and ba	nrrier a	ttenuati	on)						
	eq Peak Hour			eq Eveni	•	Night		Ldn		NEL	
Autos:	67.5		.6		66.3	60.3		68.		69	
Medium Trucks:	61.6		.7		52.2	61.0		67.3	-	67	
Heavy Trucks:	62.9		.9		57.5	62.2	_	68.4		68	
Vehicle Noise:	69.6	69 69	.0		67.0	66.0)	72.9	9	73	
Centerline Distance	to Noise Cor	ntour (in feet)									
				70 dBA		i dBA	(60 dBA		dBA	
		Lo	in:	58		124		268		577	
		CNE		60		130		280		603	

FHWA-RD-77-108 F	IGHWA	Y NOISE P	REDICT		DEL				
Scenario: EAP FULL Road Name: Trilogy Pkwy. Road Segment: w/o Temescal Canyon Rd.		Project Name: Glen Ivy Senior Com. Job Number: 13032							
SITE SPECIFIC INPUT DATA						L INPUT	s		
Highway Data		Site Col	nditions	(Hard =	10, So	ft = 15)			
Average Daily Traffic (Adt): 5,266 vehicles				A	lutos:	15			
Peak Hour Percentage: 6.19%		Me	edium Tru	ucks (2 A	xles):	15			
Peak Hour Volume: 326 vehicles		He	eavy Truc	cks (3+ A	xles):	15			
Vehicle Speed: 45 mph		Vehicle	Mix						
Near/Far Lane Distance: 48 feet			nicleType		Day	Evening	Night	Daily	
Site Data					77.5%	•	10.5%		
Barrier Height: 0.0 feet		N	ledium Ti	rucks:	48.0%	2.0%	50.0%	3.00	
Barrier Type (0-Wall, 1-Berm): 0.0			Heavy Ti	rucks:	48.0%	2.0%	50.0%	5.00	
Centerline Dist. to Barrier: 59.0 feet		Noine C	ouroo El	evations	lin fo	ati			
Centerline Dist. to Observer: 59.0 feet		NOISe 3	Auto:			el)			
Barrier Distance to Observer: 0.0 feet		Madi	m Truck	. 0.0					
Observer Height (Above Pad): 5.0 feet			vv Truck	0		Grade Adj	iustment		
Pad Elevation: 0.0 feet		пеа	vy muck	s. o.u	00	Orade Auj	astinent	. 0.0	
Road Elevation: 0.0 feet		Lane Eq	uivalent	t Distanc	e (in f	eet)			
Road Grade: 0.0%			Auto		29				
Left View: -90.0 degrees			m Truck						
Right View: 90.0 degrees		Hea	vy Truck	s: 53.9	82				
FHWA Noise Model Calculations									
VehicleType REMEL Traffic Flow	Distanc		Road	Fresne		Barrier Atte		m Atter	
Autos: 68.46 -7.07		0.62	-1.20		4.69		000	0.00	
Medium Trucks: 79.45 -21.93		0.60	-1.20		4.88		000	0.00	
Heavy Trucks: 84.25 -19.72	-	0.60	-1.20	-	5.35	0.0	000	0.00	
Unmitigated Noise Levels (without Topo and b		,	1						
VehicleType Leq Peak Hour Leq Day		g Evening		Night		Ldn		NEL	
	9.8	58.3		52.3		60.8		61	
	3.8	46.0		55.2		61.4		61	
).8	53.1		62.3		68.4		68	
	3.8	59.7		63.4		69.8	3	69	
Centerline Distance to Noise Contour (in feet)				(5.4					
		70 dBA		dBA	6	0 dBA		dBA	
Li	dn:	57 58		23 25		265 270	-	571 581	

	FHV	VA-RD-77-108	HIGHW	AY N	IOISE PR	EDICT	ON MO	DEL			
Scenari Road Nam Road Segmer	e: Temescal C	,					Name: umber:		vy Senior C	com.	
SITE	SPECIFIC IN	PUT DATA				N	OISE N	IODE		s	
Highway Data				5	Site Con	ditions	(Hard =	10, So	oft = 15)		
Average Daily	Traffic (Adt): 3	34,273 vehicle	s					Autos:	15		
Peak Hour	Percentage:	6.19%			Мес	dium Tru	icks (2 A	xles):	15		
Peak H	our Volume:	2,121 vehicles	s		Hea	avy Truc	ks (3+ A	xles):	15		
Vel	hicle Speed:	40 mph		,	/ehicle N						
Near/Far Lar	ne Distance:	12 feet		,				Dav	Evening	Night	Dailu
Site Data				_	veni	cleType		Day	Evening	Night	Daily
Site Data				_				75.5%			97.42%
	rier Height:	0.0 feet				dium Ti		48.9%		48.9%	
Barrier Type (0-W	. ,	0.0			h	leavy Ti	UCKS:	47.3%	5.4%	47.3%	0.74%
Centerline Dis		37.0 feet		٨	Voise So	urce El	evation	s (in f	eet)		
Centerline Dist. I		37.0 feet				Autos	s: 0.0	000	,		
Barrier Distance t		0.0 feet			Mediun	n Truck		297			
Observer Height (J	Above Pad):	5.0 feet				v Truck		006	Grade Ad	iustment	: 0.0
Pa	ad Elevation:	0.0 feet									
Roa	ad Elevation:	0.0 feet		L	ane Equ				feet)		
F	Road Grade:	0.0%				Autos		351			
	Left View:	-90.0 degree	es		Mediun	n Truck	s: 36.	510			
	Right View:	90.0 degree	es		Heav	y Truck:	s: 36.	534			
FHWA Noise Mode	el Calculation:	s									
VehicleType	REMEL	Traffic Flow	Distar	nce	Finite		Fresn		Barrier Att	en Bei	rm Atten
Autos:	66.51	1.83		1.88	3	-1.20		-4.56	0.0	000	0.000
Medium Trucks:	77.72	-15.41		1.93					0.0	000	0.000
Heavy Trucks:	11.12			1.50	5	-1.20		-4.87	0.0	000	
	82.99	-19.37		1.92	2	-1.20 -1.20		-4.87 -5.61		000	
Unmitigated Noise	82.99 Levels (with	out Topo and		1.92 atten	uation)	-1.20			0.0	000	0.000
Unmitigated Noise VehicleType	82.99 E Levels (with Leq Peak Hou	out Topo and r Leq Day	' L	1.92 atten	2 uation) /ening	-1.20	Night	-5.61	0.0 Ldn	000 C	0.000
Unmitigated Noise VehicleType Autos:	82.99 E Levels (with Leq Peak Hou 69	out Topo and r Leq Day .0	, L 69.1	1.92 atten	2 uation) vening 67.8	-1.20	Night 61.8	-5.61	0.0 Ldn 70.2	000 C	0.000 NEL 70.8
Unmitigated Noise VehicleType Autos: Medium Trucks:	82.99 E Levels (with Leq Peak Hou 69 63	out Topo and r Leq Day .0	69.1 61.2	1.92 atten	2 uation) vening 67.8 53.7	-1.20	Night 61.8 62.5	-5.61	0.0 Ldn 70.2 68.6	000 C	0.000 NEL 70.8 68.7
Unmitigated Noise VehicleType Autos: Medium Trucks: Heavy Trucks:	82.99 E Levels (with Leq Peak Hou 69 63 64	out Topo and r Leq Day .0 .3	69.1 61.2 62.4	1.92 atten	2 vening 67.8 53.7 59.0	-1.20	Night 61.8 62.5 63.6	-5.61	0.0 Ldn 70.2 68.6 69.8	2 2 3	0.000 NEL 70.8 68.7 69.9
Unmitigated Noise VehicleType Autos: Medium Trucks: Heavy Trucks: Vehicle Noise:	82.99 E Levels (with Leg Peak Hou 69 63 64 71	out Topo and r Leq Day .0 .0 .3 .0	69.1 61.2 62.4 70.5	1.92 atten	2 uation) vening 67.8 53.7	-1.20	Night 61.8 62.5	-5.61	0.0 Ldn 70.2 68.6	2 2 3	0.000 NEL 70.8 68.7 69.9
Unmitigated Noise VehicleType Autos: Medium Trucks: Heavy Trucks: Vehicle Noise:	82.99 E Levels (with Leg Peak Hou 69 63 64 71	out Topo and r Leq Day .0 .0 .3 .0	69.1 61.2 62.4 70.5	1.92 atteni eq Ev	2 vening 67.8 53.7 59.0 68.5	-1.20	Night 61.8 62.5 63.6 67.5	-5.61	0.0 <i>Ldn</i> 70.2 68.6 69.8 74.2	000 C 2 3 4	0.000 NEL 70.8 68.7 69.9 74.7
Unmitigated Noise VehicleType Autos: Medium Trucks: Heavy Trucks: Vehicle Noise:	82.99 E Levels (with Leg Peak Hou 69 63 64 71	Dut Topo and r Leq Day 0.0 .0 .3 .0 .0 .0 .0 .0 .0 .0 .0 .0	2 L 69.1 61.2 62.4 70.5	1.92 attenu eq Ev 70 d	2 uation) vening 67.8 53.7 59.0 68.5 IBA	-1.20	Night 61.8 62.5 63.6 67.5	-5.61	0.0 Ldn 70.2 68.6 69.8 74.4 50 dBA	000 C 2 3 3 4 55	0.000 NEL 70.8 68.7 69.9 74.7
Unmitigated Noise VehicleType Autos: Medium Trucks: Heavy Trucks:	82.99 E Levels (with Leg Peak Hou 69 63 64 71	Dut Topo and r Leq Day 0.0. .0. .3. .0. Dontour (in feet	69.1 61.2 62.4 70.5	1.92 atteni eq Ev	2 vening 67.8 53.7 59.0 68.5 IBA	-1.20 Leq 1	Night 61.8 62.5 63.6 67.5	-5.61	0.0 <i>Ldn</i> 70.2 68.6 69.8 74.2	000 <u>C</u> 2 3 4 555	0.000 NEL 70.8 68.7 69.9 74.7

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	FHW	/A-RD-77-108 H	IIGHWAY	NOISE	PREDICTIO	N MODEL		
Scenario Road Name Road Segmen	e: Temescal C	anyon Rd.				ame: Glen aber: 1303	Ivy Senior C 2	Com.
SITE S	SPECIFIC IN	PUT DATA			NO	ISE MOD	EL INPUT	s
Highway Data				Site Co	onditions (H	ard = 10, \$	Soft = 15)	
	Percentage: our Volume:	6.19% 1,972 vehicles			ledium Truck leavy Trucks	· (· · ·): 15	
	nicle Speed:	40 mph		Vehicle	e Mix			
Near/Far Lar	e Distance:	12 feet		Ve	ehicleType	Day	Evening	Night Daily
Site Data					Aut	os: 75.5	% 14.0%	10.5% 97.42%
Bar	rier Height:	0.0 feet			Medium Truc	ks: 48.9	% 2.2%	48.9% 1.849
Barrier Type (0-Wa	•	0.0			Heavy Truc	ks: 47.3	% 5.4%	47.3% 0.749
Centerline Dis		37.0 feet		Noise	Source Elev	ations (in	feet)	
	o Observer:	37.0 feet 0.0 feet 5.0 feet 0.0 feet 0.0 feet		Med He	Autos: ium Trucks: avy Trucks: quivalent D	0.000 2.297 8.006	Grade Ad	justment: 0.0
	load Grade:	0.0%			Autos:	36.851	,	
	Left View: Right View:	-90.0 degrees 90.0 degrees			ium Trucks: avy Trucks:	36.610 36.634		
FHWA Noise Mode	I Calculations							
VehicleType	REMEL	Traffic Flow	Distance	Fini	te Road	Fresnel	Barrier Att	en Berm Atten
Autos:	66.51	1.51	1	.88	-1.20	-4.50	5 0.0	0.00 0.00
Medium Trucks:	77.72	-15.73	1	.93	-1.20	-4.8	7 0.0	0.00 0.00
Heavy Trucks:	82.99	-19.68	1	.92	-1.20	-5.6	1 0.0	0.00
Unmitigated Noise	Levels (witho	ut Topo and b	arrier atte	enuation)			
	Leq Peak Hou			Evening	Leq Nig		Ldn	CNEL
Autos:	68.		3.8	67		61.5	69.9	
Medium Trucks:	62.).9	53		62.1	68.3	
Heavy Trucks:	64.		2.1	58		63.3	69.	
Vehicle Noise:	70.		0.2	68	.2	67.1	74.	1 74.
Centerline Distanc	e to Noise Co	ntour (in feet)						-
) dBA	65 dB.	A	60 dBA	55 dBA
			dn:	69	149		320	690
		CNE	L:	72	155		335	721

Road Segmen	e: Trilogy Pkw										
Road Segmen									vy Senior (Com.	
SITES	Road Segment: w/o Temescal Canyon Rd.						Numbe	er: 13032			
SITE S Highway Data	nt: w/o Temeso	cal Canyon Rd.									
Highway Data	SPECIFIC IN	PUT DATA							EL INPUT	S	
Inginaay Data					Site Con	ditions	(Har	d = 10, So	oft = 15)		
Average Daily	Traffic (Adt):	6,930 vehicles						Autos:	15		
Peak Hour I	Percentage:	6.19%			Mee	dium T	rucks	(2 Axles):	15		
Peak He	our Volume:	429 vehicles			Hea	avy Tru	icks (3	3+ Axles):	15		
Vel	hicle Speed:	45 mph		-	Vehicle N	Nix					
Near/Far Lar	ne Distance:	48 feet		-		cleTyp	е	Dav	Evening	Night	Dailv
Site Data							Autos	77.5%	-		92.00
Bar	rier Height:	0.0 feet			Me	dium 1	Trucks	48.0%	6 2.0%	50.0%	3.009
Barrier Type (0-Wa		0.0			H	leavy 1	Trucks	48.0%	6 2.0%	50.0%	5.009
Centerline Dis	. ,	59.0 feet		-							
Centerline Dist. t		59.0 feet		4	Noise So				eet)		
Barrier Distance f		0.0 feet				Auto		0.000			
Observer Height ()	Above Pad):	5.0 feet			Mediur			2.297	0		
	d Elevation:	0.0 feet			Heav	y Truc	KS.	8.006	Grade Ad	justment.	0.0
Roa	d Elevation:	0.0 feet		1	Lane Equ	ıivaler	nt Dist	ance (in	feet)		
F	Road Grade:	0.0%				Auto	os:	54.129			
	Left View:	-90.0 degree	s		Mediur	n Truc	ks:	53.966			
	Right View:	90.0 degree	s		Heav	y Truc	ks:	53.982			
FHWA Noise Mode	el Calculations	5									
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fr	esnel	Barrier Att	en Ber	m Atten
Autos:	68.46	-5.88		-0.6	2	-1.20		-4.69	0.	000	0.00
Medium Trucks:	79.45	-20.74		-0.6	0	-1.20		-4.88	0.	000	0.00
Heavy Trucks:	84.25	-18.52		-0.6	0	-1.20		-5.35	0.	000	0.00
Unmitigated Noise	Levels (with	out Topo and I	barrie	er atten	uation)						
	Leq Peak Hou		_	Leq E	vening	Lec	Nigh		Ldn		VEL
Autos:	60		50.9		59.5			53.5	62.		62.
Medium Trucks:	56		55.0		47.2			56.4	62.		62.
Heavy Trucks:	63	-	52.0		54.2			53.5	69.		69.
Vehicle Noise:	66	-	65.0		60.9		6	64.6	71.	0	71.
Centerline Distanc	e to Noise Co	ntour (in feet)	Т	70	dBA	65	dBA		60 dBA	55	dBA
			Ldn:		19 19		148		318		ивд 86
			IEL:		0		140		318		98

F	HWA-RD-77	-108 HIGH	IWAY N						
Scenario: EAC Road Name: Trilogy F Road Segment: w/o Dwy						ame: Glen nber: 1303	Ivy Senior 2	Com.	
SITE SPECIFIC	INPUT DA	ТА					EL INPU	TS	
Highway Data			S	Site Cond	ditions (H	lard = 10,	Soft = 15)		
Average Daily Traffic (Adt)	: 6,930 ve	hicles				Auto	s: 15		
Peak Hour Percentage	6.19%			Med	dium Truc	ks (2 Axles	;): 15		
Peak Hour Volume	: 429 ve	hicles		Hea	avy Truck	s (3+ Axles	;): 15		
Vehicle Speed		ph	L	/ehicle N	lix				
Near/Far Lane Distance	: 48 fee	ət	F		cleType	Dav	Evening	Night	Daily
Site Data		-				tos: 77.5		-	
Barrier Heigh	: 0.0 fe	oot		Me	dium Tru	cks: 48.0	% 2.0%	50.09	6 3.00%
Barrier Type (0-Wall, 1-Berm,				H	leavy Tru	cks: 48.0	% 2.0%	50.09	6 5.00%
Centerline Dist. to Barrie		et		laiaa Ca	uree Elev	ations (in	faati		
Centerline Dist. to Observe	: 59.0 fe	et	7	ioise 30	Autos:	0.000	leel)		
Barrier Distance to Observe	:: 0.0 fe	et		1 4 m ali	n Trucks:	2.297			
Observer Height (Above Pad,	: 5.0 fe	et			v Trucks:	8.006	Grade A	diustmar	nt: 0.0
Pad Elevation	.: 0.0 fe	et		neav	y mucks.	8.000	Orade A	ujustinci	<i>n</i> . 0.0
Road Elevation	0.0 fe	et	L	ane Equ	ivalent D	istance (i	n feet)		
Road Grade	. 0.0%				Autos:	54.129			
Left View	: -90.0 d	egrees		Mediun	n Trucks:	53.966			
Right View	. 90.0 d	egrees		Heav	Y Trucks:	53.982			
FHWA Noise Model Calculati	ons								
VehicleType REMEL	Traffic Fi	low Dis	tance	Finite I	Road	Fresnel	Barrier A	tten Be	erm Atten
Autos: 68.	46 -	5.88	-0.62	2	-1.20	-4.6	90	.000	0.00
Medium Trucks: 79.	45 -2	0.74	-0.60)	-1.20	-4.8	8 0	.000	0.00
Heavy Trucks: 84.	25 -1	8.52	-0.60)	-1.20	-5.3	5 0	.000	0.00
Unmitigated Noise Levels (w	ithout Topo	and barrie	er atteni	uation)					
VehicleType Leq Peak H		y Day	Leq Ev	•	Leq N	•	Ldn		CNEL
Autos:	60.8	60.9		59.5		53.5	62		62.
Medium Trucks:	56.9	55.0		47.2		56.4	62		62.
Heavy Trucks:	63.9	62.0		54.2		63.5	69		69.
Vehicle Noise:	66.2	65.0		60.9		64.6	71	.0	71.
Centerline Distance to Noise	Contour (in	feet)							
			70 d	BA	65 dE	BA	60 dBA	5	5 dBA
		_							
		Ldn: CNEL:	69 70	-	148 150		318 324		686 698

	FHV	VA-RD-77-108	HIGHW	AY NO	DISE P	REDICT		DEL			
	o: EAPC RIRC e: Temescal C nt: n/o Lawson	anyon Rd.					Name: (lumber: ·		ry Senior C	Com.	
SITE S	SPECIFIC IN	PUT DATA							L INPUT	s	
Highway Data				S	ite Cor	nditions	(Hard =	10, So	ft = 15)		
Average Daily	Traffic (Adt): 2	4,832 vehicle	s					Autos:	15		
Peak Hour	Percentage:	6.19%			Me	edium Tr	ucks (2 A	xles):	15		
Peak H	our Volume:	1,537 vehicle	s		He	eavy Tru	cks (3+ A	(xles):	15		
Vel	nicle Speed:	40 mph		14	ehicle	Miy					
Near/Far Lar	ne Distance:	12 feet				nicleType		Dav	Evening	Night	Daily
Site Data				_	ver			75.5%	•	10.5%	
		0.0 feet			M	Iedium T	rucks:	48.9%	2.2%	48.9%	
Barrier Type (0-W	rier Height:	0.0 teet				Heavy T		47.3%			
Centerline Dis	. ,	37.0 feet									
Centerline Dist. 1		37.0 feet		N	oise S		levations		eet)		
Barrier Distance t		0.0 feet				Auto		000			
Observer Height (5.0 feet				m Truck		297			
	d Elevation:	0.0 feet			Hea	vy Truck	's: 8.0	006	Grade Ad	justmen	2: 0.0
	d Elevation:	0.0 feet		La	ane Eq	uivalen	t Distand	e (in f	feet)		-
F	Road Grade:	0.0%				Auto	s: 36.	351	1		
	Left View:	-90.0 degree	29		Mediu	m Truck	s: 36.0	510			
	Right View:	90.0 degree			Hea	vy Truck					
FHWA Noise Mode	Calculations	6									
VehicleType	REMEL	Traffic Flow	Dista	nce	Finite	Road	Fresn	el	Barrier Att	en Be	rm Atten
Autos:	66.51	0.43		1.88		-1.20		-4.56	0.0	000	0.000
Medium Trucks:	77.72	-16.81		1.93		-1.20		-4.87	0.0	000	0.000
Heavy Trucks:	82.99	-20.77		1.92		-1.20		-5.61	0.0	000	0.000
Unmitigated Noise	Levels (with	out Topo and	barrier	attenu	ation)						-
VehicleType	Leq Peak Hou	r Leq Day	' L	eq Eve	ening	Leq	Night		Ldn		NEL
Autos:	67.	.6	67.7		66.4	ļ.	60.4		68.8	8	69.4
Medium Trucks:	61.	.6	59.8		52.3	;	61.1		67.2	2	67.3
Heavy Trucks:	63.	.0	61.0		57.6	;	62.2		68.4	4	68.5
Vehicle Noise:	69.	.6	69.1		67.1		66.1		73.0	D	73.3
Centerline Distance	e to Noise Co	ntour (in feet)							1	
				70 dE	3A		dBA	6	0 dBA		5 dBA
			Ldn:	58			26		271		584
		C	NEL:	61		1	32		284	(611

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	FHW	A-RD-77-108 HIC	SHWAY N	OISE PF	REDICTION		-		
	o: EAPC RIRO e: Temescal C t: n/o Trilogy F	anyon Rd.			Project Na Job Num		n Ivy Senior (32	Com.	
SITE S	PECIFIC IN	PUT DATA			NO	SE MOI	DEL INPUT	s	
Highway Data			5	Site Con	ditions (Ha	ard = 10,	Soft = 15)		
Veh	Percentage: our Volume: hicle Speed:	6.19% 2,150 vehicles 40 mph	١		dium Truck avy Trucks /lix		s): 15		
Near/Far Lan	e Distance:	12 feet		Vehi	cleType	Day	/ Evening	Night Di	aily
Site Data Barr Barrier Type (0-Wa	r ier Height: all, 1-Berm):	0.0 feet 0.0			Aut dium Truc leavy Truc	ks: 48.	9% 2.2%	48.9% 1	.42% .84% .74%
Centerline Dis	t. to Barrier:	37.0 feet		loise So	urce Eleva	ations (ir	n feet)		
Roa	o Observer:	37.0 feet 0.0 feet 5.0 feet 0.0 feet 0.0 feet 0.0%	L	Heav	Autos: n Trucks: y Trucks: uivalent Di Autos:	0.000 2.297 8.006 stance (1 36.851		ijustment: 0.0)
FHWA Noise Mode	Left View: Right View:	-90.0 degrees 90.0 degrees			n Trucks: y Trucks:	36.610 36.634			
VehicleType	REMEL	1	Distance	Finite	Road	Fresnel	Barrier Att	en Berm A	tten
Autos: Medium Trucks: Heavy Trucks:	66.51 77.72 82.99	1.89 -15.35 -19.31	1.88 1.93 1.92	3	-1.20 -1.20 -1.20	-4.5 -4.8 -5.6	56 0.0 87 0.0	000 000	0.000
Unmitigated Noise	Levels (witho	ut Topo and bar	rier atten	uation)					
	Leg Peak Hour		Leg Ev	í ,	Leg Nig	tht	Ldn	CNEL	
Autos: Medium Trucks:	69. 63.	1 69.2	2	67.8 53.8	., .	61.8 62.5	70. 68.		70.9 68.1
Heavy Trucks:	64	4 62.4	1	59.1		63.7	69.	-	70.0
Vehicle Noise:	71.	1 70.5	5	68.5		67.5	74.	4	74.7
Centerline Distance	e to Noise Co	ntour (in feet)							
		Ldn CNEL		3	65 dB/ 157 165	4	60 dBA 339 355	55 dBA 731 764	l
		CNEL	. /t	2	105		300	/04	

	FHWA-	RD-77-108 HIG	HWAY	NOISE PF	REDICTI	ON MO	DEL					
Scenario: EA								/y Senior C	com.			
Road Name: Tr Road Segment: w/					Job N	umber:	13032					
SITE SPEC	CIFIC INPU	IT DATA						L INPUT	s			
Highway Data				Site Conditions (Hard = 10, Soft = 15)								
Average Daily Traffic	c (Adt): 7,0	02 vehicles					Autos:	15				
Peak Hour Perce	entage: 6	.19%		Mee	dium Tru	icks (2 A	(xles)	15				
Peak Hour V	olume: 4	133 vehicles		Hea	avy Truc	:ks (3+ A	Axles):	15				
Vehicle		45 mph		Vehicle N	<i>lix</i>							
Near/Far Lane Dis	stance:	48 feet			cleType		Dav	Evening	Niaht	Daily		
Site Data						utos:	77.5%	•	10.5%	,		
Barrier H	leiaht:	0.0 feet		Me	edium Tr	ucks:	48.0%	2.0%	50.0%			
Barrier Type (0-Wall, 1-		0.0		F	leavy Tr	ucks:	48.0%	2.0%	50.0%	5.009		
Centerline Dist. to I	,	59.0 feet		Noise Os			- (in f	4				
Centerline Dist. to Ob	server:	59.0 feet		Noise So	Autos		s (in r e 200	eet)				
Barrier Distance to Ob	server:	0.0 feet		Madium	Autos n Trucks		JUU 297					
Observer Height (Abov	e Pad):	5.0 feet			y Trucks		297	Grade Ad	iustment	. 0 0		
Pad Ele	evation:	0.0 feet		Tieav	y mucks	5. 0.1	500	Orade Auj	usunent	0.0		
Road Ele	evation:	0.0 feet		Lane Equ	ıivalent	Distand	ce (in i	feet)				
Road	Grade:	0.0%			Autos	54.	129					
Lei	ft View: -	90.0 degrees			n Trucks							
Righ	t View:	90.0 degrees		Heav	y Trucks	53.	982					
FHWA Noise Model Cal												
			Distance	Finite		Fresn	-	Barrier Att		m Atten		
Autos:	68.46	-5.83	-0.		-1.20		-4.69		000	0.00		
Medium Trucks:	79.45	-20.70	-0.		-1.20		-4.88		000	0.00		
Heavy Trucks:	84.25	-18.48	-0.		-1.20		-5.35	0.0	000	0.00		
Unmitigated Noise Leve			1				1					
VehicleType Leq I Autos:	Peak Hour 60.8	Leq Day 61.0		Evening 59.6	Leq	Night 53.6		Ldn 62.0		NEL 62.		
Autos: Medium Trucks:	57.0	55.1		59.6 47.3		56.5		62.0		62		
Heavy Trucks:	64.0	62.1		47.3 54.3		63.5		69.7		69.		
Vehicle Noise:	66.2	65.0		60.9		64.6		71.0		71		
Centerline Distance to			,	00.0		01.0			·			
Centernine Distance to	10/30 00//10	un (in leet)	70	dBA	65 0	dΒA	6	60 dBA	55	dBA		
		Ldn.		69		19	· `	321		91		
		CNEL		70		51		326		03		

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Scenario: EAPC BI	20	_			Drain at M	amai Clar	hay Coni	Com	
Road Name: Temesca						nber: 130	1 Ivy Senior	Com.	
Road Segment: s/o Dwy.					JOD MUN	IDEI. 130	52		
Road Segment. Sid Dwy.	+								
SITE SPECIFIC	INPUT DAT	A					DEL INPUT	rs	
Highway Data				Site Con	ditions (H	ard = 10,	Soft = 15)		
Average Daily Traffic (Adt):	32,033 vehi	cles				Auto	os: 15		
Peak Hour Percentage:	6.19%			Med	dium Truci	ks (2 Axle	s): 15		
Peak Hour Volume:	1,983 vehi	cles		Hea	avy Trucks	s (3+ Axle	s): 15		
Vehicle Speed:	40 mph		F	Vehicle A	lix				
Near/Far Lane Distance:	12 feet		F		cleTvpe	Day	Evenina	Night	Dailv
Site Data					Au		•	.	
	0.0 fee			Me	dium Truc				
Barrier Height: Barrier Type (0-Wall, 1-Berm):		ι			leavv Truc				
Centerline Dist. to Barrier:	37.0 feet		_						
Centerline Dist. to Observer:		-	_	Noise So	urce Elev	ations (in	i feet)		
Barrier Distance to Observer:		-			Autos:	0.000			
Observer Height (Above Pad):		-		Mediun	n Trucks:	2.297			
Pad Elevation:				Heav	y Trucks:	8.006	Grade A	djustmen	1: 0.0
Road Elevation:	0.0 100	-	-	Lane Fou	ivalent D	istance (i	n feet)		
Road Grade	0.0 100	L	F	Lano Lqe	Autos:	36.851			
Left View:	0.070	rooc		Mediur	n Trucks:	36.610			
Right View:	00.0 009			Heav	y Trucks:	36.634			
FHWA Noise Model Calculatio	ns								
VehicleType REMEL	Traffic Flow	v Di	stance	Finite	Road	Fresnel	Barrier At	tten Be	rm Atten
Autos: 66.5	1 1.	53	1.8	8	-1.20	-4.5	6 0.	.000	0.00
Medium Trucks: 77.7	2 -15.	70	1.9	3	-1.20	-4.8	7 0	.000	0.00
Heavy Trucks: 82.9	9 -19.	66	1.9	2	-1.20	-5.6	1 0	.000	0.00
Unmitigated Noise Levels (wit				,					
VehicleType Leq Peak H		,	Leq E	vening	Leq Ni	-	Ldn		NEL
	58.7	68.8		67.5		61.5	69		70
	52.7	60.9		53.4		62.2	68		68
	64.1	62.1		58.7		63.3	69		69
	70.8	70.2		68.2		67.2	74	.1	74
Centerline Distance to Noise (Contour (in fe	eet)	70	-/0.4	05.15		0.404		
				dBA	65 dB		60 dBA		6 dBA
		Ldn:	-	59	149		321		692 724
		CNEL		2	156		336		

	FH)	WA-RD-77-108	HIGHW	AY N	OISE PR	REDICTI	ON MOD	DEL			
Road Nam	io: EAPC RIR ne: Trilogy Pkv nt: w/o Temes						Name: 0 umber: 1		y Senior C	om.	
SITE	SPECIFIC IN	IPUT DATA				N	OISE M	IODE	L INPUT	5	
Highway Data				S	ite Con	ditions ((Hard = :	10, So	ft = 15)		
Average Daily	Traffic (Adt):	7,303 vehicle	s				A	Autos:	15		
Peak Hour	Percentage:	6.19%			Med	dium Tru	icks (2 A	xles):	15		
Peak H	lour Volume:	452 vehicle	s		Hea	avy Truc	ks (3+ A	xles):	15		
Ve	hicle Speed:	45 mph		V	ehicle N	<i>liv</i>					
Near/Far La	ne Distance:	48 feet				cleType		Dav	Evening	Night	Daily
Site Data				-	VCIII			77.5%	14.0%	10.5%	
	rrier Height:	0.0 feet			Me	dium Tr		48.0%	2.0%	50.0%	3.00%
Barrier Type (0-W		0.0 1001			h	leavy Tr	ucks:	48.0%	2.0%	50.0%	5.00%
Centerline Di	. ,	59.0 feet									
Centerline Dist.		59.0 feet		N	oise So		evations	•	et)		
Barrier Distance	to Observer:	0.0 feet				Autos					
Observer Height (Above Pad):	5.0 feet				n Trucks					
	ad Elevation:	0.0 feet			Heav	y Trucks	s: 8.0	06	Grade Adj	ustment.	0.0
Ro	ad Elevation:	0.0 feet		L	ane Equ	ıivalent	Distanc	e (in f	eet)		
	Road Grade:	0.0%				Autos	54.1	29			
	Left View:	-90.0 degree	es		Mediun	n Trucks	s: 53.9	966			
	Right View:	90.0 degree			Heav	y Trucks	53.9	82			
FHWA Noise Mod	el Calculation	s									
VehicleType	REMEL	Traffic Flow	Dista	nce	Finite	Road	Fresne	e/ I	Barrier Atte	en Ber	m Atten
Autos:	68.46	-5.65		-0.62		-1.20	-	4.69	0.0	00	0.000
Medium Trucks:	79.45	-20.51		-0.60		-1.20		4.88	0.0	00	0.000
Heavy Trucks:	84.25	-18.30		-0.60		-1.20	-	-5.35	0.0	00	0.000
Unmitigated Noise	e Levels (with	out Topo and	barrier	attenu	ation)						
VehicleType	Leq Peak Hou	ur Leq Day	' L	.eq Ev	ening	Leq I	Night		Ldn		VEL
Autos:	61		61.2		59.8		53.7		62.2	2	62.8
Medium Trucks:	57		55.2		47.5		56.7		62.8		62.9
Heavy Trucks:	64	.2	62.3		54.5		63.7		69.8		69.9
Vehicle Noise:	66	6.4	65.2		61.1		64.8		71.2	2	71.3
Centerline Distant	ce to Noise C	ontour (in feet)	_							
				70 dl		65 c		6	0 dBA		dBA
			Ldn:	71		15			330	-	10
		Ci	NEL:	72		15	56		335	7	23

Monday, December 14, 2020

	FHWA	-RD-77-108 HIG	HWAY N	IOISE PF	REDICTION	N MODEL		
Road Name	e: EAPC FULL e: Temescal Car t: n/o Lawson R	/				ame: Glen aber: 13032	Ivy Senior C	om.
SITE S	PECIFIC INP	UT DATA			NO	ISE MOD	EL INPUTS	6
Highway Data			:	Site Con	ditions (Ha	ard = 10, S	oft = 15)	
Average Daily T Peak Hour F	Percentage:	6.19%				Autos (2 Axles)	: 15	
	,	537 vehicles		пе	avy mucks	(3+ Axles)	. 15	
	icle Speed:	40 mph	1	Vehicle I	Nix			
Near/Far Lan	e Distance:	12 feet		Vehi	icleType	Day	Evening	Night Daily
Site Data					Aut	os: 75.5%	% 14.0%	10.5% 97.42
Barr	ier Height:	0.0 feet		Me	edium Truc	ks: 48.99	% 2.2%	48.9% 1.84
Barrier Type (0-Wa	•	0.0		ŀ	leavy Truc	ks: 47.3	% 5.4%	47.3% 0.74
Centerline Dist	t. to Barrier:	37.0 feet		Noise So	ource Eleva	ations (in i	feet)	
Centerline Dist. to	o Observer:	37.0 feet			Autos:	0.000	,	
Barrier Distance to	o Observer:	0.0 feet		Mediur	n Trucks:	2,297		
Observer Height (A	bove Pad):	5.0 feet			y Trucks:	8.006	Grade Adi	ustment: 0.0
Pad	d Elevation:	0.0 feet						
Road	d Elevation:	0.0 feet	1	Lane Equ		istance (in	feet)	
R	oad Grade:	0.0%			Autos:	36.851		
	Left View:	-90.0 degrees 90.0 degrees			n Trucks: v Trucks:	36.610 36.634		
	·	90.0 degrees		neav	y mucho.	00.004		
FHWA Noise Model VehicleType		raffic Flow Di	istance	Finite	Road	Fresnel	Barrier Atte	en Berm Atter
Autos:	66.51	0.43	1.8		-1.20	-4.56		
Medium Trucks:	77.72	-16.81	1.9	-	-1.20	-4.87		
Heavy Trucks:	82.99	-20.77	1.9	-	-1.20	-5.61		
Unmitigated Noise	Levels (withou	t Topo and barr	ier atten	uation)				
VehicleType L	eq Peak Hour	Leq Day	Leg E	vening	Leq Nig	ght	Ldn	CNEL
Autos:	67.6	67.7		66.4		60.4	68.8	69
Medium Trucks:	61.6	59.8		52.3		61.1	67.2	67
Heavy Trucks:	63.0	61.0		57.6		62.2	68.4	68
Vehicle Noise:	69.6	69.1		67.1		66.1	73.0	73
Centerline Distance	e to Noise Cont	tour (in feet)						
			70 0		65 dB/	A	60 dBA	55 dBA
		Ldn:	5	-	126		271	584
		CNEL:	6	1	132		284	611

	FHV	VA-RD-77-108	HIGH	WAY NO	DISE PREDI	CTION	NODEL			_
	o: EAPC FULI e: Temescal C nt: s/o Dwy. 4						e: Glen I er: 13032	vy Senior C	Com.	
SITE	SPECIFIC IN	PUT DATA				NOIS	E MODE	L INPUT	s	
Highway Data				S	ite Conditio	ns (Har	d = 10, Se	oft = 15)		
Average Daily	Traffic (Adt):	32,033 vehicle	s				Autos:	15		
Peak Hour	Percentage:	6.19%			Medium	Trucks	(2 Axles):	15		
Peak H	our Volume:	1,983 vehicle	s		Heavy 1	rucks (3	+ Axles):	15		
Vei	hicle Speed:	40 mph		14	ehicle Mix					
Near/Far La	ne Distance:	12 feet			VehicleT	me	Dav	Evening	Night	Daily
Site Data						Autos			10.5%	
	rier Height:	0.0 feet			Mediun	1 Trucks				
ваг Barrier Type (0-W		0.0 teet 0.0			Heav	/ Trucks	47.3%			
Centerline Dis		37.0 feet								
Centerline Dist.		37.0 feet		N	oise Source			eet)		
Barrier Distance		0.0 feet				utos:	0.000			
Observer Height (5.0 feet			Medium Tru		2.297			
÷ (d Elevation:	0.0 feet			Heavy Tru	icks:	8.006	Grade Ad	justment.	0.0
Roa	d Elevation:	0.0 feet		La	ane Equival	ent Dist	ance (in	feet)		
F	Road Grade:	0.0%			A	utos:	36.851			
	Left View:	-90.0 degree	es		Medium Tru	icks:	36.610			
	Right View:	90.0 degree	es		Heavy Tru	icks:	36.634			
FHWA Noise Mode	el Calculation	-								
VehicleType	REMEL	Traffic Flow		tance	Finite Road	_	esnel	Barrier Att		m Atten
Autos:	66.51	1.53		1.88	-1.3		-4.56		000	0.00
Medium Trucks:	77.72	-15.70		1.93	-1.3		-4.87		000	0.00
Heavy Trucks:	82.99	-19.66		1.92		20	-5.61	0.0	000	0.00
Unmitigated Noise					,					
	Leq Peak Hou			Leq Eve		eq Night		Ldn		VEL
Autos:	68		68.8		67.5		51.5	69.9		70.
Medium Trucks:	62		60.9 62.1		53.4 58.7		2.2	68. 69.		68.
Heavy Trucks: Vehicle Noise:	64 70						3.3		-	69.
			70.2		68.2	e	57.2	74.	I	74.
Centerline Distanc	e to Noise Co	ontour (in feet)	70 dE	BA	65 dBA	,	60 dBA	55	dBA
			Ldn:	69		149	`	321		92
									0	

FHWA-RD-77-108	HIGHWA		ISE PRE	DICTION		JEL			
Scenario: EAPC FULL Road Name: Temescal Canyon Rd. Road Segment: n/o Trilogy Pkwy.				Project Na Job Num			y Senior (Com.	
SITE SPECIFIC INPUT DATA							L INPUT	s	
Highway Data		Si	te Condi	tions (Ha	ard =	10, So	ft = 15)		
Average Daily Traffic (Adt): 34,737 vehicles					A	lutos:	15		
Peak Hour Percentage: 6.19%			Media	um Truck	(2 A	xles):	15		
Peak Hour Volume: 2,150 vehicles			Heav	y Trucks	(3+ A	xles):	15		
Vehicle Speed: 40 mph		Ve	hicle Mi	x					
Near/Far Lane Distance: 12 feet		-		eType		Day	Evening	Night	Daily
Site Data				Aut	os:	, 75.5%	14.0%	10.5%	97.42
Barrier Height: 0.0 feet			Med	lium Truc	ks:	48.9%	2.2%	48.9%	5 1.84
Barrier Type (0-Wall, 1-Berm): 0.0			He	avy Truc	ks:	47.3%	5.4%	47.3%	0.74
Centerline Dist. to Barrier: 37.0 feet		N	oise Sou	rce Eleva	ations	(in fe	et)		
Centerline Dist. to Observer: 37.0 feet				Autos:	0.0	00			
Barrier Distance to Observer: 0.0 feet			Medium	Trucks:	2.2	97			
Observer Height (Above Pad): 5.0 feet			Heavv	Trucks:	8.0	06	Grade Ad	ljustmen	t: 0.0
Pad Elevation: 0.0 feet								-	
Road Elevation: 0.0 feet		Lá	ne Equi	valent Di			eet)		
Road Grade: 0.0%			Medium	Autos:	36.8				
Left View: -90.0 degree Right View: 90.0 degree				Trucks: Trucks:	36.6 36.6				
FHWA Noise Model Calculations									
VehicleType REMEL Traffic Flow	Distan	ce	Finite R	oad	Fresn	e/	Barrier At	ten Be	rm Atter
Autos: 66.51 1.89		1.88		-1.20		4.56	0.	000	0.0
Medium Trucks: 77.72 -15.35		1.93		-1.20		4.87	0.	000	0.0
Heavy Trucks: 82.99 -19.31		1.92		-1.20		5.61	0.	000	0.0
Unmitigated Noise Levels (without Topo and								-	
VehicleType Leq Peak Hour Leq Day		q Eve	•	Leq Nig			Ldn	-	NEL
	39.2		67.8		61.8		70.	-	70
	51.3		53.8		62.5		68.		68
	52.4		59.1		63.7		69.	-	70
	70.5		68.5		67.5		74.	4	74
Centerline Distance to Noise Contour (in feet)		70 dE	4	65 dB/	Δ	6	0 dBA	54	5 dBA
	1	, 0 UL			-		U UDA	0.	, add
	dn:	73		157			339		731

FHWA-R	D-77-108 HIGHWA	NOISE PREDIC			
Scenario: EAPC FULL Road Name: Trilogy Pkwy. Road Segment: w/o Dwy. 1			t Name: Glen Iv Number: 13032	y Senior Co	m.
SITE SPECIFIC INPUT	DATA		NOISE MODE	L INPUTS	
Highway Data		Site Conditions	s (Hard = 10, So	oft = 15)	
Average Daily Traffic (Adt): 7,00	2 vehicles		Autos:	15	
Peak Hour Percentage: 6.1	9%	Medium T	rucks (2 Axles):	15	
Peak Hour Volume: 43	3 vehicles	Heavy Tr	icks (3+ Axles):	15	
Vehicle Speed: 4	5 mph	Vehicle Mix			
Near/Far Lane Distance: 4	8 feet	VehicleTyp	e Day	Evening I	Night Daily
Site Data		vonioio i yp	Autos: 77.5%	-	10.5% 92.00%
Barrier Height: 0	.0 feet	Medium	Trucks: 48.0%	2.0%	50.0% 3.00%
	.0	Heavy	Trucks: 48.0%	2.0%	50.0% 5.00%
	.0 feet	Noine Course I	lauradia na din fa	41	
Centerline Dist. to Observer: 59	.0 feet	Noise Source E		eet)	
Barrier Distance to Observer: 0	.0 feet		0.000		
Observer Height (Above Pad): 5	.0 feet	Medium Truc		Grade Adju	atmont: 0.0
Pad Elevation: 0	.0 feet	Heavy Truc	ks: 8.006	Grade Adju	sineni. 0.0
Road Elevation: 0	.0 feet	Lane Equivaler	nt Distance (in 1	feet)	
Road Grade: 0	.0%	Aut	os: 54.129		
Left View: -90	.0 degrees	Medium Truc	ks: 53.966		
Right View: 90	.0 degrees	Heavy Truc	ks: 53.982		
FHWA Noise Model Calculations					
VehicleType REMEL Traf	fic Flow Distanc	e Finite Road	Fresnel	Barrier Atter	Berm Atten
Autos: 68.46	-5.83 -0	.62 -1.20	-4.69	0.00	0 0.000
Medium Trucks: 79.45	-20.70 -0	.60 -1.20	-4.88	0.00	0 0.000
Heavy Trucks: 84.25	-18.48 -0	.60 -1.20	-5.35	0.00	0 0.000
Unmitigated Noise Levels (without T	opo and barrier at	enuation)			
VehicleType Leq Peak Hour	Leq Day Leq	Evening Lea	Night	Ldn	CNEL
Autos: 60.8	61.0	59.6	53.6	62.0	62.6
Medium Trucks: 57.0	55.1	47.3	56.5	62.6	62.7
Heavy Trucks: 64.0	62.1	54.3	63.5	69.7	69.7
Vehicle Noise: 66.2	65.0	60.9	64.6	71.0	71.1
Centerline Distance to Noise Contou	r (in feet)				
	7	0 dBA 65	dBA 6	60 dBA	55 dBA
	Ldn:	69	149	321	691
	CNEL:	70	151	326	703

Monday, December 14, 2020

Monday, December 14, 2020

	FHV	VA-RD-77-108	HIGH	WAY N	DISE PF	EDICTIO	N MOI	DEL			ĺ
	: EAPC FULL					Project N	ame: (Glen Iv	y Senior C	om.	
Road Name	e: Trilogy Pkw	у.				Job Nur	nber: 1	3032			
Road Segmen	t: w/o Temeso	cal Canyon Ro	l.								
	PECIFIC IN	PUT DATA								S	
Highway Data				s	ite Con	ditions (H	lard =	10, So	ft = 15)		
Average Daily 1	raffic (Adt):	7,172 vehicle	s				A	Autos:	15		
Peak Hour F	Percentage:	6.19%			Mee	dium Truc	ks (2 A	xles):	15		
Peak Ho	our Volume:	444 vehicle	s		Hea	avy Truck	s (3+ A	xles):	15		
Veh	icle Speed:	45 mph		v	ehicle A	lix					
Near/Far Lan	e Distance:	48 feet		F		cleType		Dav	Evening	Night	Dailv
Site Data							tos:	77.5%	•	10.5%	92.00
Ban	rier Height:	0.0 feet			Me	dium Tru	cks:	48.0%	2.0%	50.0%	3.009
Barrier Type (0-Wa		0.0			H	leavy Tru	cks:	48.0%	2.0%	50.0%	5.00%
Centerline Dis		59.0 feet		٨	loise So	urce Elev	ations	(in fe	et)		
Centerline Dist. t		59.0 feet				Autos:	0.0	00	,		
Barrier Distance t		0.0 feet			Mediur	n Trucks:	2.2	97			
Observer Height (A	,	5.0 feet			Heav	v Trucks:	8.0	06	Grade Ad	iustment	. 0.0
	d Elevation:	0.0 feet		_							
	d Elevation:	0.0 feet		L	ane Equ	ivalent D			eet)		
R	oad Grade:	0.0%				Autos:	54.1				
	Left View:	-90.0 degre				n Trucks:	53.9				
	Right View:	90.0 degre	es		Heav	y Trucks:	53.9	982			
FHWA Noise Mode											
VehicleType	REMEL	Traffic Flow		tance	Finite		Fresn		Barrier Att		rm Atten
Autos:	68.46	-5.73		-0.62		-1.20		4.69		000	0.00
Medium Trucks:	79.45	-20.59		-0.60		-1.20		4.88		000	0.00
Heavy Trucks:	84.25	-18.37		-0.60		-1.20		-5.35	0.0	000	0.00
Unmitigated Noise											
	Leq Peak Hou			Leq Ev		Leq Ni	•		Ldn		NEL
Autos:	60.		61.1		59.7		53.7		62.1		62.
Medium Trucks:	57.		55.2 62.2		47.4 54.4		56.6 63.6		62.7 69.8		62.
Heavy Trucks:	64.		62.2							-	69. 71.
Vehicle Noise:	00	.0	00.1		61.0		64.7		71.1	I	/1.
Centerline Distanc	e to Noise Co	ontour (in feel)	70 d	ва	65 dF	BA	6	0 dBA	55	dBA
			Ldn:	70		151		Ŭ	326		702
		С	NEL:	71		154			331		714
		0									

	FHWA	-RD-77-108	HIGI	HWAY N	IOISE PF	REDICT		DEL			
Scenario: HY						Projec	t Name:	Glen Iv	y Senior C	om.	
Road Name: Tem						Job I	Number:	13032			
Road Segment: n/o	Trilogy Pk	wy.									
SITE SPECI	FIC INPU	JT DATA							L INPUT	S	
Highway Data				5	Site Con	ditions	: (Hard =	10, Sc	oft = 15)		
Average Daily Traffic (Adt): 39,	937 vehicles	5					Autos:	15		
Peak Hour Percen	tage: 6	6.19%			Me	dium T	rucks (2 /	Axles):	15		
Peak Hour Vol	ume: 2,	472 vehicles	6		He	avy Tru	ıcks (3+)	Axles):	15		
Vehicle Sp		40 mph		1	Vehicle I	Nix					
Near/Far Lane Dista	ance:	12 feet		F		cleTyp	e	Day	Evening	Night	Daily
Site Data							Autos:	75.5%	14.0%	10.5%	97.429
Barrier He	iaht [.]	0.0 feet			Me	dium 1	Trucks:	48.9%	2.2%	48.9%	1.849
Barrier Type (0-Wall, 1-B		0.0			ŀ	leavy 1	Frucks:	47.3%	5.4%	47.3%	0.74
Centerline Dist. to Ba	,	37.0 feet		-							
Centerline Dist. to Obse		37.0 feet		1	Noise So		levation		eet)		
Barrier Distance to Obse	erver:	0.0 feet			Mediur	Auto		200 297			
Observer Height (Above	Pad):	5.0 feet				n Truci y Truci		297	Grade Ad	i votro o ot	
Pad Eleva	ation:	0.0 feet			neav	y muci	(5. 0.)	000	Grade Au	usunen	0.0
Road Eleva	ation:	0.0 feet		1	Lane Equ	uivalen	t Distan	ce (in i	feet)		
Road G	rade:	0.0%				Auto	os: 36.	851			
Left	View: -	90.0 degree	es		Mediur	n Trucl	ks: 36.	610			
Right	View:	90.0 degree	es		Heav	y Trucl	ks: 36.	634			
FHWA Noise Model Calco											
VehicleType REN		raffic Flow	Di	stance	Finite		Fresr	-	Barrier Att		m Atten
Autos:	66.51	2.49		1.88	-	-1.20		-4.56		000	0.00
Medium Trucks:	77.72	-14.75		1.93	-	-1.20		-4.87		000	0.00
Heavy Trucks:	82.99	-18.70		1.92	2	-1.20		-5.61	0.0	000	0.00
Unmitigated Noise Level											
	ak Hour	Leq Day		Leq Ev	vening	Leg	Night		Ldn		VEL
Autos:	69.7		69.8		68.4		62.4		70.9		71.
Medium Trucks:	63.7		61.9		54.4		63.1		69.3		69.
Heavy Trucks:	65.0		63.1		59.7		64.3		70.		70.
Vehicle Noise:	71.7		71.1		69.1		68.1		75.0	J	75.
Centerline Distance to No	oise Cont	our (in feet)	1	70 c	₩RΔ	65	dBA	F	0 dBA	55	dBA
			Ldn:	701			173		372		02
			VEL:	8	-		181		389		39

Scenari	o: ⊔V					Project A	lame: Glor	Ivy Senior C	om	
	e: Temescal (anvon Rd					name: Gler mber: 130		oill.	
Road Segmer						300 140	TIDEL 130	2		
•				_						
	SPECIFIC IN	IPUT DATA			14- O			DEL INPUT	S	
Highway Data				3	ne com	iluons (r	lard = 10,	,		
Average Daily	. ,						Auto			
	Percentage:	6.19%					ks (2 Axle	,		
	our Volume:	1,881 vehicles			Hea	avy Truck	s (3+ Axle	s): 15		
	nicle Speed:	40 mph		V	ehicle N	lix				
Near/Far Lar	ne Distance:	12 feet			Vehi	cleType	Day	Evening	Night	Daily
Site Data						AL	itos: 75.	5% 14.0%	10.5%	97.42
Bar	rier Heiaht:	0.0 feet			Me	dium Tru	cks: 48.9	9% 2.2%	48.9%	1.849
Barrier Type (0-W		0.0			E	leavy Tru	cks: 47.3	3% 5.4%	47.3%	0.749
Centerline Dis	t. to Barrier:	37.0 feet			laisa Sa	urco Elo	vations (in	foot		
Centerline Dist.	o Observer:	37.0 feet		N	ioise 30	Autos:		leelj		
Barrier Distance	o Observer:	0.0 feet				n Trucks:	0.000			
Observer Height (Above Pad):	5.0 feet						Grade Ad	iustmont	0.0
Pa	d Elevation:	0.0 feet			neav	y Trucks:	0.000	Orade Auj	ustinent.	0.0
Roa	d Elevation:	0.0 feet		L	ane Equ	ivalent L	Distance (i	n feet)		
F	Road Grade:	0.0%				Autos:	36.851			
	Left View:	-90.0 degree	s		Mediur	n Trucks:	36.610			
	Right View:	90.0 degree	s		Heav	Y Trucks:	36.634			
FHWA Noise Mode	Calculation	s								
VehicleType	REMEL	Traffic Flow	Distar		Finite		Fresnel	Barrier Att		m Atter
Autos:	66.51	1.30		1.88		-1.20	-4.5		000	0.00
Medium Trucks:	77.72			1.93		-1.20	-4.8		000	0.00
Heavy Trucks:	82.99	-19.89		1.92		-1.20	-5.6	1 0.0	000	0.00
Unmitigated Noise										
	Leq Peak Hou			eq Ev		Leq N	•	Ldn		IEL
Autos:	68		68.6		67.3		61.2	69.7		70
Medium Trucks:	62		60.7		53.2		61.9	68.1		68
Heavy Trucks:	63		61.9		58.5		63.1	69.3		69
Vehicle Noise:	70).5	70.0		67.9		66.9	73.9	9	74
Centerline Distanc	e to Noise Co	ontour (in feet)								-
				70 di		65 dl		60 dBA		dBA
										69
		-	.dn: IEL:	67 70		144 151		310 325	-	99 99

	FH\	VA-RD-77-108	HIGHV	VAY NC	DISE P	REDICT	ION MO	DEL			
Scenario Road Name Road Segmen	e: Temescal (Canyon Rd.					Name: lumber:		y Senior C	com.	
SITE S	SPECIFIC IN	IPUT DATA							L INPUT	S	
Highway Data				Si	te Cor	nditions	(Hard =	10, So	ft = 15)		
Average Daily 1	Traffic (Adt):	36,707 vehicle	s					Autos:	15		
Peak Hour H	Percentage:	6.19%			Me	edium Tr	ucks (2 A	xles):	15		
Peak Ho	our Volume:	2,272 vehicle	s		He	eavy Tru	cks (3+ A	xles):	15		
Veh	nicle Speed:	40 mph		14	ehicle	Mise					
Near/Far Lan	ne Distance:	12 feet		Ve		nicleType		Day	Evening	Night	Daily
Site Data					Vei			75.5%	14.0%	10.5%	
		0.0 feet			M	, Iedium T		48.9%	2.2%	48.9%	
Barrier Type (0-Wa	rier Height:	0.0 teet				Heavy T	rucks:	47.3%			
Centerline Dis		37.0 feet									
Centerline Dist. t		37.0 feet		N	oise S		levation		et)		
Barrier Distance t		0.0 feet				Auto		000			
Observer Height (A		5.0 feet				m Truck	•••	297			
- · ·	d Elevation:	0.0 feet			Hea	vy Truck	's: 8.0	006	Grade Ad	ustment	2 0.0
Roa	d Elevation:	0.0 feet		Lá	ne Eq	uivalen	t Distand	e (in f	eet)		
5	Road Grade:	0.0%				Auto	s: 36.	351	í		
	Left View:	-90.0 degree	es		Mediu	m Truck	s: 36.	510			
	Right View:	90.0 degree			Hea	vy Truck	s: 36.	534			
FHWA Noise Mode	Calculation	s									
VehicleType	REMEL	Traffic Flow	Dista	nce	Finite	Road	Fresn	el	Barrier Att	en Bei	rm Atten
Autos:	66.51	2.12		1.88		-1.20		-4.56	0.0	000	0.000
Medium Trucks:	77.72	-15.11		1.93		-1.20		-4.87	0.0	000	0.000
Heavy Trucks:	82.99	-19.07		1.92		-1.20		-5.61	0.0	000	0.000
Unmitigated Noise	Levels (with	out Topo and	barrier	attenu	ation)						
VehicleType	Leq Peak Hou	ir Leq Day	′ I	Leq Eve	ening	Leq	Night		Ldn	С	NEL
Autos:	69		69.4		68.1		62.1		70.5	-	71.1
Medium Trucks:	63		61.5		54.0		62.8		68.9		69.0
Heavy Trucks:	64		62.7		59.3		63.9		70.1		70.2
Vehicle Noise:	71		70.8		68.8	1	67.8		74.7	7	75.0
Centerline Distance	e to Noise Co	ontour (in feet)								
			∟	70 dE	SA		dBA	6	0 dBA		dBA
			Ldn:	76			63		352		758
		Ci	VEL:	79		1	71		368	1	793

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	FHWA	-RD-77-108 I	HIGHW	AY NO	DISE PF	REDICT	ION MO	DEL			
Scenario: HY Road Name: Trilog Road Segment: w/o D							Name: umber:		/y Senior C	om.	
SITE SPECIF	IC INPL	JT DATA							L INPUTS	5	
Highway Data				S	ite Con	ditions	(Hard =	10, Sc	oft = 15)		
Average Daily Traffic (A	dt): 8,	579 vehicles					,	Autos:	15		
Peak Hour Percenta	ge: 6	6.19%					ucks (2 A	/			
Peak Hour Volu		531 vehicles			He	avy Truc	cks (3+ A	Axles):	15		
Vehicle Spe		45 mph		V	ehicle I	<i>lix</i>					
Near/Far Lane Distar	ce:	48 feet			Vehi	cleType		Day	Evening	Night	Daily
Site Data						-	Autos:	77.5%	14.0%	10.5%	92.00%
Barrier Heig	ht:	0.0 feet			Me	edium Ti	rucks:	48.0%	2.0%	50.0%	3.00%
Barrier Type (0-Wall, 1-Bei		0.0			ŀ	leavy Ti	rucks:	48.0%	2.0%	50.0%	5.00%
Centerline Dist. to Ban	ier:	59.0 feet		N	laisa Sa	urco El	evation	in f	ootl		
Centerline Dist. to Obser	/er:	59.0 feet		14	0138 30	Auto:		200	eey		
Barrier Distance to Obser	/er:	0.0 feet			Mediur	n Truck		297			
Observer Height (Above P	ad):	5.0 feet				y Truck		206	Grade Adj	ustment	0.0
Pad Elevat		0.0 feet									
Road Elevat		0.0 feet		L	ane Equ		Distand		feet)		
Road Gra		0.0%				Auto					
Left Vi Right Vi		90.0 degrees 90.0 degrees				n Truck y Truck					
		90.0 degree:	\$		neav	y much	3. 33.	502			
FHWA Noise Model Calcul VehicleType REME		raffic Flow	Distar	100	Finite	Poad	Fresn	al	Barrier Atte	an Ro	m Atten
	8.46	-4.95	Distai	-0.62		-1.20		-4.69	0.0		0.000
	9.45	-19.82		-0.60		-1.20		-4.88	0.0		0.00
Heavy Trucks: 8	4.25	-17.60		-0.60		-1.20		-5.35	0.0	000	0.00
Unmitigated Noise Levels	without	t Topo and b	arrier a	attenu	ation)						
VehicleType Leq Pea	k Hour	Leq Day	L	eq Eve	ening	Leq	Night		Ldn	C	NEL
Autos:	61.7	6	1.9		60.5		54.4	ļ	62.9)	63.5
Medium Trucks:	57.8	5	5.9		48.2		57.4		63.5	5	63.6
Heavy Trucks:	64.9		3.0		55.2		64.4		70.5		70.6
Vehicle Noise:	67.1	6	5.9	_	61.8		65.5	5	71.9)	72.0
Centerline Distance to Noi	se Cont	our (in feet)									
				70 dl			dBA	6	60 dBA		dBA
			dn:	79			70		367		791
		CN	EL:	80		1	73		373	8	305

	FHW	A-RD-77-108 HIC	GHWAY	NOISE PR	REDICT		DEL			
	HYP RIRO Temescal Ca n/o Lawson F					t Name: (lumber: '		vy Senior C	Com.	
SITE SI	PECIFIC INP	UT DATA			1	NOISE	IODE	L INPUT	S	
Highway Data				Site Con	ditions	(Hard =	10, So	oft = 15)		
Average Daily Tr	affic (Adt): 30	,852 vehicles				,	Autos:	15		
Peak Hour Pe	ercentage:	6.19%		Me	dium Ti	rucks (2 A	(xles)	15		
		,910 vehicles		He	avy Tru	icks (3+ A	(xles)	15		
	cle Speed:	40 mph		Vehicle I	Mix					
Near/Far Lane	Distance:	12 feet		Veh	icleTyp	e	Day	Evening	Night	Daily
Site Data						Autos:	75.5%	5 14.0%	10.5%	97.429
Barri	er Height:	0.0 feet					48.9%		48.9%	1.849
Barrier Type (0-Wal	l, 1-Berm):	0.0		ŀ	leavy 1	rucks:	47.3%	5.4%	47.3%	0.749
Centerline Dist.	to Barrier:	37.0 feet		Noise So	ource E	levation	s (in f	eet)		
Centerline Dist. to		37.0 feet			Auto		000			
Barrier Distance to		0.0 feet		Mediu	n Truck	(s: 2.2	297			
Observer Height (Al	,	5.0 feet		Heav	y Truck	(s: 8.0	006	Grade Ad	justmen	t: 0.0
	Elevation: Elevation:	0.0 feet 0.0 feet		Lane Eq	uivəlon	t Distan	o (in	foot)		
	ad Grade:	0.0%		Lano Lq	Auto					
		-90.0 degrees		Mediu	n Truck					
F	Right View:	90.0 degrees		Heav	y Truck	(s: 36.0	534			
FHWA Noise Model	Calculations									
VehicleType			Distance		Road	Fresn	-	Barrier Att		rm Atten
Autos:	66.51	1.37	1.8		-1.20		-4.56		000	0.00
Medium Trucks:	77.72	-15.87	1.9		-1.20		-4.87		000	0.00
Heavy Trucks:	82.99	-19.82	1.9	-	-1.20		-5.61	0.0	000	0.00
Unmitigated Noise L					1.00	Allented		l eler		
VehicleType Lo Autos:	eq Peak Hour 68.6	Leq Day 68.0		Evening 67.3	Leq	Night 61.3		Ldn 69.1		NEL 70
Medium Trucks:	62.6		-	53.3		62.0		68.3		68.
Heavy Trucks:	63.9			58.5		63.2		69.4		69.
Vehicle Noise:	70.6	70.0	0	68.0		67.0)	73.9	9	74.
Centerline Distance	to Noise Con	tour (in feet)								
			70	dBA	65	dBA		60 dBA	55	5 dBA
		Ldn CNEL		68		45		313		675
				71		52		328		706

	FHWA-F	RD-77-108 H	IGHW	AY N	IOISE PR	EDICTIC	N MODEL	-			
Scenario: HY							lame: Gler		or Com		
Road Name: Trilogy I Road Segment: w/o Ten		and the second second				JOD NUI	mber: 130	32			
Road Segment: w/o Ten	iescal C	anyon Ro.									
SITE SPECIFIC	INPU	T DATA					DISE MOI				
Highway Data				3	Site Cond	ditions (H	lard = 10,	Soft = 15)		
Average Daily Traffic (Adt): 8,57	79 vehicles					Auto	os: 15			
Peak Hour Percentage	e: 6.1	19%					ks (2 Axle				
Peak Hour Volume	e: 53	31 vehicles			Hea	avy Truck	s (3+ Axle	s): 15			
Vehicle Speed	1: 4	45 mph		1	Vehicle N	lix					
Near/Far Lane Distance	e: 4	48 feet		-		cleType	Dav	/ Evenii	na Ni	ght	Daily
Site Data							itos: 77.		•	-	92.00%
Barrier Heigh	t- 1	0.0 feet			Me	dium Tru	cks: 48.	0% 2.0)% 50	0.0%	3.00%
Barrier Type (0-Wall, 1-Berm		0.0			H	leavy Tru	cks: 48.	0% 2.0)% 50	0.0%	5.00%
Centerline Dist. to Barrie	r: 5	9.0 feet		1	Noise So	urce Ele	vations (ir	n feet)			
Centerline Dist. to Observe		9.0 feet				Autos:					
Barrier Distance to Observe	r: 1	0.0 feet			Mediun	n Trucks:					
Observer Height (Above Pad): :	5.0 feet				v Trucks:		Grade	Adjusti	ment:	0.0
Pad Elevation		0.0 feet									
Road Elevation		0.0 feet		1	Lane Equ		Distance (
Road Grade		0.0%				Autos:					
Left Viev		0.0 degrees				n Trucks:					
Right View	V: 91	0.0 degrees			Heav	v Trucks:	53.982				
FHWA Noise Model Calculat											
VehicleType REMEL	Tra	ffic Flow	Distar		Finite I		Fresnel	Barrier	Atten	Bern	n Atten
Autos: 68		-4.95		-0.62	-	-1.20	-4.6	-	0.000		0.00
	45	-19.82		-0.60	-	-1.20	-4.8	-	0.000		0.00
Heavy Trucks: 84	25	-17.60		-0.60	D	-1.20	-5.3	85	0.000		0.00
Unmitigated Noise Levels (w											
VehicleType Leq Peak		Leq Day		eq E∖	/ening	Leq N	•	Ldn		CN	
Autos:	61.7	61			60.5		54.4		62.9		63.
Medium Trucks:	57.8	55			48.2		57.4		63.5		63.
Heavy Trucks:	64.9	63			55.2		64.4		70.5		70.
Vehicle Noise:	67.1	65	.9		61.8		65.5		71.9		72.
Centerline Distance to Noise	Conto	ur (in feet)									
				70 c	1BA	65 dI	BA	60 dBA		55 c	
		La CNE		7	-	170		367 373		79 80	

	FHW	A-RD-77-108	HIGH	WAY	NOISE P	REDICI		DDEL			
Scenar	io: HYP RIRO					Projec	t Name:	Glen Iv	/y Senior (Com.	
Road Nam	ne: Temescal Ca	anyon Rd.				Job I	lumber:	13032			
Road Segme	nt: n/o Trilogy P	kwy.									
SITE Highway Data	SPECIFIC INF	UT DATA			Site Cor					S	
					Sile Col	luiuons	(naru ·	-	,		
• •	Traffic (Adt): 40		6					Autos:			
	Percentage:	6.19%					rucks (2				
		2,501 vehicles	6		He	eavy Tru	icks (3+	Axles):	15		
	ehicle Speed:	40 mph			Vehicle	Mix					
Near/Far La	ane Distance:	12 feet			Veł	nicleTyp	e	Day	Evening	Night	Daily
Site Data							Autos:	75.5%	14.0%	10.5%	97.429
Ba	rrier Height:	0.0 feet			M	ledium T	rucks:	48.9%	2.2%	48.9%	1.84%
Barrier Type (0-W	Vall, 1-Berm):	0.0				Heavy 1	Trucks:	47.3%	5.4%	47.3%	0.74%
Centerline Di		37.0 feet			Noise S	ource E	levatio	ns (in fe	eet)		
Centerline Dist.	to Observer:	37.0 feet				Auto	os: 0	.000	,		
Barrier Distance	to Observer:	0.0 feet			Mediu	m Truck		297			
Observer Height	(Above Pad):	5.0 feet				vy Truci		.006	Grade Ad	liustment	: 0.0
P	ad Elevation:	0.0 feet				·				,	
Ro	ad Elevation:	0.0 feet			Lane Eq	uivalen	t Distar	nce (in i	feet)		
	Road Grade:	0.0%				Auto	os: 36	.851			
	Left View:	-90.0 degree	s		Mediu	m Trucl	(s: 36	.610			
	Right View:	90.0 degree	s		Hea	vy Truci	(s: 36	.634			
FHWA Noise Mod				I							
VehicleType		Traffic Flow	Dist	tance		Road	Fres		Barrier Att		m Atten
Autos:		2.54		1.8		-1.20		-4.56		000	0.00
Medium Trucks:		-14.70		1.9		-1.20		-4.87		000	0.00
Heavy Trucks:	82.99	-18.65		1.9	92	-1.20		-5.61	0.	000	0.00
Unmitigated Nois											
VehicleType	Leq Peak Hour	Leq Day		Leq E	vening		Night		Ldn		NEL
Autos:			69.8		68.5		62		70.		71.
Medium Trucks:			61.9		54.4		63	-	69.		69.4
Heavy Trucks:			63.1		59.7		64		70.		70.
Vehicle Noise:	71.0		71.2		69.2	<u>.</u>	68	.2	75.	1	75.
Centerline Distan	ce to Noise Con	tour (in feet)		70	dBA	65	dBA	6	50 dBA	55	dBA
			Ldn:		31		и <i>Б</i> А 74		375		06A 308
			IEL:		51 35		82		392		000 345
		Cr			50	1	02		392	2	940

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Site Data Autos: 75.5% 14.0% 10.5% 9 Barrier Height: 0.0 feet Medium Trucks: 48.9% 2.2% 48.9%	Daily 7.42% 1.84% 0.74%
Highway Data Site Conditions (Hard = 10, Soft = 15) Average Daily Traffic (Adt): 36,885 vehicles Autos: 15 Peak Hour Volume: 2,285 vehicles Autos: 15 Vehicle Speed: 40 mph Medium Trucks (2 Akles): 15 Near/Far Lane Distance: 12 feet Vehicle Type Day Barrier Height: 0.0 feet Autos: 75.5% 14.0% 10.5% Barrier Jistance to Disterver: 37.0 feet Medium Trucks: 48.9% 2.2% 48.9% Centerline Dist. to Barrier: 37.0 feet Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.006 Grade Adjustment: 0 Barrier Distance to Observer: 0.0 feet Road Grade. 0.0% Lafe Quivalent Distance (in feet) Autos: 0.000 Barrier Jight (Abov: 9.0.00 degrees Right View: 90.0 degrees Autos: 0.66.1 Lane Quivalent Distance (in feet) Road Grade Louistions Vehicle Type Redk Autos: 36.634 Heavy Trucks: 36.634 FHWA Noise Model Calculations Vehicle Type Traffic Flow Distance Finite Road Fresnel Barrier Atten Berrier	7.42% 1.84%
Average Daily Traffic (Adi): 36,885 vehicles Autos: 15 Peak Hour Percentage: 6,19% Peak Hour Volume: 2,283 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 12 feet Site Data Vehicle Type Barrier Height: 0.0 feet Barrier Height: 0.0 feet Barrier Jostance to Observer: 37.0 feet Barrier Distance to Observer: 0.0 feet Barrier Height (Above Pad): 5.0 feet Ped Elevation: 0.0 feet Barrier Jostance to Observer: 37.0 feet Road Elevation: 0.0 feet Right View: -90.0 degrees Right View: -90.0 degrees Right View: 90.0 degrees Right View: 0.0 feet Autos: 11/16/16 Koad FHWA Noise Model Calculations Finite Road F	7.42% 1.84%
Peak Hour Percentage: 6.19% Medium Trucks (2 Axles): 15 Peak Hour Volume: 2.283 vehicles Heavy Trucks (3 + Axles): 15 Vehicle Speed: 40 mph Vehicle Mix Vehicle Mix Site Data Autos: 75.5% 14.0% 10.5% 9 Barrier Height: 0.0 feet Medium Trucks: 48.9% 2.2% 49.9% Centerline Dist. to Barrier: 37.0 feet Moles Source Elevations (in feet) Contentine Dist. to Barrier: 37.0 feet Barrier Distance to Observer: 37.0 feet Noise Source Elevations (in feet) 40.0% Centerline Dist. to Barrier: 0.0 feet Medium Trucks: 2.297 Observer: Height (Above Pad): 5.0 feet Heavy Trucks: 8.006 Grade Adjustment: 0 Road Elevation: 0.0 feet Lane Equivalent Distance (in feet) Heavy Trucks: 36.610 Road Grade: 0.00% Autos: 36.610 Heavy Trucks: 36.610 Heavy Trucks: 36.610 Heavy Trucks: 36.634 Heavy Trucks: 36.610 Kight V	7.42% 1.84%
Near/Far Lane Distance: 12 feet Vehicle Mix Day Evening Night I Site Data Autos: 75.5% 14.0% 10.5% 9 Barrier Height: 0.0 feet Autos: 75.5% 14.0% 10.5% 9 Barrier Height: 0.0 feet Medium Trucks: 48.9% 2.2% 49.9% Centerline Dist. to Barrier: 37.0 feet Noise Source Elevations (in feet) Autos: 0.00 Barrier Distance to Observer: 37.0 feet Medium Trucks: 2.297 47.3% Observer Height (Above Pad): 5.0 feet Medium Trucks: 2.297 40.0% Road Elevation: 0.0 feet Medium Trucks: 2.297 40.0% <td>7.42% 1.84%</td>	7.42% 1.84%
Site Data Day Levence type Levence type Day Levence type Levence type Day Levence type Day Levence type Levence type Levence type Levence type Levence type Levence type <thlevence th="" type<=""> <thlevence thr="" type<=""></thlevence></thlevence>	7.42% 1.84%
Barrier Height: 0.0 feet Medium Trucks: 48.9% 2.2% 48.9% Barrier Type (0-Wall, 1-Berm): 0.0 Image: Contentine Dist. to Barrier: 37.0 feet Image: Contentine Dist. to Observer: 37.0 feet Noise Source Elevations (in feet) Noise Source Elevations (in feet) Noise Source Elevations (in feet) Autos: 0.000 Medium Trucks: 42.97 Moise Source Elevations (in feet) Noise Source Elevations (in feet) Autos: 0.000 Medium Trucks: 2.297 Medium Trucks: 2.297 Heavy Trucks: 8.006 Grade Adjustment: 0 Pad Elevation: 0.0 feet Lane Equivalent Distance (in feet) Autos: 0.066 Medium Trucks: 36.610 Heavy Trucks: 36.610 Heavy Trucks: 36.634 Heavy Trucks: 36.634 FHWA Noise Model Calculations Vehicle Type REMEL Traffic Flow Distance Finite Road Fresnel Barrier Atten Berrier Autos: 66.51 2.15 1.88 -1.20 -4.56 0.000	1.84%
Barrier Type (IVMall, 1-Berrier) 0.0 Barrier Type (IVMall, 1-Berrier) 0.0 Centerline Dist. to Barrier: 37.0 feet Centerline Dist. to Observer: 37.0 feet Barrier Type (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Elevation: 0.0 feet Left View: -90.0 degrees PHWA Noise Model Calculations Vehicle Type Vehicle Type REMEL Autos: 66.51 2.15 1.88 -1.20 -4.56	
Barrier Type (ovval, r-beinn), 0.0 Centerline Dist. to Barrier 37.0 feet Centerline Dist. to Observer: 37.0 feet Barrier Distance to Observer: 0.0 feet Barrier Distance to Observer: 0.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Elevation: 0.0 feet Left View: -90.0 degrees Right View: 90.0 degrees FHWA Noise Model Calculations VehicleType REMEL Autos: 66.51 2.15 1.88 -120	0.74%
Centerline Dist. to Observer: 37.0 feet Noise Source Elevations (in feet) Barrier Distance to Observer: 0.0 feet Autos: 0.000 Observer Height (Above Pad Elevation: 0.0 feet Medium Trucks: 2.297 Pad Elevation: 0.0 feet Heavy Trucks: 8.006 Grade Adjustment: Road Erevation: 0.0 feet Lane Equivalent Distance (in feet) Autos: 90.0 degrees Medium Trucks: 36.610 FHWA Noise Model Calculations Traffic Flow Distance Finite Road Fresnel Barrier Atten Berrier Autos: 66.51 2.15 1.88 -1.20 -4.56 0.000	
Centerline Dist. to Observer: 37.0 feet Autos: 0.000 Barrier Distance to Observer: 0.0 feet Medium Trucks: 2.297 Observer Height (Above Pad): 5.0 feet Heavy Trucks: 8.006 Grade Adjustment: 0 Pad Elevation: 0.0 feet Lane Equivalent Distance (in feet) Autos: 36.610 Road Grade: 0.0% Medium Trucks: 36.610 Heavy Trucks: 90.0 degrees Medium Trucks: 36.634	
Pad Elevation: 0.0 feet Road Glevation: 0.0 feet Lane Equivalent Distance (in feet) Autos: 36.851 Left View: -90.0 degrees Right View: 90.0 degrees FHWA Noise Model Calculations Distance Finite Road Fresnel Barrier Atten Berring Atten VehicleType REMEL Traffic Flow Distance Finite Road Fessel Barrier Atten Berring Atten	0
Road Grade: 0.0% Autos: 36.851 Left View: -90.0 degrees Medium Trucks: 36.610 Right View: 90.0 degrees Heavy Trucks: 36.634 FHWA Noise Model Calculations VehicleType REMEL Traffic Flow Distance Finite Road Fresnel Barrier Atten Berrier Autos: 66.51 2.15 1.88 -1.20 -4.56 0.000	.0
Left View: -90.0 degrees Medium Trucks: 36.610 Right View: 90.0 degrees Heavy Trucks: 36.634 FHWA Noise Model Calculations VehicleType REMEL Traffic Flow Distance Finite Road Fresnel Barrier Atten Bermin Autos:	
Right View: 90.0 degrees Heavy Trucks: 36.634 FHWA Noise Model Calculations VehicleType REMEL Traffic Flow Distance Finite Road Fresnel Barrier Atten Berm. Autos: 66.51 2.15 1.88 -1.20 -4.56 0.000	
VehicleType REMEL Traffic Flow Distance Finite Road Fresnel Barrier Atten Berminitian Autos: 66.51 2.15 1.88 -1.20 -4.56 0.000	
Autos: 66.51 2.15 1.88 -1.20 -4.56 0.000	
	Atten
Medium Trucks: 77.72 15.00 1.03 1.20 4.87 0.000	0.000
Weddun Trucks. 11.12 =13.05 1.53 =1.20 =4.07 0.000	0.000
Heavy Trucks: 82.99 -19.05 1.92 -1.20 -5.61 0.000	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)	-
VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNE	L
Autos: 69.3 69.4 68.1 62.1 70.5	71.1
Medium Trucks: 63.3 61.5 54.0 62.8 69.0	
Heavy Trucks: 64.7 62.7 59.3 64.0 70.2	69.0
Vehicle Noise: 71.4 70.8 68.8 67.8 74.7	69.0 70.3
Centerline Distance to Noise Contour (in feet)	70.3
70 dBA 65 dBA 60 dBA 55 dE	70.3
Ldn: 76 164 353 761	70.3 75.0
CNEL: 80 171 369 795	70.3 75.0 BA

	FHW	A-RD-77-108	HIGHW	AY N	OISE PR	EDICT	ION MO	DEL				
Scenario: HYF Road Name: Trilo							t Name: lumber:		vy Senior C	Com.		
Road Segment: w/o												
SITE SPECI	FIC INP	UT DATA							L INPUT	S		
Highway Data				S	Site Conc	litions	(Hard =	10, Sc	oft = 15)			
Average Daily Traffic (Adt): 8	,952 vehicles						Autos:	15			
Peak Hour Percen	tage:	6.19%			Mea	lium Ti	rucks (2 /	Axles):	15			
Peak Hour Vol	ume:	554 vehicles			Hea	avy Tru	icks (3+ /	Axles):	15			
Vehicle Sp		45 mph		1	ehicle M	lix						
Near/Far Lane Dista	ance:	48 feet		F		cleType	e	Day	Evening	Night	Daily	
Site Data							Autos:	77.5%	14.0%	10.5%	92.009	
Barrier He	iaht [.]	0.0 feet			Me	dium 1	rucks:	48.0%	2.0%	50.0%	3.009	
Barrier Type (0-Wall, 1-B		0.0			н	leavy 1	rucks:	48.0%	2.0%	50.0%	5.00%	
Centerline Dist. to Ba	,	59.0 feet						- 6- 4	41			
Centerline Dist. to Obse	erver:	59.0 feet		,	loise So	Auto			eet)			
Barrier Distance to Obse	erver:	0.0 feet			Medium			000 297				
Observer Height (Above	Pad):	5.0 feet				/ Truck		297 006	Grade Ad	iustmont	0.0	
Pad Elevi	ation:	0.0 feet			neavy	/ mucr	15. 0.	000	Grade Au	Justinent	0.0	
Road Eleva	ation:	0.0 feet		L	ane Equ	ivalen	t Distan	ce (in i	feet)			
Road G	rade:	0.0%				Auto	os: 54.	129				
Left	View:	-90.0 degree	s		Medium			966				
Right	View:	90.0 degree	S		Heavy	/ Truck	(s: 53.	982				
FHWA Noise Model Calco					T					T		
VehicleType REM		Traffic Flow	Dista		Finite F		Fresr		Barrier Att		m Atten	
Autos:	68.46	-4.76		-0.62		-1.20		-4.69		000	0.00	
Medium Trucks:	79.45 84.25	-19.63 -17.41		-0.60		-1.20		-4.88 -5.35		000 000	0.00	
Heavy Trucks:						-1.20		-0.30	0.0	000	0.00	
Unmitigated Noise Level						1	Allented	1	I ala			
VehicleType Leq Pe Autos:	ak Hour 61.9		52.1	eq Ev	ening 60.7	Leq	Night 54.6		Ldn 63.		VEL 63	
Autos: Medium Trucks:	58.0		56.1		48.3		54.0 57.5		63.		63	
Heavy Trucks:	65.0		53.1		40.3 55.4		64.6		70.7		70.	
Vehicle Noise:	67.3		55.1 56.1		62.0		65.7		70.		70.	
Centerline Distance to No					02.0		00.1		12.		12.	
Centerline Distance to N	nse con	tour (in reet)		70 d	BA	65	dBA	6	0 dBA	55	dBA	
		1	dn:	81	1	1	75	1	378	8	14	
		C1	IEL:	83			78		384		28	

FHWA-RD-77-	108 HIGHWAY	NOISE PRED	ICTION MODE	il.	
Scenario: HYP RIRO Road Name: Trilogy Pkwy. Road Segment: w/o Dwy. 1			oject Name: Gle ob Number: 13	en Ivy Senior Co 032	m.
SITE SPECIFIC INPUT DAT	A			DEL INPUTS	
Highway Data		Site Conditio	ons (Hard = 10		
Average Daily Traffic (Adt): 8,651 veh	icles			tos: 15	
Peak Hour Percentage: 6.19%			n Trucks (2 Axl	,	
Peak Hour Volume: 535 veh		Heavy	Trucks (3+ Axl	les): 15	
Vehicle Speed: 45 mpl		Vehicle Mix			
Near/Far Lane Distance: 48 feet		Vehicle1	Type Da	ay Evening	Night Daily
Site Data			Autos: 77	.5% 14.0%	10.5% 92.00
Barrier Height: 0.0 fee	t	Mediu	m Trucks: 48	3.0% 2.0%	50.0% 3.00
Barrier Type (0-Wall, 1-Berm): 0.0		Heav	vy Trucks: 48	3.0% 2.0%	50.0% 5.00
Centerline Dist. to Barrier: 59.0 fee	:t	Noise Sourc	e Elevations (in foot)	
Centerline Dist. to Observer: 59.0 fee	t		Autos: 0.00	,	
Barrier Distance to Observer: 0.0 fee	t	Medium Tr	0.00	-	
Observer Height (Above Pad): 5.0 fee	t	Heavy Tr			stment: 0.0
Pad Elevation: 0.0 fee	t	-			
Road Elevation: 0.0 fee	t		lent Distance		
Road Grade: 0.0%			Autos: 54.12	-	
Left View: -90.0 de		Medium Tr		-	
Right View: 90.0 de	grees	Heavy Tr	rucks: 53.98	2	
FHWA Noise Model Calculations					
VehicleType REMEL Traffic Flo				Barrier Atte	
				.69 0.00	
Medium Trucks: 79.45 -19				.88 0.00	
Heavy Trucks: 84.25 -17			.20 -5	.35 0.00	0.0
Unmitigated Noise Levels (without Topo a VehicleType Leg Peak Hour Leg		,	Leg Night	Ldn	CNEL
Autos: 61.7	61.9 Ley	60.5	54.5	62.9	63
Medium Trucks: 57.9	56.0	48.2	57.4	63.6	63
Heavy Trucks: 64.9	63.0	55.2	64.4	70.6	70
Vehicle Noise: 67.1	66.0	61.8	65.6	71.9	72
Centerline Distance to Noise Contour (in f	eet)				
	. 7	0 dBA	65 dBA	60 dBA	55 dBA
	/				
	Ldn:	80	171	369	795

	FHV	VA-RD-77-108 H	IGHWAY	NOISE PI	REDICTI	ON MODE	L		
	: HYP FULL : Temescal C : n/o Lawson	/				Name: Gle umber: 130	en Ivy Senior C 032	Com.	
SITE S	PECIFIC IN	PUT DATA					DEL INPUT	S	
Highway Data				Site Con	ditions	(Hard = 10	, Soft = 15)		
Average Daily T	raffic (Adt): 3	80,852 vehicles				Au	tos: 15		
Peak Hour F	Percentage:	6.19%		Me	dium Tru	icks (2 Axle	es): 15		
Peak Ho	ur Volume:	1,910 vehicles		He	avy Truc	ks (3+ Axle	es): 15		
Veh	icle Speed:	40 mph		Vehicle	Mix				
Near/Far Lan	e Distance:	12 feet			icleType	Da	evening	Night	Daily
Site Data							5% 14.0%	10.5%	
Bom	ier Height:	0.0 feet		м	edium Tr	ucks: 48	.9% 2.2%	48.9%	1.84%
Barrier Type (0-Wa		0.0 1001			Heavy Tr	ucks: 47	.3% 5.4%	47.3%	0.74%
Centerline Dist	. ,	37.0 feet							
Centerline Dist. to		37.0 feet		Noise Se		evations (i	,		
Barrier Distance to		0.0 feet			Autos	0.000			
Observer Height (A		5.0 feet			m Trucks				
e 1	d Elevation:	0.0 feet		Hear	/y Trucks	s: 8.006	6 Grade Ad	justment.	0.0
Road	d Elevation:	0.0 feet		Lane Eq	uivalent	Distance	(in feet)		
R	oad Grade:	0.0%			Autos	s: 36.85 [.]	1		
	Left View:	-90.0 degrees		Mediu	m Trucks	36.61	D		
	Right View:	90.0 degrees		Hear	/y Trucks	36.63	4		
FHWA Noise Model	Calculations	5							
VehicleType	REMEL	Traffic Flow	Distance	Finite	Road	Fresnel	Barrier Att	en Ber	m Atten
Autos:	66.51	1.37		88	-1.20			000	0.000
Medium Trucks:	77.72	-15.87		93	-1.20			000	0.000
Heavy Trucks:	82.99	-19.82	1.	92	-1.20	-5.	.61 0.0	000	0.000
Unmitigated Noise				,					
	.eq Peak Hou			Evening		Night	Ldn		VEL
Autos:	68			67.3		61.3	69.7		70.4
Medium Trucks:	62			53.3		62.0	68.2	-	68.2
Heavy Trucks:	63			58.5		63.2	69.4	-	69.5
Vehicle Noise:	70		.0	68.0		67.0	73.9	9	74.2
Centerline Distance	to Noise Co	ntour (in feet)							
) dBA		dBA	60 dBA		dBA
		Ld		68		15	313	-	75
		CNE		71		52	328		06

Monday, December 14, 2020

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F	HWA-RD-77-10	8 HIGHWA	Y NOISE I	PREDICTION	N MODEL		
Scenario: HYP FUL Road Name: Temesca Road Segment: n/o Trilog	al Canyon Rd.				ime: Glen iber: 13032	vy Senior C	om.
SITE SPECIFIC	INPUT DATA					EL INPUTS	5
Highway Data Average Daily Traffic (Adt) Peak Hour Percentage. Peak Hour Volume. Vehicle Speed. Near/Far Lane Distance. Site Data Barrier Height.	6.19% 2,501 vehicle 40 mph 12 feet		M H Vehicle Ve	hicleType Aut Medium Truc	Autos (2 Axles) (3+ Axles) Day Das: 75.59 ks: 48.99	: 15 : 15 : 15 : 15 <u>Evening</u> 6 14.0% 6 2.2%	Night Dail 10.5% 97.4 48.9% 1.3 47.2% 0.7
Barrier Type (0-Wall, 1-Berm) Centerline Dist. to Barrier Centerline Dist. to Observer Barrier Distance to Observer Observer Height (Above Pad) Pad Elevation	37.0 feet 37.0 feet 0.0 feet 5.0 feet		Medi Hea	Heavy Truc Source Eleva Autos: um Trucks: avy Trucks:	ations (in a 0.000 2.297 8.006	Grade Adj	47.3% 0.74
Road Elevation. Road Grade. Left View. Right View.	0.0% -90.0 degre		Medi	quivalent Di Autos: um Trucks: avy Trucks:	36.851 36.610 36.634	1000	
FHWA Noise Model Calculation							
VehicleType REMEL Autos: 66.5 Medium Trucks: 77.7			ce Finit 1.88 1.93	e Road -1.20 -1.20	Fresnel -4.56 -4.87		0.0
Heavy Trucks: 82.9	-18.65	5	1.92	-1.20	-5.61	0.0	00 0.0
Heavy Trucks: 82.9				-1.20		0.0	000 0.0
	thout Topo and	l barrier at		-1.20	-5.61	Ldn	CNEL
Unmitigated Noise Levels (wi VehicleType Leq Peak H Autos: Medium Trucks: Heavy Trucks:	thout Topo and lour Leq Da 69.7 63.7 65.1	barrier at by Le 69.8 61.9 63.1 63.1	q Evening 68. 54. 59.	-1.20	-5.61 ht 62.5 63.2 64.4	Ldn 70.9 69.4 70.6	CNEL 7 6 6 7
Unmitigated Noise Levels (wi VehicleType Leq Peak H Autos: Medium Trucks: Heavy Trucks:	thout Topo and lour Leq Da 69.7 63.7 65.1 71.8 Contour (in fee	I barrier at ty Lei 69.8 61.9 63.1 71.2	t tenuation , q Evening 68. 54.	-1.20	-5.61 ht 62.5 63.2 64.4 68.2	Ldn 70.9 69.4	CNEL 7 6 6 7

	FHW.	A-RD-77-108	HIGHW	VAY N	IOISE PR	EDICT		DDEL			
Scenario: HYF									vy Senior C	om.	
Road Name: Trilo Road Segment: w/o						Job I	lumber:	13032			
SITE SPECI	FIC INF	PUT DATA							L INPUT	S	
Highway Data				4	Site Con	ditions	(Hard =	= 10, So	oft = 15)		
Average Daily Traffic	(Adt): 8	3,651 vehicles						Autos:	15		
Peak Hour Percen	tage:	6.19%			Med	dium Ti	rucks (2	Axles):	15		
Peak Hour Vol	lume:	535 vehicles			Hea	avy Tru	icks (3+	Axles):	15		
Vehicle S		45 mph		5	Vehicle N	lix					
Near/Far Lane Dist	ance:	48 feet				cleType	e	Dav	Evening	Night	Daily
Site Data					-		Autos:	77.5%	•	10.5%	,
Barrier He	iaht.	0.0 feet			Me	dium 1	rucks:	48.0%	2.0%	50.0%	
Barrier Type (0-Wall, 1-B	J	0.0			h	leavy 1	rucks:	48.0%	2.0%	50.0%	5.00
Centerline Dist. to Ba		59.0 feet		-							
Centerline Dist. to Obs		59.0 feet			Noise So				eet)		
Barrier Distance to Obse	erver:	0.0 feet			Mediun	Auto		.000			
Observer Height (Above	Pad):	5.0 feet				y Truck		.297 .006	Grade Ad	iuctmont	
Pad Elev	ation:	0.0 feet			neav	y muci	ls. 0	.000	Grade Au	usimeni	. 0.0
Road Elev	ation:	0.0 feet		1	Lane Equ	iivalen	t Distar	nce (in	feet)		
Road G	rade:	0.0%				Auto	os: 54	.129			
Left	View:	-90.0 degree	s		Mediun	n Truck	(s: 53	.966			
Right	View:	90.0 degree	s		Heav	y Truck	(s: 53	.982			
FHWA Noise Model Calc											
VehicleType REN		Traffic Flow	Dista		Finite		Fres		Barrier Att		m Atten
Autos:	68.46	-4.91		-0.6		-1.20		-4.69		000	0.00
Medium Trucks:	79.45	-19.78		-0.6	-	-1.20		-4.88	•	000	0.00
Heavy Trucks:	84.25	-17.56		-0.6	-	-1.20		-5.35	0.0	000	0.00
Unmitigated Noise Level								-			
	eak Hour			Leq E	vening	Leq	Night	_	Ldn		VEL
Autos:	61.7		61.9 66.0		60.5 48.2		54. 57.		62.9 63.0		63 63
Medium Trucks: Heavy Trucks:	57.9 64.9		55.0 53.0		48.2		57. 64		63.0 70.0		63 70
Vehicle Noise:	67.1		33.0 36.0		55.2 61.8		65		70.0		70
					01.0		00.	.0	71.3	9	12
Centerline Distance to N	uise Con	itour (in feet)		70 ('BA	65	dBA		60 dBA	55	dBA
			dn:	8			71		369		95
			IEL:	8			74		376		09

	FHW	A-RD-77-108	HIG	HWAY N	NOISE PR	REDICTI		DEL			
Scenario: HYP Fl Road Name: Temes Road Segment: s/o Dw	cal Ca	anyon Rd.					Name: (umber: 1		vy Senior C	Com.	
SITE SPECIFIC	C INF	PUT DATA							L INPUT	S	
Highway Data					Site Con	ditions	(Hard =	10, So	oft = 15)		
Average Daily Traffic (Ad	t): 30	6,885 vehicle	s					Autos:			
Peak Hour Percentag	e:	6.19%					icks (2 A	/			
Peak Hour Volum	e: 1	2,283 vehicle	s		He	avy Truc	:ks (3+ A	xles):	15		
Vehicle Spee		40 mph			Vehicle I	<i>lix</i>					
Near/Far Lane Distand	e:	12 feet		F	Vehi	cleType		Day	Evening	Night	Daily
Site Data						A	utos:	75.5%	5 14.0%	10.5%	97.42
Barrier Heig	nt:	0.0 feet			Me	edium Tr	ucks:	48.9%	2.2%	48.9%	5 1.849
Barrier Type (0-Wall, 1-Berr		0.0			F	leavy Tr	ucks:	47.3%	5.4%	47.3%	0.749
Centerline Dist. to Barri	er:	37.0 feet			Noise So	urce El	ovations	in fi	oof)		
Centerline Dist. to Observ	er:	37.0 feet		F	10/30 00	Autos		000			
Barrier Distance to Observ	er:	0.0 feet			Modiur	n Trucks		97			
Observer Height (Above Pa	d):	5.0 feet				y Trucks			Grade Ad	iustmen	t: 0.0
Pad Elevation	n:	0.0 feet									
Road Elevation	n:	0.0 feet		1	Lane Equ				feet)		
Road Grad		0.0%				Autos					
Left Vie		-90.0 degree	es			n Trucks					
Right Vie	W:	90.0 degree	es		Heav	y Trucks	s: 36.6	634			
FHWA Noise Model Calcula	tions										
VehicleType REMEL		Traffic Flow	Dis	stance	Finite	Road	Fresn	el	Barrier Att	en Be	rm Atter
	6.51	2.15		1.8	-	-1.20		-4.56		000	0.00
	7.72	-15.09		1.9	-	-1.20		-4.87		000	0.00
Heavy Trucks: 82	2.99	-19.05		1.9	2	-1.20		-5.61	0.0	000	0.00
Unmitigated Noise Levels (vitho	ut Topo and	barri	er atten	uation)						
VehicleType Leq Peak				Leq E	vening	Leq I			Ldn		NEL
Autos:	69.3	-	69.4		68.1		62.1		70.	-	71
Medium Trucks:	63.3	-	61.5		54.0		62.8		69.0	-	69
Heavy Trucks:	64.7		62.7		59.3		64.0		70.2	-	70
Vehicle Noise:	71.4	4	70.8		68.8		67.8		74.	7	75
Centerline Distance to Nois	e Cor	ntour (in feet)								
				70 (dBA	65 (1BA	6	50 dBA	55	5 dBA
			L								
			Ldn: NEL:	7	6	16			353 369		761 795

	FHV	/A-RD-77-108 H	IIGHWA	Y NOISE P	REDICTIO		EL			
Road Nam	io: HYP FULL ne: Trilogy Pkw nt: w/o Temeso					Name: GI Imber: 13	en Ivy Se 1032	nior Cor	n.	
SITE	SPECIFIC IN	PUT DATA			N	OISE MO	DEL IN	PUTS		
Highway Data				Site Cor	nditions (Hard = 10	0, Soft = :	15)		
Average Daily	Traffic (Adt):	8,821 vehicles				AL	itos: 1	5		
Peak Hour	Percentage:	6.19%		Me	edium Tru	cks (2 Ax	les): 1	5		
Peak H	lour Volume:	546 vehicles		He	eavy Truci	ks (3+ Ax	les): 1	5		
Ve	hicle Speed:	45 mph		Vehicle	Mix					
Near/Far La	ne Distance:	48 feet			nicleType		ay Eve	nina I	liaht Da	aily
Site Data				101				5	10.5% 92.	
Ba	wier Height	0.0 feet		M	ledium Tru	ucks: 48				.00
вал Barrier Type (0-W	rrier Height:	0.0 reet			Heavy Tru	ucks: 48	B.0% 2	2.0%		.00
Centerline Dis	. ,	59.0 feet								
Centerline Dist.		59.0 feet		Noise S	ource Ele		· /			
Barrier Distance		0.0 feet			Autos	. 0.00	-			
Observer Height (Above Pad):	5.0 feet			m Trucks					
	ad Elevation:	0.0 feet		Hea	vy Trucks	: 8.00	6 Grad	ie Aajus	stment: 0.0	'
Roa	ad Elevation:	0.0 feet		Lane Eq	uivalent	Distance	(in feet)			
1	Road Grade:	0.0%			Autos	: 54.12	29			
	Left View:	-90.0 degrees		Mediu	m Trucks	: 53.96	66			
	Right View:	90.0 degrees		Hea	vy Trucks	53.98	32			
FHWA Noise Mode	el Calculations	;								
VehicleType	REMEL	Traffic Flow	Distanc	e Finite	Road	Fresnel	Barri	er Atten	Berm At	tten
Autos:	68.46	-4.83		0.62	-1.20		1.69	0.00		0.00
Medium Trucks:	79.45	-19.69		0.60	-1.20		1.88	0.00		0.00
Heavy Trucks:	84.25	-17.48	-	0.60	-1.20	-5	5.35	0.00	0 0	0.00
Unmitigated Noise	e Levels (witho	out Topo and b	arrier at	tenuation)						-
VehicleType	Leq Peak Hou			q Evening	Leq N	•	Ldn		CNEL	
Autos:	61.		2.0	60.6		54.6		63.0		63
Medium Trucks:	58.		6.1	48.3		57.5		63.6		63
Heavy Trucks:	65.		3.1	55.3		64.5		70.7		70.
Vehicle Noise:	67.	2 6	6.0	61.9)	65.6		72.0		72
Centerline Distand	ce to Noise Co	ntour (in feet)								_
				70 dBA	65 d		60 dB		55 dBA	1
		L	dn:	81	17	4	374		806	
		CN		82	17	-	380		820	

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APPENDIX 8.1:

ON-SITE TRAFFIC NOISE LEVEL CALCULATIONS

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FHWA	A-RD-77-10	8 HIGHWAY	NOISE	PRE	DICTION	MODE	L (CALVE	ENO)	- 6/2/2013		
Scenario: F Road Name: T Lot No: N		n. Rd.				Job I	t Name: (Number: 1 Analyst: E	3032		ommun	ity
SITE SPE	CIFIC INF	UT DATA				I	NOISE N	IODE	L INPUTS	3	
Highway Data					Site Con	ditions	(Hard =	10, So	oft = 15)		
Average Daily Traff	ic (Adt): 27	,300 vehicle	6					Autos:	10		
Peak Hour Perc	entage:	6.19%			Med	dium Ti	rucks (2 A	xles):	10		
Peak Hour	Volume: 1	,690 vehicle	6		Hea	avy Tru	icks (3+ A	xles):	10		
Vehicle	Speed:	40 mph		ŀ	Vehicle N	<i>liv</i>					
Near/Far Lane D	istance:	48 feet		ŀ		cleTvp	<u>م</u>	Dav	Evenina	Niaht	Dailv
Site Data					V CI II			75.5%		10.5%	
	Halasha	0.0 feet			Me			48.0%		50.0%	
Barrier Type (0-Wall, 1	Height:	0.0			F	leavy 1	Trucks:	48.0%	6 2.0%	50.0%	5.00%
Centerline Dist. to	,	75.0 feet			Noise So		lovotiona	link	nofl		
Centerline Dist. to O	bserver:	75.0 feet		ŀ	NUISE 30	Auto		.000	eel)		
Barrier Distance to O	bserver:	0.0 feet			Mediur			297			
Observer Height (Abo	ve Pad):	5.0 feet				y Truck			Grade Adj	ustman	· 0.0
Pad El	levation:	0.0 feet			Ticav	y mucr	13. 0	.000	Orade Auj	usunen	. 0.0
Road El	levation:	0.0 feet			Lane Equ	ıivalen	t Distanc	e (in	feet)		
Barrier El	levation:	0.0 feet				Auto					
Road	Grade:	0.0%			Mediur						
					Heav	y Truck	ks: 71.1	20			
FHWA Noise Model Ca	lculations										
VehicleType R	EMEL	Traffic Flow	Dista	ance	Finite	Road	Fresn	e/	Barrier Atte	en Bei	m Atten
Autos:	67.36	0.59		-1.6	61	0.00		4.73	0.0	00	0.000
Medium Trucks:	76.31	-14.28		-1.6	60	0.00		4.88	0.0	00	0.000
Heavy Trucks:	81.16	-12.06		-1.6	60	0.00		-5.25	0.0	00	0.000
Unmitigated Noise Lev											
	Peak Hour			Leq E	vening	Leq	Night		Ldn		NEL
Autos:	66.3		66.4		65.1		59.1		67.5		68.1
Medium Trucks:	60.4		58.5		50.8		60.0		66.1		66.2
Heavy Trucks:	67.5		65.6		57.8		67.0		73.2		73.2
Vehicle Noise:	70.4	ļ.	69.4		66.0		68.4		74.9)	75.0
Mitigated Noise Levels							_				
	Peak Hour			Leq E	vening	Leq	Night		Ldn		NEL
Autos:	66.3		66.4		65.1		59.1		67.5		68.1
Medium Trucks:	60.4		58.5		50.8		60.0		66.1		66.2
Heavy Trucks:	67.5		65.6		57.8		67.0		73.2		73.2
Vehicle Noise:	70.4		69.4		66.0		68.4		74.9)	75.0

	HWA-RD-77-1	08 HIGHWAY			ODEL (CALVEN	0) -	6/2/2013		
Road Nam	rio: First Floor N ne: Trilogy Pkw lo: Memory Ca	/y.			Job Nun	ame: Gle nber: 130 alyst: B. I)32 (y Senior C son	commur	iity
SITE	SPECIFIC IN	IPUT DATA						INPUT	s	
Highway Data				Site Condi	ions (H	ard = 10	Sof	ft = 15)		
Average Daily	Traffic (Adt):	27,300 vehicles	5			Aut	os:	10		
Peak Hour	Percentage:	6.19%		Mediu	ım Trucl	ks (2 Axle	es):	10		
Peak H	our Volume:	1,690 vehicles	5	Heav	y Trucks	s (3+ Axle	es):	10		
Ve	hicle Speed:	40 mph		Vehicle Mix	ſ					
Near/Far La	ne Distance:	48 feet		Vehicle	eTvpe	Da	v	Evenina	Niaht	Dailv
Site Data					Au	tos: 75	.5%	14.0%	10.5%	6 92.009
Ba	rrier Height:	0.0 feet		Med	ium Truc	ks: 48	.0%	2.0%	50.0%	6 3.009
Barrier Type (0-W	•	0.0		He	avy Truc	cks: 48	.0%	2.0%	50.0%	6 5.00%
Centerline Di	. ,	88.0 feet		Noise Sour	ee Elev	otiono (i	n fo	o.#1		
Centerline Dist.	to Observer:	88.0 feet		Noise Soul	Autos:	0.00		e()		
Barrier Distance	to Observer:	0.0 feet		Medium		2.29				
Observer Height ((Above Pad):	5.0 feet		Heavy		2.23		Grade Ad	iustmar	t [.] 0.0
Pi	ad Elevation:	0.0 feet		neavy	macks.	0.00		0,000,10	uoumon	. 0.0
	ad Elevation:	0.0 feet		Lane Equiv				eet)		
	ier Elevation:	0.0 feet			Autos:	84.812	-			
	Road Grade:	0.0%		Medium		84.707				
	Road Grade:	0.0%		Medium Heavy		84.707 84.717				
			Distanc	Heavy	Trucks:		7	Barrier Att	en Be	rm Atten
FHWA Noise Mode	el Calculation REMEL	s		Heavy e Finite Ro	Trucks:	84.717	E		en Be	
FHWA Noise Mode VehicleType	el Calculation REMEL 67.36	s Traffic Flow 0.59	-	e Finite Ro	Trucks: bad	84.717 Fresnel	7 E 75	0.0		0.00
FHWA Noise Mode VehicleType Autos:	el Calculation REMEL 67.36 76.31	s <u>Traffic Flow</u> 0.59 -14.28	4	Heavy e Finite Ro 2.36 2.36	Dad	84.717 Fresnel -4.	7 75 88	0.0	000	0.00
FHWA Noise Mode VehicleType Autos: Medium Trucks: Heavy Trucks:	el Calculation REMEL 67.36 76.31 81.16	s Traffic Flow 0.59 -14.28 -12.06	-1 -1 -1	Heavy e Finite Ro 2.36 2.36 2.36	Dad 0.00	84.717 Fresnel -4. -4.	7 75 88	0.0	000	0.00
FHWA Noise Mode VehicleType Autos: Medium Trucks: Heavy Trucks: Unmitigated Noise	el Calculation REMEL 67.36 76.31 81.16	s Traffic Flow 0.59 -14.28 -12.06 out Topo and	- - barrier at	<i>Heavy</i> <i>e Finite Ro</i> 2.36 2.36 <i>Enuation</i>	Trucks: Dad 0.00 0.00 0.00	84.717 Fresnel -4. -5.	7 75 88 20	0.0	000	0.00
FHWA Noise Mode VehicleType Autos: Medium Trucks: Heavy Trucks:	el Calculation REMEL 67.36 76.31 81.16 e Levels (with	s Traffic Flow 0.59 -14.28 -12.06 out Topo and I Ir Leq Day	- - barrier at	Heavy e Finite Ro 2.36 2.36 2.36	Dad 0.00	84.717 Fresnel -4. -5.	7 75 88 20	0.0 0.0 0.0	000	0.00 0.00 0.00
FHWA Noise Mode VehicleType Autos: Medium Trucks: Heavy Trucks: Unmitigated Noise VehicleType	el Calculation REMEL 67.36 76.31 81.16 e Levels (with Leq Peak Hou 65	s Traffic Flow 0.59 -14.28 -12.06 out Topo and ir Leq Day 5.6	- barrier at Leo	e Finite Ro 2.36 2.36 tenuation)	Trucks: Dad 0.00 0.00 0.00	84.717 <u>Fresnel</u> -4. -5. ght	7 75 88 20	0.0 0.0 0.0	000 000 000 000	0.00 0.00 0.00 <i>CNEL</i> 67.
FHWA Noise Mod VehicleType Autos: Medium Trucks: Heavy Trucks: Unmitigated Noise VehicleType Autos:	el Calculation. <u>REMEL</u> 67.36 76.31 81.16 e Levels (with Leg Peak Hou 65 59	s Traffic Flow 0.59 -14.28 -12.06 out Topo and r Leq Day 0.6		Heavy e Finite Ro 2.36 2.36 2.36 Enuation) 1 Evening 64.4 64.4	Trucks: Dad 0.00 0.00 0.00	84.717 Fresnel -4. -5. ght 58.3	7 75 88 20	0.0 0.0 0.0 Ldn 66.8	000 000 000 000 000	0.00 0.00 0.00 0.00 CNEL 67. 65.
FHWA Noise Mode VehicleType Autos: Medium Trucks: Heavy Trucks: Unmitigated Noiss VehicleType Autos: Medium Trucks:	el Calculation: <u>REMEL</u> 67.36 76.31 81.16 e Levels (with Leq Peak Hou 65 59 66	s Traffic Flow 0.59 -14.28 -12.06 out Topo and ir Leq Day 6 .7 .7		Heavy e Finite Rd 2.36 2.36 2.36 2.36 1 Evening 64.4 50.0 60.4	Trucks: Dad 0.00 0.00 0.00	84.717 Fresnel -4. -4. -5. -5. -5. -5. -5. -5. -5. -5	7 75 88 20	0.0 0.0 0.0 <u>Ldn</u> 66.8 65.4	000 000 000 3 4	0.00 0.00 0.00 CNEL 67. 65. 72.
FHWA Noise Mod VehicleType Autos: Medium Trucks: Heavy Trucks: Unmitigated Noise VehicleType Autos: Heavy Trucks: Vehicle Noise	el Calculation: REMEL 67.36 76.31 81.16 e Levels (with Leg Peak Hoo 65 59 66 69	s Traffic Flow 0.59 -14.28 -12.06 out Topo and ir Leq Day 6 .7 .7		Heavy e Finite Rd 2.36 2.36 2.36 2.36 (Evening) (Evening) 64.4 50.0 57.1 65.2	Trucks: Dad 0.00 0.00 0.00	84.717 Fresnel -4. -5. -5. -5. -5. -5. -5. -5. -5. -5. -5	7 75 88 20	0.0 0.0 0.0 0.0 <i>Ldn</i> 66.8 65.4 72.4	000 000 000 3 4	0.00 0.00 0.00 CNEL 67. 65. 72.
FHWA Noise Mod VehicleType Autos: Medium Trucks: Heavy Trucks: Unmitigated Noise VehicleType Autos: Heavy Trucks: Vehicle Noise	el Calculation: REMEL 67.36 76.31 81.16 e Levels (with Leg Peak Hoo 65 59 66 69	s Traffic Flow 0.59 -14.28 -12.06 out Topo and r Leq Day 6 .7 .7 .7 .7 .7 .7 .7 .7 .7 .7		Heavy e Finite Rd 2.36 2.36 2.36 2.36 (Evening) (Evening) 64.4 50.0 57.1 65.2	Trucks: Dad 0.00 0.00 0.00	84.717 Fresnel -4. -4. -5. -5. -5. -5. -5. -5. -6.3 67.6	7 75 88 20	0.0 0.0 0.0 0.0 <i>Ldn</i> 66.8 65.4 72.4	000 000 000 3 4 4 1	0.00 0.00 0.00 CNEL 67. 65. 72.
FHWA Noise Mod VehicleType Autos: Medium Tracks: Heavy Tracks: UehicleType Autos: Medium Tracks: Vehicle Noise Vehicle Noise	el Calculation REMEL 67.36 76.31 81.16 e Levels (with Leq Peak Hou 65 59 66 69 evels (with To Leq Peak Hou	s Traffic Flow 0.59 -14.28 -12.06 out Topo and r Leq Day 6 7 90 and barrier r Leq Day		Heavy e Finite Rd 2.36 2.36 2.36 2.36 i Evening 64.4 50.0 57.1 65.2 60.0	Trucks: Dad 0.00 0.00 0.00 Leq Nig	84.717 Fresnel -4. -4. -5. -5. -5. -5. -5. -5. -6.3 67.6	7 75 88 20	0.0 0.0 0.0 <u>Ldn</u> 66.8 65.4 72.4 74.7	000 000 000 3 4 4 1	0.00 0.00 0.00 CNEL 67. 65. 72. 74.
FHWA Noise Mod VehicleType Autos: Medium Trucks: Heavy Trucks: Unmitigated Noise VehicleType Medium Trucks: Heavy Trucks: Vehicle Noise Vehicle Noise Lu VehicleType	el Calculation. REMEL 67.36 76.31 81.16 e Levels (with Leq Peak Hou 65 69 evels (with To Leq Peak Hou 65	s Traffic Flow 0.59 -14.28 -12.06 out Topo and r Leq Day .6 .7 .		Heavy e Finite Re 2.36 2.36 2.36 2.36 tenuation) [Evening] 64.4 50.0 57.1 65.2 ion) [Evening] (Evening] [Evening]	Trucks: Dad 0.00 0.00 0.00 Leq Nig	84.717 Fresnel -4. -4. -5. 58.3 59.2 66.3 67.6 ght	7 75 88 20	0.0 0.0 0.0 66.8 65.4 72.4 74.	000 000 000 3 4 4 1 2 3	0.00 0.00 0.00 CNEL 67. 65. 72. 74. CNEL 67.
FHWA Noise Mod VehicleType Autos: Medium Trucks: Heavy Trucks: VehicleType Autos: Medium Trucks: Vehicle Noise: Vehicle Noise: Mittigated Noise L VehicleType Autos:	el Calculation REMEL 67.36 76.31 81.16 e Levels (with Leg Peak Hou 65 69 evels (with To Leg Peak Hou 55 59	s Traffic Flow 0.59 -14.28 -12.06 out Topo and 		Heavy e Finite Rd 2.36 2.36 2.36 2.36 1 Evening 64.4 50.0 57.1 65.2 65.2 ion) 1 64.4 66.4	Trucks: Dad 0.00 0.00 0.00 Leq Nig	84.717 Fresnel -4. -4. -5. 58.3 59.2 66.3 67.6 	7 75 88 20	0.0 0.0 0.0 0.0 66.8 65.4 72.4 74.4 74.4 74.6 66.8	000 000 000 3 4 4 1 1 2 3 4	0.00 0.00 0.00 0.00 67. 65. 72. 74.

Tuesday, December 15, 2020

Tuesday, December 15, 2020

	FHWA-RD-77-1	08 HIGHWAY	NOISE F	PRED	DICTION	MODE		ENO) ·	- 6/2/2013				
Road Nan	rio: First Floor \ ne: Temescal (Vo: Assisted Liv	Cyn. Rd.			Project Name: Glen Ivy Senior Community Job Number: 13032 Analyst: B. Lawson								
	SPECIFIC IN	IPUT DATA							L INPUTS	3			
Highway Data				S	Site Conditions (Hard = 10, Soft = 15)								
• •	Traffic (Adt):		3					Autos:	10				
	r Percentage:	6.19%					ucks (2 A						
	Hour Volume:	1,690 vehicle	3		Hea	ivy Tru	cks (3+ A	xles):	10				
	ehicle Speed:	40 mph		V	/ehicle M	lix							
Near/Far La	ane Distance:	48 feet			Vehio	cleType		Day	Evening	Night	Daily		
Site Data							Autos:	75.5%	14.0%	10.5%	92.009		
Ba	arrier Height:	0.0 feet			Me	dium T	rucks:	48.0%	2.0%	50.0%	3.00%		
Barrier Type (0-W		0.0			H	leavy T	rucks:	48.0%	2.0%	50.0%	5.009		
	ist. to Barrier:	270.0 feet			Voise So	urce E	levations	(in fe	pet)				
Centerline Dist.	to Observer:	270.0 feet		Ê	10.00 00.	Auto		.000	.00				
Barrier Distance	to Observer:	0.0 feet			Mediun			297					
Observer Height	(Above Pad):	5.0 feet				/ Truck		.006	Grade Adj	ustment	0.0		
	Pad Elevation:	0.0 feet											
	ad Elevation:	0.0 feet		L	.ane Equ				feet)				
	rier Elevation:	0.0 feet					s: 268.9						
	Road Grade:	0.0%					s: 268.9						
					Heavy	/ Iruck	s: 268.9	948					
FHWA Noise Mod		-											
VehicleType	REMEL	Traffic Flow	Distar	nce	Finite I	Road	Fresn	e/	Barrier Atte	en Ber	m Atten		
Autos:													
		0.59		-7.38	3	0.00		4.85	0.0				
Medium Trucks:	76.31	-14.28		-7.38	3	0.00		4.89	0.0	00	0.00		
	76.31	-14.28			3	0.00				00	0.00		
Medium Trucks: Heavy Trucks: Unmitigated Nois	76.31 81.16 e Levels (with	-14.28 -12.06 out Topo and	barrier a	-7.38 -7.38 attent	3 3 3 <i>uation)</i>	0.00 0.00 0.00		4.89	0.0	00	0.00		
Medium Trucks: Heavy Trucks: Unmitigated Nois VehicleType	76.31 81.16 e Levels (with Leq Peak Hou	-14.28 -12.06 out Topo and r Leq Day	barrier a	-7.38 -7.38 attent	3 3 3 uation) vening	0.00 0.00 0.00	Night	-4.89 -4.99	0.0 0.0 Ldn	00 00 <i>CI</i>	0.00 0.00		
Medium Trucks: Heavy Trucks: Unmitigated Nois VehicleType Autos:	76.31 81.16 E Levels (with Leq Peak Hou 60	-14.28 -12.06 out Topo and r Leq Day 1.6	barrier a / Le 60.6	-7.38 -7.38 attent	3 3 3 <i>uation)</i> <i>rening</i> 59.3	0.00 0.00 0.00	Night 53.3	-4.89 -4.99	0.0 0.0 <i>Ldn</i> 61.7	00 00 <i>CI</i>	0.00 0.00 <u>VEL</u> 62		
Medium Trucks: Heavy Trucks: Unmitigated Noise VehicleType Autos: Medium Trucks:	76.31 81.16 e Levels (with Leg Peak Hou 60 54	-14.28 -12.06 out Topo and ir Leq Day 0.6 7	barrier a / Le 60.6 52.8	-7.38 -7.38 attent	3 3 3 <i>vening</i> 59.3 45.0	0.00 0.00 0.00	Night 53.3 54.2	-4.89 -4.99	0.0 0.0 <i>Ldn</i> 61.7 60.3	00 00 <i>CI</i>	0.00 0.00 <u>VEL</u> 62. 60.		
Medium Trucks: Heavy Trucks: Unmitigated Noise VehicleType Autos: Medium Trucks: Heavy Trucks:	76.31 81.16 e Levels (with Leq Peak Hou 60 54 61	-14.28 -12.06 out Topo and r Leq Day 1.6 7 7	barrier a / Le 60.6 52.8 59.8	-7.38 -7.38 attent	3 3 3 <i>vening</i> 59.3 45.0 52.0	0.00 0.00 0.00	Night 53.3 54.2 61.3	-4.89 -4.99	0.0 0.0 <i>Ldn</i> 61.7 60.3 67.4	00 00 <i>CI</i>	0.00 0.00 <u>VEL</u> 62. 60. 67.		
Medium Trucks: Heavy Trucks: Unmitigated Noiss VehicleType Autos: Medium Trucks: Heavy Trucks: Vehicle Noise	76.31 81.16 Leq Peak Hou 60 54 61 64	-14.28 -12.06 out Topo and r Leq Day 0.6 .7 .7	barrier a 60.6 52.8 59.8 63.6	-7.38 -7.38 attent eq Ev	3 3 3 <i>vening</i> 59.3 45.0 52.0 60.2	0.00 0.00 0.00	Night 53.3 54.2	-4.89 -4.99	0.0 0.0 <i>Ldn</i> 61.7 60.3	00 00 <i>CI</i>	0.00 0.00 <u>VEL</u> 62. 60. 67.		
Medium Trucks: Heavy Trucks: Unmitigated Noiss VehicleType Autos: Medium Trucks: Heavy Trucks: Vehicle Noise Mitigated Noise L	76.31 81.16 e Levels (with Leq Peak Hou 60 54 61 64 evels (with To	-14.28 -12.06 out Topo and ir Leg Day 6.6 .7 .7 .7 .7 .7 po and barrier	barrier a 60.6 52.8 59.8 63.6 r attenua	-7.38 -7.38 attenu eq Ev	3 3 3 vening 59.3 45.0 52.0 60.2	0.00 0.00 0.00 Leq	Night 53.3 54.2 61.3 62.6	-4.89 -4.99	0.0 0.0 <u>Ldn</u> 61.7 60.3 67.4 69.1	00 00 C/	0.00 0.00 <u>VEL</u> 62. 60. 67. 69.		
Medium Trucks: Heavy Trucks: Unmitigated Noiss Vehicle Type Autos: Medium Trucks: Heavy Trucks: Vehicle Noise: Mitigated Noise L Vehicle Type	r 76.31 81.16 e Levels (with Leg Peak Hou 60 54 61 64 evels (with To Leg Peak Hou	-14.28 -12.06 out Topo and rr Leq Day .6 .7 .7 .7 po and barrieu rr Leq Day	barrier a 60.6 52.8 59.8 63.6 r attenua / Le	-7.38 -7.38 attenu eq Ev	3 33 33 42 59.3 45.0 52.0 60.2) yeening	0.00 0.00 0.00 Leq	Night 53.3 54.2 61.3 62.6 Night	-4.89 -4.99	0.0 0.0 <i>Ldn</i> 61.7 60.3 67.4 69.1 <i>Ldn</i>	00 00 Cr	0.00 0.00 <u>VEL</u> 62. 60. 67. 69. VEL		
Medium Trucks: Heavy Trucks: Unmitigated Noise VehicleType Autos: Medium Trucks: Heavy Trucks: Vehicle Noise L VehicleType Autos:	76.31 81.16 e Levels (with Leq Peak Hou 60 54 61 64 evels (with To Leq Peak Hou 60	-14.28 -12.06 out Topo and rr Leq Day .6 .7 .7 .7 po and barrier rr Leq Day .6	barrier a 60.6 52.8 59.8 63.6 r attenua 60.6	-7.38 -7.38 attenu eq Ev	a a yeening 59.3 45.0 52.0 60.2) yeening 59.3	0.00 0.00 0.00 Leq	Night 53.3 54.2 61.3 62.6 Night 53.3	-4.89 -4.99	0.0 0.0 <u>Ldn</u> 61.7 60.3 67.4 69.1 <u>Ldn</u> 61.7	00 00 <i>CI</i>	0.00 0.00 <u>VEL</u> 62. 60. 67. 69. VEL 62.		
Medium Trucks: Heavy Trucks: Unmitigated Noiss Vehicle Type Autos: Medium Trucks: Heavy Trucks: Vehicle Noise: Mitigated Noise L Vehicle Type	76.31 81.16 E Levels (with Leq Peak Hou 60 54 61 64 evels (with To Leq Peak Hou Leq Peak Hou 54 54 54 54 54 54 54 54 54	-14.28 -12.06 out Topo and rr Leq Day 16 .7 .7 .7 .7 .7 .7 .7 .7 .7 .7 .7 .7 .7	barrier a 60.6 52.8 59.8 63.6 r attenua / Le	-7.38 -7.38 attenu eq Ev	3 33 34 59.3 45.0 52.0 60.2) vening	0.00 0.00 0.00 Leq	Night 53.3 54.2 61.3 62.6 Night	-4.89 -4.99	0.0 0.0 <i>Ldn</i> 61.7 60.3 67.4 69.1 <i>Ldn</i>	00 00 <i>Cr</i>	62.4 60.4 67.4 69.1		

FHWA-RD-77-108 HIGHWAY	NOISE PR		MODEL (CAL	VENO)	- 6/2/2013	
Scenario: First Floor With Wall Road Name: Trilogy Pkwy. Lot No: Independent Living		1	Project Name Job Number Analyst		-	Community
SITE SPECIFIC INPUT DATA			NOISE	MODE		s
Highway Data		Site Cond	litions (Hard	= 10, So	oft = 15)	
Average Daily Traffic (Adt): 27,300 vehicles Peak Hour Percentage: 6.19% Peak Hour Volume: 1,690 vehicles			lium Trucks (2 vy Trucks (3+		10	
Vehicle Speed: 40 mph		Vehicle M	lix			
Near/Far Lane Distance: 48 feet		Vehic	leType	Day	Evening	Night Daily
Site Data			Autos:	75.5%	14.0%	10.5% 92.00
Barrier Height: 0.0 feet		Me	dium Trucks:	48.0%	2.0%	50.0% 3.00
Barrier Type (0-Wall, 1-Berm): 0.0		Н	eavy Trucks:	48.0%	2.0%	50.0% 5.00
Centerline Dist. to Barrier: 154.0 feet		Noise Sou	urce Elevatio	ne (in f	noti	
Centerline Dist. to Observer: 154.0 feet		140/36 301	Autos:	0.000	eel)	
Barrier Distance to Observer: 0.0 feet		Modium	Trucks:	2.297		
Observer Height (Above Pad): 5.0 feet			Trucks:	8.006	Grade Ad	iustment: 0.0
Pad Elevation: 0.0 feet		Tieavy	TTUCKS.	0.000	0/000/10	
Road Elevation: 0.0 feet		Lane Equ	ivalent Dista		feet)	
Barrier Elevation: 0.0 feet			Autos: 15			
Road Grade: 0.0%			Trucks: 15			
		Heavy	Trucks: 15	2.148		
FHWA Noise Model Calculations						
VehicleType REMEL Traffic Flow	Distance	e Finite F	Road Fre	snel	Barrier Atte	en Berm Atter
Autos: 67.36 0.59	-4	1.90	0.00	-4.81	0.0	0.0 0.0
Medium Trucks: 76.31 -14.28	-4	1.90	0.00	-4.89	0.0	0.0 0.0
Heavy Trucks: 81.16 -12.06	-4	1.90	0.00	-5.07	0.0	0.0 0.0
Unmitigated Noise Levels (without Topo and	barrier att	enuation)				
VehicleType Leg Peak Hour Leg Day	Leg	Evening	Leq Night		Ldn	CNEL
Autos: 63.0	63.1	61.8	55	5.8	64.2	2 64
Medium Trucks: 57.1	55.2	47.5	56	6.7	62.8	3 62
Heavy Trucks: 64.2	62.3	54.5	63	3.7	69.9	9 69
Vehicle Noise: 67.1	66.1	62.7	65	5.1	71.6	6 71
Mitigated Noise Levels (with Topo and barrier	[•] attenuati	on)				
Mahiala Tuna I an Daala Haun I an Dau	Leg	Evening	Leq Night		Ldn	CNEL
VehicleType Leq Peak Hour Leq Day			60	5.8	64.2	2 64
Autos: 63.0	63.1	61.8				
Autos: 63.0 Medium Trucks: 57.1	55.2	47.5	56	6.7	62.8	
Autos: 63.0 Medium Trucks: 57.1 Heavy Trucks: 64.2			56		62.8 69.9 71.6	9 69

Tuesday, December 15, 2020

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F	HWA-RD-77-1	08 HIGHWAY	NOISE P	REDIC	TION N	IODE	L (CALVE	ENO)	- 6/2/2013		
Road Nan	io: Second Flo ne: Temescal (lo: Memory Ca	Cyn. Rd.			I	Job N	t Name: 0 lumber: 1 Analyst: E	3032		ommur	hity
SITE	SPECIFIC IN	IPUT DATA				1	NOISE N	IODE	L INPUTS	3	
Highway Data				Site	Cond	itions	(Hard =	10, Sc	oft = 15)		
Average Daily	Traffic (Adt):	27,300 vehicle	s				A	Autos:	10		
Peak Hour	Percentage:	6.19%			Med	ium Ti	ucks (2 A	xles):	10		
Peak H	our Volume:	1,690 vehicle	s		Hea	vy Tru	icks (3+ A	xles):	10		
Ve	hicle Speed:	40 mph		Veh	icle M	ix					
Near/Far La	ne Distance:	48 feet				leTyp	•	Dav	Evening	Night	Daily
Site Data					10/110			75.5%	•	10.5%	
	rrier Height:	0.0 feet			Me			48.0%		50.09	
Barrier Type (0-W		0.0			н	eavy T	rucks:	48.0%	2.0%	50.0%	6 5.00%
	st. to Barrier:	75.0 feet		Nois	50 501	Irco F	levations	(in fe	oof)		
Centerline Dist.	to Observer:	75.0 feet		100.	30 000	Auto		000			
Barrier Distance	to Observer:	0.0 feet			ledium			297			
Observer Height	(Above Pad):	14.0 feet			Heavy				Grade Adj	ustmen	t 0.0
P	ad Elevation:	0.0 feet									
Ro	ad Elevation:	0.0 feet		Lan	e Equ		t Distanc		feet)		
	ier Elevation:	0.0 feet				Auto					
	Road Grade:	0.0%			1edium						
					Heavy	Truck	(s: 71.3	809			
FHWA Noise Mod	el Calculation	s									
VehicleType	REMEL	Traffic Flow	Distan	ce F	inite F	Road	Fresne	e/	Barrier Atte	en Be	rm Atten
Autos:	67.36	0.59		-1.68		0.00	-1	2.43	0.0	00	0.000
Medium Trucks:	76.31	-14.28		-1.65		0.00	-1	2.84	0.0	00	0.000
Heavy Trucks:	81.16	-12.06		-1.61		0.00	-1	3.88	0.0	00	0.000
Unmitigated Nois					- <u> </u>						
VehicleType	Leq Peak Hou	1.7		q Eveni	5	Leq	Night		Ldn		NEL
Autos:	66		66.3		65.0		59.0		67.4		68.1
Medium Trucks:			58.5		50.7		59.9		66.1		66.1
Heavy Trucks: Vehicle Noise:	67	-	65.6 69.4		57.8 65.9		67.0		73.2		73.2
					65.9		68.3		74.8		75.0
Mitigated Noise L						1	Alimbet		1 da		
VehicleType Autos:	Leq Peak Hou 66		66.3	eq Eveni	ng 65.0	Leq	Night 59.0		Ldn 67.4		08.1
Autos: Medium Trucks:	60		66.3 58.5		65.0 50.7		59.0 59.9		67.4		68.1 66.1
Heavy Trucks:	67		58.5 65.6		50.7		59.9 67.0		73.2		73.2
	-										
Vehicle Noise:	70	1.4	69.4		65.9		68.3		74.8		75.0

	WA-RD-77-1	08 HIGHWAY	NOIS	E PRE	DICTION	MODEL	(CALV	ENO)	- 6/2/2013					
Road Name.	: Second Flo : Trilogy Pkw : Memory Ca				Project Name: Glen Ivy Senior Community Job Number: 13032 Analyst: B. Lawson									
SITE S	PECIFIC IN	IPUT DATA			NOISE MODEL INPUTS									
Highway Data					Site Conditions (Hard = 10, Soft = 15)									
Average Daily Tr	raffic (Adt):	27,300 vehicles	3				,	Autos:	10					
Peak Hour P	ercentage:	6.19%			Mea	lium Tru	cks (2 A	xles):	10					
Peak Ho	ur Volume:	1,690 vehicles	3		Heavy Trucks (3+ Axles): 10									
Vehi	icle Speed:	40 mph		ŀ	Vehicle M	lix								
Near/Far Lane	> Distance:	48 feet		ŀ	Vehic	leType		Day	Evening	Night	Daily			
Site Data						A	utos:	75.5%	14.0%	10.5%	92.00			
Barri	ier Height:	0.0 feet	-		Me	dium Tri	ucks:	48.0%	2.0%	50.0%	3.00			
Barrier Type (0-Wal		0.0			н	leavy Tri	ucks:	48.0%	2.0%	50.0%	5.00			
Centerline Dist.	. ,	88.0 feet		ŀ	Noise So	uree Ele	votion	lin fe	ant)					
Centerline Dist. to	Observer:	88.0 feet		ł	Noise Su	Autos		.000	el)					
Barrier Distance to	Observer:	0.0 feet			Medium	n Trucks		.000						
Observer Height (A	bove Pad):	14.0 feet				/ Trucks			Grade Ad	iustment	· 0.0			
Pad	l Elevation:	0.0 feet								uounom	. 0.0			
Road	Elevation:	0.0 feet			Lane Equ				feet)					
	r Elevation:	0.0 feet				Autos								
Ro	oad Grade:	0.0%				n Trucks								
					Heavy	/ Trucks	: 84.6	376						
FHWA Noise Model	Calculation	s		I										
VehicleType	REMEL	Traffic Flow	Dis	tance	Finite F	Road	Fresn	el	Barrier Atte	en Ber	m Atten			
	67.36													
Autos:	07.30	0.59		-2.4	11	0.00	-	12.61	0.0	000	0.00			
Autos: Medium Trucks:	76.31			-2.4 -2.4		0.00 0.00		12.61 12.97	0.0 0.0					
		-14.28			10		-		0.0		0.00			
Medium Trucks: Heavy Trucks:	76.31 81.16	-14.28 -12.06	barrie	-2.4 -2.3	40 37	0.00	-	12.97	0.0	000	0.00			
Medium Trucks: Heavy Trucks: Unmitigated Noise I	76.31 81.16	-14.28 -12.06	-	-2.4 -2.3 er atter	40 37	0.00		12.97	0.0	000	0.00			
Medium Trucks: Heavy Trucks: Unmitigated Noise I	76.31 81.16 Levels (with	-14.28 -12.06 out Topo and r Leq Day	-	-2.4 -2.3 er atter	10 37 nuation)	0.00		12.97 13.85	0.0	000 000 C	0.00 0.00 VEL			
Medium Trucks: Heavy Trucks: Unmitigated Noise L VehicleType L	76.31 81.16 Levels (with eq Peak Hou	-14.28 -12.06 out Topo and r Leq Day 5.5	r	-2.4 -2.3 er atter	10 37 Tuation) Evening	0.00	- - light	12.97	0.0 0.0 Ldn	000 000 C	0.00 0.00 VEL 67			
Medium Trucks: Heavy Trucks: Unmitigated Noise I VehicleType L Autos:	76.31 81.16 Levels (with eq Peak Hou 65	-14.28 -12.06 out Topo and r Leq Day 5.5 0.6	, 65.6	-2.4 -2.3 er atter	nuation) ivening 64.3	0.00	 <i>light</i> 58.3	12.97 13.85	0.0 0.0 <i>Ldn</i> 66.7	000 000 C	0.00 0.00 0.00 VEL 67 65 72			
Medium Trucks: Heavy Trucks: Unmitigated Noise I VehicleType L Autos: Medium Trucks:	76.31 81.16 Levels (with eq Peak Hou 65 59	-14.28 -12.06 out Topo and r Leq Day 5.5 9.6 5.7	, 65.6 57.7	-2.4 -2.3 er atter	10 87 5vening 64.3 50.0	0.00	 <i>light</i> 58.3 59.2	12.97 13.85	0.0 0.0 <i>Ldn</i> 66.7 65.3	000 000 7 3 4	0.00 0.00 VEL 67 65 72			
Medium Trucks: Heavy Trucks: Unmitigated Noise I VehicleType L Autos: Medium Trucks: Heavy Trucks: Vehicle Noise:	76.31 81.16 Levels (with eq Peak Hou 65 59 66 69	-14.28 -12.06 out Topo and ur Leq Day 5.5 0.6 3.7 0.6	, 65.6 57.7 64.8 68.6	-2.4 -2.3 er atter Leq E	10 10 10 10 10 10 10 10 10 10	0.00	 58.3 59.2 66.3	12.97 13.85	0.0 0.0 <i>Ldn</i> 66.7 65.3 72.4	000 000 7 3 4	0.00 0.00 VEL 67 65 72			
Medium Trucks: Heavy Trucks: Unmitigated Noise I VehicleType L Autos: Medium Trucks: Heavy Trucks: Vehicle Noise: Mitigated Noise Lev	76.31 81.16 Levels (with eq Peak Hou 65 59 66 69	-14.28 -12.06 out Topo and r Leq Day 5.5 0.6 5.7 0.6 po and barrier	65.6 57.7 64.8 68.6	-2.4 -2.3 er atter Leq E	10 10 10 10 10 10 10 10 10 10	0.00	 58.3 59.2 66.3 67.6	12.97 13.85	0.0 0.0 66.7 65.3 72.4 74.1 Ldn	000 000 7 3 4 1	0.00 0.00 NEL 67 65 72 74 NEL			
Medium Trucks: Heavy Trucks: Unmitigated Noise I VehicleType L Autos: Medium Trucks: Heavy Trucks: Vehicle Noise Lew VehicleType L Autos:	76.31 81.16 Levels (with eq Peak Hou 65 59 66 69 rels (with To	-14.28 -12.06 out Topo and rr Leq Day 5.5 7.7 6 po and barrier rr Leq Day 5.5	65.6 57.7 64.8 68.6 r atter 65.6	-2.4 -2.3 er atter Leq E	40 37 nuation) (vening 64.3 50.0 57.1 65.2 n) (vening 64.3 65.2 n) (vening 64.3)	0.00 0.00 Leq N	 light 58.3 59.2 66.3 67.6 light 58.3	12.97	0.0 0.0 66.7 65.3 72.4 74.1 <i>Ldn</i> 66.7	000 000 7 3 4 1 7	0.00 0.00 <u>NEL</u> 67 65 72 74 74 <u>NEL</u> 67			
Medium Trucks: Heavy Trucks: Umitigated Noise L Autos: Medium Trucks: Heavy Trucks: Vehicle Noise Lev VehicleType L	76.31 81.16 Levels (with eq Peak Hou 65 59 66 69 69 7els (with To eq Peak Hou 55 59	-14.28 -12.06 out Topo and ir Leq Day 5.5 .6 .7 .7 .6 po and barrier ir Leq Day .5 .5	65.6 57.7 64.8 68.6 r atter 65.6 57.7	-2.4 -2.3 er atter Leq E	10 37 ivening 64.3 50.0 57.1 65.2 n) ivening 64.3 50.0 57.1 65.2 10 10 10 10 10 10 10 10 10 10	0.00 0.00 Leq N	 light 58.3 59.2 66.3 67.6 light 58.3 59.2	12.97	0.0 0.0 <i>Ldn</i> 66.7 72.4 74.1 <i>Ldn</i> 66.7 65.3	000 000 7 3 4 1 7 3	0.00 0.00 <u>NEL</u> 67 65 72 74 74 <u>NEL</u> 67 65			
Medium Trucks: Heavy Trucks: Unmitigated Noise I VehicleType L Autos: Medium Trucks: Heavy Trucks: Vehicle Noise Lew VehicleType L Autos:	76.31 81.16 Levels (with eq Peak Hou 65 59 66 69 rels (with To eq Peak Hou 65	-14.28 -12.06 out Topo and ir Leq Day 5.5 .6 .7 .7 .6 po and barrier ir Leq Day .5 .5	65.6 57.7 64.8 68.6 r atter 65.6	-2.4 -2.3 er atter Leq E	40 37 nuation) (vening 64.3 50.0 57.1 65.2 n) (vening 64.3 (vening 64.3)	0.00 0.00 Leq N	 light 58.3 59.2 66.3 67.6 light 58.3	12.97	0.0 0.0 66.7 65.3 72.4 74.1 <i>Ldn</i> 66.7	000 000 7 3 4 1 7 3	0.00 0.00 <u>VEL</u> 67 65 72 74			

Tuesday, December 15, 2020

Tuesday, December 15, 2020

F	HWA-RD-77-1	08 HIGHWAY	NOISE	PRE	DICTION	MODEL	. (CAL\	/ENO)	- 6/2/2013				
Road Nan	rio: Second Flo ne: Temescal C No: Assisted Liv	yn. Rd.			Project Name: Glen Ivy Senior Community Job Number: 13032 Analyst: B. Lawson								
SITE	SPECIFIC IN	PUT DATA			NOISE MODEL INPUTS								
Highway Data				4	Site Con	ditions	(Hard =	= 10, S	oft = 15)				
Average Daily	Traffic (Adt): 2	27,300 vehicles	6					Autos	10				
Peak Hour	Percentage:	6.19%			Me	dium Tri	icks (2	Axles)	: 10				
Peak H	lour Volume:	1,690 vehicles	6		He	avy Tru	cks (3+	Axles)	: 10				
Ve	hicle Speed:	40 mph		5	Vehicle I	Mix							
Near/Far La	ne Distance:	48 feet		-		icleTvpe		Dav	Evening	Night	Daily		
Site Data					10/1		Autos:	75.5%	•	•	6 92.00%		
					M	edium T		48.09					
	rrier Height:	0.0 feet 0.0				Heavy T		48.09		50.09			
Barrier Type (0-V	ist, to Barrier:	0.0 270.0 feet								00.07	0.007		
Centerline Dist.		270.0 feet		1	Noise So	ource El	evatior	ns (in f	eet)				
Barrier Distance		0.0 feet				Auto		0.000					
Observer Height		14.0 feet			Mediur	n Truck	S.'	2.297					
	ad Elevation:	0.0 feet			Heav	y Truck	S.'	8.006	Grade Ad	justmen	t: 0.0		
	ad Elevation:	0.0 feet		5	Lane Eq	uivalent	Distar	ce (in	feet)				
	ier Elevation:	0.0 feet		F			s: 269						
	Road Grade:	0.0%			Mediu	n Truck							
		0.070				y Truck							
FHWA Noise Mod	el Calculation:	5											
VehicleType	REMEL	Traffic Flow	Dista	ance	Finite	Road	Fres	nel	Barrier Att	en Be	rm Atten		
Autos:	67.36	0.59		-7.3	8	0.00		-13.34	0.0	000	0.000		
Medium Trucks:	76.31	-14.28		-7.3	8	0.00		-13.46	0.0	000	0.000		
Heavy Trucks:	81.16	-12.06		-7.3	8	0.00		-13.75	0.0	000	0.000		
Unmitigated Nois	e Levels (with	out Topo and	barrier	atten	uation)								
VehicleType	Leq Peak Hou	r Leq Day	1	Leq E	vening	Leq	Night		Ldn	0	NEL		
Autos:	60	.6	60.6		59.3		53.	3	61.	7	62.4		
Medium Trucks:	54	.7	52.8		45.0		54.	2	60.	3	60.4		
Heavy Trucks:	61	.7	59.8		52.0		61.	3	67.4	4	67.4		
Vehicle Noise:	64	.7	63.6		60.2		62.	6	69.	1	69.2		
Mitigated Noise L	evels (with To	po and barrier	attenı	lation	I)								
VehicleType	Leq Peak Hou	r Leq Day		Leq E	vening	Leq	Night		Ldn	-	NEL		
Autos:	60	.6	60.6		59.3		53.	3	61.	7	62.4		
Medium Trucks:	54	.7	52.8		45.0		54.	2	60.	3	60.4		
Heavy Trucks:	61	.7	59.8		52.0		61.	3	67.4	4	67.4		
Vehicle Noise:	64	.7	63.6		60.2		62.	6	69.	1	69.2		

F	HWA-RD-77-1	108 HIGHWAY	NOISE	PRED		IODE	L (CALVI	ENO)	- 6/2/2013					
Road Nan	rio: Second Flo ne: Trilogy Pkw lo: Independer	vy.			Project Name: Glen Ivy Senior Community Job Number: 13032 Analyst: B. Lawson									
	SPECIFIC IN	IPUT DATA			NOISE MODEL INPUTS Site Conditions (Hard = 10, Soft = 15)									
Highway Data				S	ite Cond	itions	•		,					
• •	, ,	27,300 vehicle	S			·		Autos:						
	Percentage: lour Volume:	6.19% 1.690 vehicle					ucks (2 A cks (3+ A	/						
	hicle Speed:	40 mph	5				CN3 (3+ 7	ысы).	10					
	ne Distance:	48 feet		V	ehicle M			_						
Site Data				Venic	leType		Day 75.5%	Evening 14.0%	Night	Daily 92.00				
				Me			48.0%		50.0%					
Ba Barrier Type (0-V	rrier Height:	0.0 feet 0.0						48.0%		50.0%				
	ist to Barrier:	154.0 feet												
Centerline Dist.		154.0 feet		N	loise Sou				eet)					
Barrier Distance	to Observer:	0.0 feet			Medium	Auto	o	.000						
Observer Height	(Above Pad):	14.0 feet			Heavy			.006	Grade Ad	iustment	0.0			
-	ad Elevation:	0.0 feet												
	ad Elevation:	0.0 feet	L	ane Equi				feet)						
	ier Elevation: Road Grade:	0.0 feet 0.0%			Madium		s: 152. s: 152.							
	Road Grade:	0.0%					s. 152.: s: 152.:							
FHWA Noise Mod	ol Calculation	c												
VehicleType	REMEL	Traffic Flow	Dista	ance	Finite R	load	Fresn	el	Barrier Att	en Ber	m Atten			
Autos:	67.36	0.59		-4.92		0.00	-	13.08	0.0	000	0.00			
Medium Trucks:	76.31	-14.28		-4.91		0.00	-	13.28	0.0	000	0.00			
Heavy Trucks:	81.16	-12.06		-4.90		0.00	-	13.79	0.0	000	0.00			
Unmitigated Nois			barrier	attenu	uation)									
VehicleType	Leq Peak Hou			Leq Ev	•	Leq	Night		Ldn		NEL			
Autos:	63		63.1		61.8		55.8		64.2	-	64			
Medium Trucks: Heavy Trucks:			55.2 62.3		47.4 54.5		56.7 63.7		62.8 69.9	-	62 69			
Vehicle Noise:	-		66.1		62.7		65.1		71.5	-	71			
	0.						03.1		71.3	,	/ 1			
Mitigated Noise L VehicleType	Lea Peak Hou		-	Lea Eve		1.00	Night		Ldn	0	NEL			
Autos			63.1	LUYLN	61.8	Ley	55.8		64.2		64			
Medium Trucks:			55.2		47.4		56.7		62.8	-	62			
Heavy Trucks:			62.3		54.5		63.7		69.9	9	69.			

Tuesday, December 15, 2020

APPENDIX 10.1:

CADNAA CONSTRUCTION NOISE MODEL INPUTS

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13032 - Glen Ivy Senior Community

CadnaA Noise Prediction Model: 13032-02_Construction.cna Date: 13.12.20 Analyst: B. Lawson

Calculation Configuration

Configuration										
Parameter	Value									
General										
Country	(user defined)									
Max. Error (dB)	0.00									
Max. Search Radius (#(Unit,LEN))	2000.01									
Min. Dist Src to Rcvr	0.00									
Partition										
Raster Factor	0.50									
Max. Length of Section (#(Unit,LEN))	999.99									
Min. Length of Section (#(Unit,LEN))	1.01									
Min. Length of Section (%)	0.00									
Proj. Line Sources	On									
Proj. Area Sources	On									
Ref. Time										
Reference Time Day (min)	960.00									
Reference Time Night (min)	480.00									
Daytime Penalty (dB)	0.00									
Recr. Time Penalty (dB)	5.00									
Night-time Penalty (dB)	10.00									
DTM	10.00									
Standard Height (m)	0.00									
Model of Terrain	Triangulation									
Reflection	indiguation									
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	0.00									
Wind Speed for Dir. (#(Unit,SPEED))	3.0									
Roads (RLS-90)										
Strictly acc. to RLS-90										
Railways (FTA/FRA)										
Aircraft (???)										
Strictly acc. to AzB										
50.001 000. 10 MLD										

Receiver Noise Levels

Name	м.	ID		Level Lr		Lir	nit. Valı	ue		Land	Use	Height		Co		
			Day	Night	CNEL	Day	Night	CNEL	Туре	Auto	Noise Type			Х	Y	Z
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)				(ft)		(ft)	(ft)	(ft)
RECEIVERS		R1	61.9	61.9	68.6	80.0	0.0	0.0				5.00	а	6183958.72	2224543.08	5.00
RECEIVERS		R2	66.7	66.7	73.3	80.0	0.0	0.0				5.00	а	6186255.60	2224231.45	5.00
RECEIVERS		R3	72.4	72.4	79.0	80.0	0.0	0.0				5.00	а	6185409.24	2223921.12	5.00
RECEIVERS		R3	72.4	72.4	79.1	80.0	0.0	0.0				5.00	а	6184993.32	2224168.60	5.00

Area Source(s)

Name	М.	ID	R	Result. PWL			Result. PWL"			Lw / L	i	Op	Height		
			Day	Evening	Night	Day	Evening	Night	Туре	Value	norm.	Day	Special	Night	(ft)
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)	
SITEBOUNDARY		CONSTRUCTION	121.4	121.4	121.4	75.3	75.3	75.3	Lw"	75.3					8

Name	ŀ	lei	ght			Coordinat	es	
	Begin		End		х	у	z	Ground
	(ft)		(ft)		(ft)	(ft)	(ft)	(ft)
SITEBOUNDARY	8.00	a			6184962.44	2224564.03	8.00	0.00
					6185194.69	2224614.68	8.00	0.00
					6185295.12	2224641.67	8.00	0.00
					6185445.89	2224691.16	8.00	0.00
					6185627.61	2224752.21	8.00	0.00
					6185656.35	2224738.36	8.00	0.00
					6185862.21	2224185.24	8.00	0.00

Name	н	leig	ght		Coordinates							
	Begin End				х	у	z	Ground				
	(ft)		(ft)		(ft)	(ft)	(ft)	(ft)				
					6185336.94	2223989.40	8.00	0.00				
					6185037.38	2224251.65	8.00	0.00				

Barrier(s)

Name	М.	ID	Abso	rption	Z-Ext.	Canti	lever	Hei	ght	Coordinates					
			left	right		horz.	vert.	Begin	End	х	У	z	Ground		
					(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)		

Building(s)

[Name	М.	ID	RB	Residents	Absorption	Height	Coordinates							
							Begin	х	x y z Groun						
							(ft)	(ft)	(ft)	(ft)	(ft)				