

Bridge Point Rancho Cucamonga

NOISE IMPACT ANALYSIS CITY OF RANCHO CUCAMONGA

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13349-24 Noise Study



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LIST OF ABBREVIATED TERMS

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



EXECUTIVE SUMMARY

Urban Crossroads, Inc. has prepared this noise study to determine the potential noise impacts and the necessary noise mitigation measures, if any, for the proposed Bridge Point Rancho Cucamonga ("Project"). The Project site is located north of 4th Street and west of Etiwanda Avenue in the City of Rancho Cucamonga. The Project involves the construction and operation of two high-cube warehouse buildings (Building 1 and Building 2) with a combined building area of approximately 2,152,500 sf. For purposes of analysis, the Project is proposed to consist of 1,937,250 square feet of High-Cube Transload and Short-Term Storage Warehouse, and 215,250 square feet of High-Cube Cold Storage Warehouse.

The results of this Bridge Point Rancho Cucamonga Noise Impact Analysis are summarized below based on the significance criteria in Section 6 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. The summary of impacts shows that construction noise and concrete crushing may result in potentially significant impacts. However, these potential impacts will be reduced to less than significant with the recommended mitigation measures. All other impacts are considered less than significant without mitigation.

Analysia	Report	Significance Findings		
Anarysis	Section	Unmitigated	Mitigated	
Off-Site Traffic Noise	7	Less Than Significant	-	
Operational Noise	9	Less Than Significant	-	
Construction Noise	10	Potentially Significant	Less Than Significant	
Construction Vibration Nighttime Concrete Pour		Less Than Significant	-	
		Less Than Significant	-	
Concrete Crushing		Potentially Significant	Less Than Significant	

TABLE ES-1: SUMMARY OF CEQA SIGNIFICANCE FINDINGS

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1 INTRODUCTION

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

1.1 SITE LOCATION

The Project site is located north of 4th Street and west of Etiwanda Avenue at 12322 and 12434 4th Street in the City of Rancho Cucamonga. The Project site is located approximately 3 miles northeast of the Ontario International Airport (ONT) and roughly 0.5 miles east of Interstate 15. The Project location map is shown on Exhibit 1-A.

1.2 PROJECT DESCRIPTION

Exhibit 1-B illustrates a preliminary site plan for the Project. The Project is anticipated to be developed within a single phase with an anticipated opening year of 2022. The proposed Project consists of the following uses:

- 1,957,500 square feet of High-Cube Fulfillment Center (Non-Sort) Warehouse (90% of the total square footage of Building 1 and Building 2)
- 217,500 square feet of High-Cube Cold Storage Warehouse (10% of the total square footage of Building 1 and Building 2)

The proposed Project will replace existing operational uses, which consists of 1,431,000 square feet of High-Cube Transload Short-Term Storage Warehouse (Without Cold Storage) use and 23,240 square feet of Free-Standing Discount Store use. The Project includes a planned 8-foothigh screen wall surrounding the northern and eastern loading dock areas.

The on-site Project-related noise sources are expected to include: outdoor loading dock activity, truck movements, roof-top air conditioning units, and trash enclosure activity. This noise analysis is intended to describe noise level impacts associated with the expected typical operational activities at the Project site. This report assumes the Project will operate 24-hours daily for seven days per week. At the time this noise analysis was prepared, the future tenants of the proposed Project were unknown however any tenant would operate consistent with a high-cube warehouse.





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			
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)	VACUUM CLEANER AT 3m (10 ft) 70		SPEECH INTERFERENCE	
HEAVY TRAFFIC AT 90m (300 ft)	NORMAL SPEECH AT 1m (3 ft) 60				
QUIET URBAN DAYTIME	LARGE BUSINESS OFFICE	50	MODERATE	CLEED	
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		NO EFFECT	
LOWEST THRESHOLD OF HUMAN HEARING	LOWEST THRESHOLD OF HUMAN HEARING	0			

EXHIBIT 2-A: TYPICAL NOISE LEVELS

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

2.1 RANGE OF NOISE

Since the range of intensities that the human ear can detect is so large, the scale frequently used to measure intensity is a scale based on multiples of 10, the logarithmic scale. The scale for measuring intensity is the decibel scale. Each interval of 10 decibels indicates a sound energy ten times greater than before, which is perceived by the human ear as being roughly twice as loud (2). The most common sounds vary between 40 dBA (very quiet) to 100 dBA (very loud). Normal conversation at three feet is roughly at 60 dBA, while loud jet engine noises equate to 110 dBA



at approximately 100 feet, which can cause serious discomfort (3). Another important aspect of noise is the duration of the sound and the way it is described and distributed in time.

2.2 NOISE DESCRIPTORS

Environmental noise descriptors are generally based on averages, rather than instantaneous, noise levels. The most used 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 (typically one hour) and is commonly used to describe the "average" noise levels within the environment.

To describe the time-varying character of environmental noise, the City of Rancho Cucamonga relies on the L₂₅, L₁₇, L₈ and L_{max}, percentile noise levels to describe the stationary source noise level limits. The percentile noise descriptors are the noise levels equaled or exceeded during 25 percent, 17 percent, and 8 percent of a stated time. Sound levels associated with the L₈ typically describe transient or short-term events, while levels associated with the L₂₅ describe the base or typical noise conditions. The City of Rancho Cucamonga relies on the percentile noise levels to describe the stationary source noise level limits. While the L₂₅ describes the noise levels occurring 25 percent of the time, the L_{eq} accounts for the total energy (average) observed for the entire hour.

Peak hour or average noise levels, while useful, do not completely describe a given noise environment, however. Noise levels lower than peak hour may be disturbing if they occur during times when quiet is most desirable, namely evening and nighttime (sleeping) hours. To account for this, the Community Noise Equivalent Level (CNEL), representing a composite 24-hour noise level is utilized. The CNEL is the weighted average of the intensity of a sound, with corrections for time of day, and averaged over 24 hours. The time-of-day corrections require the addition of 5 decibels to dBA L_{eq} sound levels in the evening from 7:00 p.m. to 10:00 p.m., and the addition of 10 decibels to dBA L_{eq} sound levels at night between 10:00 p.m. and 7:00 a.m. These additions are made to account for the noise sensitive time periods during the evening and night hours when sound appears louder. CNEL does not represent the actual sound level heard at any time, but rather represents the total sound exposure. The City of Rancho Cucamonga 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. Based on guidance from the U.S. Department of Transportation, Federal Highway Administration (FHWA), Office of Environment and Planning, Noise and Air Quality Branch, the way noise reduces with distance depends on the following factors.

2.3.1 GEOMETRIC SPREADING

Sound from a localized source (i.e., a stationary point source) propagates uniformly outward in a spherical pattern. The sound level attenuates (or decreases) at a rate of 6 dB for each doubling



of distance from a point source. Highways consist of several localized noise sources on a defined path and hence can be treated as a line source, which approximates the effect of several point sources. Noise from a line source propagates outward in a cylindrical pattern, often referred to as cylindrical spreading. Sound levels attenuate at a rate of 3 dB for each doubling of distance from a line source (2).

2.3.2 GROUND ABSORPTION

The propagation path of noise from a highway to a receiver is usually very close to the ground. Noise attenuation from ground absorption and reflective wave canceling adds to the attenuation associated with geometric spreading. Traditionally, the excess attenuation has also been expressed in terms of attenuation per doubling of distance. This approximation is usually sufficiently accurate for distances of less than 200 feet. For acoustically hard sites (i.e., sites with a reflective surface between the source and the receiver, such as a parking lot or body of water), no excess ground attenuation is assumed. For acoustically absorptive or soft sites (i.e., those sites with an absorptive ground surface between the source and the receiver such as soft dirt, grass, or scattered bushes and trees), an excess ground attenuation value of 1.5 dB per doubling of distance is normally assumed. When added to the cylindrical spreading, the excess ground attenuation results in an overall drop-off rate of 4.5 dB per doubling of distance from a line source (4).

2.3.3 ATMOSPHERIC EFFECTS

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

2.3.4 SHIELDING

A large object or barrier in the path between a noise source and a receiver can substantially attenuate noise levels at the receiver. The amount of attenuation provided by shielding depends on the size of the object and the frequency content of the noise source. Shielding by trees and other such vegetation typically only has an "out of sight, out of mind" effect. That is, the perception of noise impact tends to decrease when vegetation blocks the line-of-sight to nearest 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 (4).

2.3.5 REFLECTION

Field studies conducted by the FHWA have shown that the reflection from barriers and buildings does not substantially increase noise levels (4). If all the noise striking a structure was reflected back to a given receiving point, the increase would be theoretically limited to 3 dBA. Further, not



all the acoustical energy is reflected back to same point. Some of the energy would go over the structure, some is reflected to points other than the given receiving point, some is scattered by ground coverings (e.g., grass and other plants), and some is blocked by intervening structures and/or obstacles (e.g., the noise source itself). Additionally, some of the reflected energy is lost due to the longer path that the noise must travel. FHWA measurements made to quantify reflective increases in traffic noise have not shown an increase of greater than 1-2 dBA; an increase that is not perceptible to the average human ear.

2.4 NOISE CONTROL

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

2.5 Noise Barrier Attenuation

Effective noise barriers can reduce noise levels by up to 10 to 15 dBA, cutting the loudness of traffic noise in half. A noise barrier is most effective when placed close to the noise source or receiver. Noise barriers, however, do have limitations. For a noise barrier to work, it must be high enough and long enough to block the path of the noise source (4).

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. 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, recreation areas or buildings where people normally sleep. Although the West Valley Detention Center is a temporary holding facility, there are beds at this facility for temporary stays. Therefore, as a conservative measure, the individuals held at the West Valley Detention Center are considered sensitive receptors for the purposes of this analysis.

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 (5).



2.7 COMMUNITY RESPONSE TO NOISE

Community responses to noise varies 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 (6). 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 (6). 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*. (4)





2.8 VIBRATION

Per the Federal Transit Administration (FTA) *Transit Noise and Vibration Impact Assessment Manual* (7), vibration is the periodic oscillation of a medium or object. The rumbling sound caused by the vibration of room surfaces is called structure-borne noise. Sources of ground-borne vibrations include natural phenomena (e.g., earthquakes, volcanic eruptions, sea waves, landslides) or human-made causes (e.g., explosions, machinery, traffic, trains, construction equipment). Vibration sources may be continuous, such as factory machinery, or transient, such as explosions. As is the case with airborne sound, ground-borne vibrations may be described by amplitude and frequency.



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

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





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

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

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



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3 REGULATORY SETTING

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

3.1 STATE OF CALIFORNIA NOISE REQUIREMENTS

The State of California regulates freeway noise, sets standards for sound transmission, provides occupational noise control criteria, identifies noise standards, and provides guidance for local land use compatibility. State law requires that each county and city adopt a General Plan that includes a Noise Element which is to be prepared per guidelines adopted by the Governor's Office of Planning and Research (OPR) (8). The purpose of the Noise Element is to *limit the exposure of the community to excessive noise levels*. In addition, the California Environmental Quality Act (CEQA) requires that all known environmental effects of a project be analyzed, including environmental noise impacts.

3.2 STATE OF CALIFORNIA GREEN BUILDING STANDARDS CODE

The State of California's Green Building Standards Code contains mandatory measures for nonresidential building construction in Section 5.507 on Environmental Comfort (9). These noise standards are applied to new construction in California for controlling interior noise levels resulting from exterior noise sources. The regulations specify that acoustical studies must be prepared when non-residential structures are developed in areas where the exterior noise levels exceed 65 dBA CNEL, such as within a noise contour of an airport, freeway, railroad, and other areas where noise contours are not readily available. If the development falls within an airport or freeway 65 dBA CNEL noise contour, the combined sound transmission class (STC) rating of the wall and roof-ceiling assemblies must be at least 50. For those developments in areas where noise contours are not readily available and the noise level exceeds 65 dBA L_{eq} for any hour of operation, a wall and roof-ceiling combined STC rating of 45, and exterior windows with a minimum STC rating of 40 are required (Section 5.507.4.1).



3.3 CITY OF RANCHO CUCAMONGA PUBLIC HEALTH AND SAFETY ELEMENT

The City of Rancho Cucamonga has adopted a Public Health and Safety Element of the General Plan to, among other purposes, minimize noise impacts on the community and to coordinate with surrounding jurisdictions and other entities regarding noise control (10). The Public Health and Safety Element identifies noise-sensitive land uses and establishes compatibility guidelines for land use and noise. In addition, the Public Health and Safety Element identifies goals and policies to minimize the impacts of excessive noise levels throughout the community. The noise-related Public Health and Safety Element goals are as follows:

- PS-13: Minimize the impacts of excessive noise levels throughout the community and adopt appropriate noise level requirements for all land uses.
- PS-14: Minimize the impacts of transportation-related noise.

The noise criteria identified in the City of Rancho Cucamonga Public Health and Safety Element (Figure PS-8) are guidelines to evaluate the land use compatibility of transportation-related noise. The compatibility criteria, shown on Exhibit 3-A, provides the City with a planning tool to gauge the compatibility of land uses relative to existing and future exterior noise levels.

The Noise Compatibility Matrix describes categories of compatibility and not specific noise standards. The Project includes industrial (warehouse) land use which is considered *normally acceptable* with exterior noise levels of up to 75 dBA CNEL and considered *conditionally acceptable* with exterior noise levels approaching 80 dBA CNEL. For *conditionally acceptable* exterior noise levels, *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. Outdoor environment will seem noisy* (10).





EXHIBIT 3-A: NOISE COMPATIBILITY MATRIX

Normally Acceptable

Specified land use is satisfactory based upon the assumption that any buildings involved are of normal conventional construction without any special noise insulation requirements.

Conditionally Acceptable

New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features are included in the design. Conventional construction but with closed windows and fresh air supply systems or air conditioning will normally suffice. Outdoor environment will seem noisy.

Normally Unacceptable

New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made with needed noise insulation features included in the design. Outdoor areas must be shielded.

Clearly Unacceptable

New construction or development should generally not be undertaken. Construction costs to make the indoor environment acceptable would be prohibitive and the outdoor environment would not be usable.



3.4 OPERATIONAL NOISE STANDARDS

To analyze noise impacts originating from a designated fixed location or private property such as the Bridge Point Rancho Cucamonga Project, operational source noise such as the expected outdoor loading dock activity, truck movements, roof-top air conditioning units, and trash enclosure activity are typically evaluated against standards established under a City's Municipal Code. For the City of Rancho Cucamonga, however, the operational noise standards are found in the Development Code.

The City of Rancho Cucamonga Development Code, Chapter 17.66 *Performance Standards*, Section 17.66.050 *Noise Standards*, contains the base exterior and interior noise level limits for residential (Noise Zone 1) and exterior noise level limits for all commercial (Noise Zone 2) land uses, as shown on Table 3-1. To control unnecessary, excessive, and annoying noise, the City of Rancho Cucamonga Municipal Code, Section 17.66.050[C][1] identifies the following operational exterior noise level limits. *It shall be unlawful for any person at any location within the city to create any noise or allow the creation of any noise on the property owned, leased, occupied, or otherwise controlled by such person, which causes the noise level when measured on the property line of any other property to exceed the basic noise level as adjusted below:*

- a. Basic noise level for a cumulative period of not more than 15 minutes in any one hour; or
- b. Basic noise level plus five dBA for a cumulative period of not more than ten minutes in any one hour; or
- c. Basic noise level plus 14 dBA for a cumulative period of not more than five minutes in any one hour; or
- d. Basic noise level plus 15 dBA at any time.

Table 17.66.050-1 *Residential Noise Limits* of the Development Code identifies a daytime (7:00 a.m. to 10:00 p.m.) base exterior noise level standard of 65 dBA, and a nighttime (10:00 p.m. to 7:00 a.m.) base exterior noise level standard of 60 dBA for residential land uses. In addition, Table 17.66.050-1 identifies a daytime base interior noise level standard of 50 dBA and a nighttime base interior noise level standard of 45 dBA for residential land uses. However, since typical building construction provides a minimum 25 dBA noise reduction with "windows closed", project related noise levels that comply with the exterior noise level limits generally satisfy the interior noise level limits. Section 17.66.050[G] identifies a daytime (10:00 p.m. to 7:00 a.m.) base exterior noise level standard of 70 dBA, and a nighttime (10:00 p.m. to 7:00 a.m.) base exterior noise level standard of 65 dBA for commercial and office properties. No base noise level adjustments or interior noise levels standards are identified in Section 17.66.050[G] for commercial properties.

Section 17.66.110[A][2] outlines the Class B performance standards for industrial activities within the General Industrial zoning district. The performance standards are designed to protect uses on adjoining sites from effects which could adversely affect their functional and economic viability. According to Table 17.66.110, Project related exterior operational noise levels from Class B General Industrial uses shall not exceed 80 dBA anywhere on the lot or 65 dBA at the



residential property line. Noise caused by motors vehicles and trains is exempted from this standard. The residential property line performance standard applies to the property line of any noise sensitive land use including the nearby West Valley Detention Center. The City of Rancho Cucamonga Development Code Performance Standards for noise are shown on Table 3-1 and included in Appendix 3.1.

		Exterior Noise Standards (dBA) ¹				
Receiving Land Use	Time Period	L ₂₅ (15 mins)	L ₁₇ (10 mins)	L ₈ (5 mins)	L _{max} (0 min)	
Residential	Daytime	65	70	79	80	
(Noise Zone 1)	Nighttime	60	65	74	75	
All Commercial	Daytime	70	_2	_2	_2	
(Noise Zone 2)	Nighttime	65	_2	_2	_2	

TABLE 3-1: OPERATIONAL NOISE STANDARDS

¹ City of Rancho Cucamonga Development Code, Section 17.66.050 Noise Standards (Appendix 3.1).

² No base noise level adjustments are identified in Section 17.66.050[G] for commercial land use.

The percent noise level is the level exceeded "n" percent of the time during the measurement period. L_{25} is the noise level exceeded 25% of the time. "Daytime" = 7:00 a.m. to 10:00 p.m.; "Nighttime" = 10:00 p.m. to 7:00 a.m.

The City of Rancho Cucamonga percentile noise descriptors are provided to ensure that the duration of the noise source is fully considered. However, due to the relatively constant intensity of the Project operational activities, the L_{25} (base exterior noise level limit) or the average L_{eq} noise level metrics best describes the outdoor loading dock activity, truck movements, roof-top air conditioning units, and trash enclosure activity. The L_{eq} noise level metric accounts for noise fluctuations over time by averaging the louder and quieter events and giving more weight to the louder events. In addition, a review of the existing ambient noise level measurements shows that the L_{eq} is generally greater than or equal to the L_{25} . Therefore, this noise study conservatively relies on the average L_{eq} sound level limits to describe the Project operational noise levels.

3.5 CONSTRUCTION NOISE STANDARDS

To control noise impacts associated with the construction of the proposed Project the City of Rancho Cucamonga has established limits to the hours of construction and noise levels. According to Section 17.66.050[D][4] of the City of Rancho Cucamonga Development Code the following activities are exempt from the provisions of the noise standards: (11) *Noise sources associated with, or vibration created by, construction, repair, remodeling, or grading of any real property or during authorized seismic surveys, provided said activities:*

- a. When adjacent to a residential land use, school, church or similar type of use, the noise generating activity does not take place between the hours of 8:00 p.m. and 7:00 a.m. on weekdays, including Saturday, or at any time on Sunday or a national holiday, and provided that noise levels created do not exceed the base noise level standard of 65 dBA when measured at the adjacent property line.
- b. When adjacent to a commercial or industrial use, the noise generating activity does not take place between the hours of 10:00 p.m. and 6:00 a.m. on weekdays, including Saturday and



Sunday, and provided noise levels created do not exceed the standards of 70 dBA at the adjacent property line.

If the Project demonstrates compliance with the standards for both types of uses, the construction noise level impacts are considered exempt from the noise standards. The City of Rancho Cucamonga Development Code Noise Standards for construction activities are shown on Table 3-2 and included in Appendix 3.1.

City	Receiving Land Use	Permitted Hours of Construction Activity	Construction Noise Level Standard (dBA Leq) ²
Rancho	Residential, School, & Church	7:00 a.m. to 8:00 p.m. Monday to Saturday; no activity on Sundays or national holidays	65
Cucamonga ¹	Commercial or Industrial	6:00 a.m. to 10:00 p.m. Monday to Saturday; no activity on Sundays or national holidays	70

TABLE 3-2: CONSTRUCTION NOISE STANDARDS

¹ City of Rancho Cucamonga Development Code, Section 17.66.050[D][4] Special Exclusions (Appendix 3.1). ² When measured at the adjacent property line.

3.6 CONSTRUCTION VIBRATION STANDARDS

The City of Rancho Cucamonga Development Code, Section 17.66.070, identifies the City's vibration standards. However, Section 17.66.070[D] indicates that vibrations from temporary construction/demolition and vehicles that leave the subject parcel (e.g., trucks, trains, and aircraft) are exempt from the provisions of this section (11). Therefore, according to Section 17.66.070[D] construction/demolition and vehicle vibration activity associated with construction activity is considered exempt from the vibration standards of the City of Rancho Cucamonga. In addition to Development Code Section 17.66.070[D], the City of Rancho Cucamonga has identified vibration performance standards for Class B industrial activities within Section 17.66.110[A][2]. According to Table 17.66.110, all uses shall be operated so as not to generate vibration discernible without instruments by the average persons beyond the lot upon which the source is located. Vibration caused by motor vehicles, trains, and temporary construction or demolition is exempted from this standard.

Since the City of Rancho Cucamonga does not identify specific construction vibration level limits, this analysis relies on the Federal Transit Administration (FTA) methodology for the purpose of analyzing construction vibration impacts from the proposed project. The FTA *Transit Noise and Vibration Impact Assessment Manual* general vibration assessment methodology provides guidelines for the maximum-acceptable infrequent event vibration criteria for different types of land uses. These guidelines allow 90 VdB for industrial use, 84 VdB for office use and 78 VdB for daytime residential uses and 72 VdB for nighttime uses in buildings where people normally sleep (7).



3.7 AIRPORT LAND USE COMPATIBILITY

The Project site is located approximately 3 miles northeast of the Ontario International Airport (ONT). This places the Project site within the ONT Airport Influence Area according to Policy Map 2-1 of the *Ontario International Airport Land Use Compatibility Plan (ONT ALUCP)*. The ONT ALUCP was amended July 2018 to promote compatibility between airport and the land uses that surround it (12). Since the Project site is located within the ONT Airport Influence Area, the Project is subject to the Noise Criteria established on Table 2-3 in the ONT ALUCP. As shown on Exhibit 3-B, the Project site is located within the ONT Airport Influence Area but outside the 60 dBA CNEL airport noise impact zone consistent with Policy Map 2-3. According to Table 2-3 of the ONT ALUCP, industrial land uses located outside the 60 dBA CNEL noise level contours of ONT, such as the Project, are considered *normally compatible land use*. For *normally compatible land use*, either the activities associated with the land use are inherently noisy or standard construction methods will sufficiently attenuate exterior noise to an acceptable indoor community noise equivalent level (CNEL).





EXHIBIT 3-B: ONT FUTURE AIRPORT NOISE CONTOURS

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75 dBA CNEL Noise Contour

4 EXISTING NOISE LEVEL MEASUREMENTS

To assess the existing noise level environment, 24-hour noise level measurements were taken at four 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 4-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, April 22, 2020 and Tuesday, September 29, 2020. Appendix 4.1 includes study area photos.

These measurements represent background ambient noise conditions during the mandatory State of California stay at home orders due to the Covid-19 pandemic. Based on a comparison of noise level measurements taken in December 2019, we were able to estimate a 2.5 dBA L_{eq} reduction in noise levels due to the stay-at-home order. Therefore, the noise levels presented below conservatively overstate the relative project noise level increases to compensate for the lower ambient noise level measurements.

4.1 MEASUREMENT PROCEDURE AND CRITERIA

To describe the existing noise environment, the hourly noise levels were measured during 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 (13).

4.2 NOISE MEASUREMENT LOCATIONS

The long-term noise level measurements were positioned as close to the nearest noise-sensitive receiver locations as possible to assess the existing ambient hourly noise levels surrounding the Project site. Both Caltrans and the FTA recognize that it is not reasonable to collect noise level measurements that can fully represent every part of a private yard, patio, deck, or balcony normally used for human activity when estimating impacts for new development projects. This is demonstrated in the Caltrans general site location guidelines which indicate that, *sites must be free of noise contamination by sources other than sources of interest. Avoid sites located near sources such as barking dogs, lawnmowers, pool pumps, and air conditioners unless it is the express intent of the analyst to measure these sources (2). Further, FTA guidance states, that it is not necessary nor recommended that existing noise exposure be determined by measuring at every noise-sensitive location in the project area. Rather, the recommended approach is to characterize the noise environment for clusters of sites based on measurements or estimates at representative locations in the community (7).*





EXHIBIT 4-A: NOISE MEASUREMENT LOCATIONS

Site Boundary

JRBAN CROSSROADS

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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 (7). 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.

4.3 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 4.2 provides a summary of the existing hourly ambient noise levels described below.

Loootion1	Receiving	Description	Noise Leve	l (dBA L _{eq})²	CNICI
Location	Use	Description	Daytime	Nighttime	CNEL
L1	Church	Located northwest of the Project site near 6th Street by the JKI Miracle Center Christian Church at 12120 6th Street.	59.6	56.1	63.6
L2	Utility Located east of the Project site on 6th Street by Chino Basin Municipal at 12811 6th Street.		59.7	61.3	67.6
L3	Hotel	Located southwest of the Project site by Rochester Hotel Avenue near Hyatt Place Ontario at 4760 E Mills Circle.		62.7	69.6
L4	Hotel	Located west of the Project site by the Courtyard by Marriott Ontario 11525 Mission Vista Drive.		56.8	63.0
L5	L5 Detention Center L5 Center Located near northeastern boundary of the Project site near the West Valley Detention Center at 9500 Etiwanda Avenue.		55.6	61.2	67.2
L6 Detention Center Center Located near the southeastern boundary of the Project site by the West Valley Detention Center at 9500 Etiwanda Avenue.		53.5	54.6	61.1	

 TABLE 4-1: 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.



Table 4-1 provides the (energy or logarithmic average) hourly noise levels used to describe the daytime and nighttime ambient conditions and the calculated 24-hour CNEL. 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 4.2 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. This includes the auto and heavy truck activities on study area roadway segments near the noise level measurement locations.



5 SENSITIVE RECEIVER LOCATIONS

To assess the potential for long-term operational and short-term construction noise impacts, sensitive receiver locations identified below and shown on Exhibit 4-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, recreation areas or buildings where people normally sleep. Although the nearby West Valley Detention Center is a temporary holding facility, there are beds at this facility for temporary stays. Therefore, as a conservative measure, the individuals held at the West Valley Detention Center are considered sensitive receptors for the purposes of this analysis.

Moderately noise-sensitive land uses typically include multi-family dwellings, hotels, motels, dormitories, out-patient clinics, cemeteries, golf courses, country clubs, athletic/tennis clubs, and equestrian clubs. Land uses that are considered relatively insensitive to noise include business, commercial, and professional developments. Land uses that are typically not affected by noise include: industrial, manufacturing, utilities, agriculture, undeveloped land, parking lots, warehousing, liquid and solid waste facilities, salvage yards, and transit terminals.

To describe the potential off-site Project noise levels, four receiver locations in the vicinity of the Project site were identified. A review of the study area shows that the Project site is located within an area developed for industrial use including the neighboring San Bernardino County – West Valley Detention Center. However, for the purpose this analysis the individuals held at the West Valley Detention Center and the temporary visitors at the Hyatt Place and Courtyard By Marriott Hotels are considered as noise sensitive receivers.

- R1: Location R1 represents the noise sensitive JKI Miracle Center | Christian Church at 12120 6th Street, approximately 1,658 feet northwest of the Project site. Receiver R1 is placed at the building façade. A 24-hour noise measurement was taken near this location, L1, to describe the existing ambient noise environment.
- R2: Location R2 represents the noise sensitive West Valley Detention Center at 9500 Etiwanda Avenue, approximately 364 feet east of the Project site. Receiver R2 is placed at the building façade. A 24-hour noise measurement was taken near this location, L6, to describe the existing ambient noise environment.
- R3: Location R3 represents the noise sensitive Hyatt Place Ontario at 4760 East Mills Circle, approximately 4,167 feet southwest of the Project site. R3 is placed at the building façade. A 24-hour noise measurement near this location, L3, is used to describe the existing ambient noise environment.
- R4: Location R4 represents the noise sensitive Courtyard by Marriott Ontario at 11525 Mission Vista Drive, approximately 5,321 feet west of the Project site. R4 is placed at the building façade. A 24-hour noise measurement near this location, L4, is used to describe the existing ambient noise environment.

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 4.2. 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.



EXHIBIT 5-A: SENSITIVE RECEIVER LOCATIONS

Receiver Locations

Distance from receiver to Project site boundary (in feet)



6 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 City of Rancho Cucamonga General Plan provides direction on noise compatibility, and the Rancho Cucamonga Development Code establishes 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 project related off-site traffic and operational noise levels are considered substantial for use under CEQA Guideline A. Therefore, this section identifies noise level increase thresholds used to describe the amount to which a given noise level increase is considered acceptable.

6.1 CEQA THRESHOLD NOT REQUIRING FURTHER ANALYSIS

Threshold C, above, does not require further analysis. As previously indicated in Section 3.7, the ONT Airport noise contour boundaries are presented on Exhibit 3-B of this report and show that the Project is considered *normally compatible* land use since it is located outside the 60 dBA CNEL noise impact zone.

6.2 INCREMENTAL NOISE LEVEL INCREASES

Noise level increases resulting from the Project are evaluated based on the Appendix G CEQA Guidelines described above at the nearest receiver locations. Under CEQA, consideration must be given to the magnitude of the increase, the existing ambient noise levels, and the location of receivers to determine if a noise increase represents a significant adverse environmental impact (14). This approach recognizes that there is no completely satisfactory way to measure the subjective effects of noise or of the corresponding human reactions of annoyance and dissatisfaction, primarily because of the wide variation in individual thresholds of annoyance and differing individual experiences with noise. Thus, an effective way of determining a person's subjective reaction to a new noise is the comparison of it to the existing environment to which one has adapted—the so-called *ambient* environment. In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise will typically be judged.



The Federal Interagency Committee on Noise (FICON) (15) developed guidance to be used for the assessment of project-generated increases in noise levels that consider the ambient noise level. The FICON recommendations are based on studies that relate aircraft noise levels to the percentage of persons highly annoyed by aircraft noise. Although the FICON recommendations are often used in environmental noise impact assessments involving the use of cumulative noise exposure metrics, such as the average-daily noise level (CNEL) and equivalent continuous noise level (L_{eq}).

As previously stated, the approach used in this noise study recognizes *that there is no single noise increase that renders the noise impact significant*, based on a 2008 California Court of Appeal ruling on Gray v. County of Madera (14). For example, if the ambient noise environment is quiet (<60 dBA) and the new noise source greatly increases the noise levels, an impact may occur if the noise criteria may be exceeded. Therefore, for this analysis a *readily perceptible* 5 dBA or greater project-related noise level increase is considered a significant impact when the 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 6-1 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 6-1: 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 (4 p. 9) and Caltrans (2 p. 2_44).


6.3 SIGNIFICANCE CRITERIA SUMMARY

Noise impacts shall be considered significant if any of the following occur as a direct result of the proposed development.

OFF-SITE TRAFFIC NOISE

- When the noise levels at existing and future noise-sensitive land uses (e.g. residential, etc.):
 - are less than 60 dBA CNEL and the Project creates a 5 dBA CNEL or greater Project-related noise level increase: or
 - \circ $\,$ range from 60 to 65 dBA CNEL and the Project creates a 3 dBA CNEL or greater Project-related noise level increase: or
 - are greater than 65 dBA CNEL, and the Project creates a community noise level increase of greater than 1.5 dBA CNEL (FICON, 1992).
- When the noise levels at existing and future non-noise-sensitive land uses (e.g., office, commercial, industrial):
 - are less than the City of Rancho Cucamonga General Plan Public Health and Safety Element, Figure PS-8, normally acceptable 70 dBA CNEL and the Project creates a readily perceptible 5 dBA CNEL or greater Project related noise level increase: or
 - are greater than the City of Rancho Cucamonga General Plan Public Health and Safety Element, Figure PS-8, normally acceptable 70 dBA CNEL and the Project creates a barely perceptible 3 dBA CNEL or greater Project noise level increase.

OPERATIONAL NOISE

- If Project-related operational (stationary-source) noise levels exceed the exterior 65 dBA L_{eq} daytime or 60 dBA L_{eq} nighttime noise level standards at nearby noise sensitive residential receiver locations (City of Rancho Cucamonga Development Code, Section 17.66.050).
- If Project-related operational (stationary-source) noise levels exceed the exterior 70 dBA L_{eq} daytime or 65 dBA L_{eq} nighttime noise level standards at nearby commercial and office receiver locations (City of Rancho Cucamonga Development Code, Section 17.66.050[G]).
- If Project-related operational (stationary-source) noise levels exceed the Class B General Industrial uses of 65 dBA at the residential property line. The general industrial land use performance standard applies to the property line of any noise sensitive land use including the nearby West Valley Detention Center. (City of Rancho Cucamonga Development Code, Table 17.66.110).
- If the existing ambient noise levels at the nearby noise-sensitive receivers near the Project site:
 - $\circ~$ are less than 60 dBA L_{eq} and the Project creates a readily perceptible 5 dBA L_{eq} or greater Project-related noise level increase: or
 - $\circ~$ range from 60 to 65 dBA L_{eq} and the Project creates a barely perceptible 3 dBA L_{eq} or greater Project-related noise level increase: or
 - $\circ~$ already exceed 65 dBA $L_{eq},$ and the Project creates a community noise level increase of greater than 1.5 dBA L_{eq} (FICON, 1992).



CONSTRUCTION NOISE

- If Project-related construction activities adjacent to a residential land use, school, church or similar type of use occur between the hours of 8:00 p.m. and 7:00 a.m. on weekdays, including Saturday, or at any time on Sunday or a national holiday and the noise levels created exceed the base noise level standard of 65 dBA when measured at the adjacent property line(City of Rancho Cucamonga Development Code, Section 17.66.050 [D][4][a]);
- If Project-related construction activities adjacent to a commercial or industrial use, occur between the hours of 10:00 p.m. and 6:00 a.m. on weekdays, including Saturday and Sunday, and the noise levels created exceed the standards of 70 dBA at the adjacent property line (City of Rancho Cucamonga Development Code, Section 17.66.050 [D][4][b]);

CONSTRUCTION VIBRATION

• If Project-related construction activities create vibration levels which exceed the FTA guidelines for the maximum-acceptable vibration criteria of 90 VdB for industrial (workshop) use, 84 VdB for office use, 78 VdB for daytime residential uses and 72 VdB for nighttime uses in buildings where people normally sleep. (FTA *Transit Noise and Vibration Impact Assessment Manual*)



7 OFF-SITE TRAFFIC NOISE METHODS AND PROCEDURES

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

7.1 FHWA TRAFFIC NOISE PREDICTION MODEL

The expected roadway noise level increases from vehicular traffic were calculated by Urban Crossroads, Inc. using a computer program that replicates the Federal Highway Administration (FHWA) Traffic Noise Prediction Model- FHWA-RD-77-108 (16). 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 (17). 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 (18).

7.2 OFF-SITE TRAFFIC NOISE PREDICTION MODEL INPUTS

Table 7-1 presents the roadway parameters used to assess the Project's off-site dBA CNEL transportation noise impacts. Table 7-1 identifies the seven study area roadway segments, the distance from the centerline to adjacent land use based on the functional roadway classifications per the City of Rancho Cucamonga General Plan, and the posted vehicle speeds. The ADT volumes used in this study area presented on Table 7-2 are based on the *Bridge Point Rancho Cucamonga High-Cube Fulfillment Center Traffic Memo*, prepared by Urban Crossroads, Inc. for the following (Non-Sort) traffic scenarios under both Without and With Project alternatives: Existing (2020), Opening Year Cumulative (OYC) (2022) including with and without the potential 6th Street extension, and Horizon Year (2040) (19). Since the proposed Project will replace existing uses, the net change in trips between the existing uses and the proposed use has been used to assess the off-site traffic noise levels.

The ADT volumes vary for each roadway segment based on the existing traffic volumes, background traffic, cumulative development traffic and the combination of Project traffic distributions. This analysis relies on a comparative evaluation of the off-site traffic noise impacts, without and with project ADT estimates derived from the *Bridge Point Rancho Cucamonga High-Cube Fulfillment Center Traffic Memo*.



ID	Roadway	Segment	Receiving Land Use ¹	Distance from Centerline to Receiving Land Use (Feet) ²	Vehicle Speed (mph) ³
1	Etiwanda Av.	s/o Foothill Bl.	Sensitive	50'	50
2	Etiwanda Av.	s/o Whittram Av.	Non-Sensitive	50'	50
3	Etiwanda Av.	s/o San Bernardino Av.	Non-Sensitive	60'	50
4	Foothill Bl.	w/o Etiwanda Av.	Non-Sensitive	60'	50
5	6th St.	w/o Etiwanda Av.	Non-Sensitive	44'	40
6	4th St.	e/o I-15 NB Ramps	Non-Sensitive	60'	55
7	4th St.	w/o Etiwanda Av.	Sensitive	60'	55
8	Street A	s/o Dwy. 8	Sensitive	30'	40

TABLE 7-1: OFF-SITE ROADWAY PARAMETERS

¹ Noise sensitive uses limited to noise sensitive residential land uses and the West Valley Detention Center.

 $^{\rm 2}\,{\rm Distance}$ to receiving land use is based upon the right-of-way distances.

³ Bridge Point High-Cube Fulfillment Center Traffic Memo, Urban Crossroads, Inc.

			Average Daily Traffic Volumes ¹							
ID	Roadway	Segment	Existing 2020		Opening Year Cumulative (OYC) 2022 Without 6th Street Connection		Opening Year Cumulative (OYC) 2022 with 6th Street Connection		Horizon Year (HY) 2040	
			Without Project	With Project	Without Project	With Project	Without Project	With Project	Without Project	With Project
1	Etiwanda Av.	s/o Foothill Bl.	13,077	13,250	16,469	16,643	16,469	16,643	27,232	27,405
2	Etiwanda Av.	s/o Whittram Av.	17,260	17,471	21,789	22,001	21,789	21,963	37,211	37,384
3	Etiwanda Av.	s/o San Bernardino Av.	19,731	19,850	24,076	24,195	30,447	30,566	25,271	25,390
4	Foothill Bl.	w/o Etiwanda Av.	27,934	28,070	32,898	33,033	32,898	32,995	51,539	51,636
5	6th St.	w/o Etiwanda Av.	337	591	350	605	350	566	5,543	5,759
6	4th St.	e/o I-15 NB Ramps	17,250	17,809	19,899	20,458	19,899	20,420	22,189	22,710
7	4th St.	w/o Etiwanda Av.	17,800	17,963	20,471	20,635	26,219	26,382	22,831	22,994
8	Street A	s/o Dwy. 8	n/a	370	n/a	370	n/a	332	n/a	332

TABLE 7-2: AVERAGE DAILY TRAFFIC VOLUMES

¹ Bridge Point High-Cube Fulfillment Center Traffic Memo, Urban Crossroads, Inc.

To quantify the off-site noise levels, the Project related truck trips were added to the heavy truck category in the FHWA noise prediction model. The addition of the Project related truck trips increases the percentage of heavy trucks in the vehicle mix. This approach recognizes that the FHWA noise prediction model is significantly influenced by the number of heavy trucks in the vehicle mix. Table 7-3 provides the time of day (daytime, evening, and nighttime) vehicle splits. The daily Project truck trip-ends were assigned to the individual off-site study area roadway segments based on the Project truck trip distribution percentages documented in the *Bridge Point Rancho Cucamonga High-Cube Fulfillment Center Traffic Memo*. Using the Project truck



trips in combination with the Project trip distribution, Urban Crossroads, Inc. calculated the number of additional Project truck trips and vehicle mix percentages for each of the study area roadway segments. Table 7-4 shows the traffic flow by vehicle type (vehicle mix) used for all without Project traffic scenarios, and Tables 7-5 to 7-7 show the vehicle mixes used for the with Project traffic scenarios.

		Total of Time of		
venicie rype	Daytime	Evening	Nighttime	Day Splits
Autos	77.50%	12.90%	9.60%	100.00%
Medium Trucks	84.80%	4.90%	10.30%	100.00%
Heavy Trucks	86.50%	2.70%	10.80%	100.00%

 TABLE 7-3:
 TIME OF DAY VEHICLE SPLITS

¹ Typical Southern California vehicle mix.

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

TABLE 7-4: WITHOUT PROJECT VEHICLE MIX

Classification		Total % Traffic Flow		Tetel
Classification	Autos	Medium Trucks	Heavy Trucks	Iotai
All Segments	85.80%	3.57%	10.63%	100.00%

Based on an existing 24-hour count taken at Etiwanda Avenue and San Bernardino Avenue. (Bridge Point High-Cube Fulfillment Center Traffic Memo, Urban Crossroads, Inc.). Values rounded to the nearest one-hundredth.

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

TABLE 7-5: EXISTING (2020) WITH PROJECT VEHICLE MIX

				With P	roject ¹	
ID	Roadway	Segment	Autos	Medium Trucks	Heavy Trucks	Total ²
1	Etiwanda Av.	s/o Foothill Bl.	85.83%	3.57%	10.60%	100.00%
2	Etiwanda Av.	s/o Whittram Av.	85.85%	3.56%	10.59%	100.00%
3	Etiwanda Av.	s/o San Bernardino Av.	85.67%	3.61%	10.72%	100.00%
4	Foothill Bl.	w/o Etiwanda Av.	85.79%	3.57%	10.63%	100.00%
5	6th St.	w/o Etiwanda Av.	81.09%	5.25%	13.67%	100.00%
6	4th St.	e/o I-15 NB Ramps	85.46%	3.69%	10.85%	100.00%
7	4th St.	w/o Etiwanda Av.	85.87%	3.55%	10.58%	100.00%
8	Street A	s/o Dwy. 8	82.65%	5.15%	12.20%	100.00%

¹ Bridge Point High-Cube Fulfillment Center Traffic Memo, Urban Crossroads, Inc.

² Total of vehicle mix percentage values rounded to the nearest one-hundredth.



				With P	roject ¹	
ID	Roadway	Segment	Autos	Medium Trucks	Heavy Trucks	Total ²
1	Etiwanda Av.	s/o Foothill Bl.	85.82%	3.57%	10.61%	100.00%
2	Etiwanda Av.	s/o Whittram Av.	85.84%	3.56%	10.60%	100.00%
3	Etiwanda Av.	s/o San Bernardino Av.	85.69%	3.61%	10.70%	100.00%
4	Foothill Bl.	w/o Etiwanda Av.	85.79%	3.57%	10.63%	100.00%
5	6th St.	w/o Etiwanda Av.	81.19%	5.21%	13.60%	100.00%
6	4th St.	e/o I-15 NB Ramps	85.50%	3.68%	10.82%	100.00%
7	4th St.	w/o Etiwanda Av.	85.86%	3.56%	10.59%	100.00%
8	Street A	s/o Dwy. 8	82.65%	5.15%	12.20%	100.00%

TABLE 7-6: OYC (2022) WITH PROJECT VEHICLE MIX

¹ Bridge Point High-Cube Fulfillment Center Traffic Memo, Urban Crossroads, Inc.

 $^{\rm 2}$ Total of vehicle mix percentage values rounded to the nearest one-hundredth.

TABLE 7-7: OYC (2022) WITH PROJECT WITH 6TH STREET VEHICLE MIX

			With Project ¹				
ID	Roadway	Segment	Autos	Medium Trucks	Heavy Trucks	Total ²	
1	Etiwanda Av.	s/o Foothill Bl.	85.82%	3.57%	10.61%	100.00%	
2	Etiwanda Av.	s/o Whittram Av.	85.82%	3.57%	10.61%	100.00%	
3	Etiwanda Av.	s/o San Bernardino Av.	85.71%	3.60%	10.69%	100.00%	
4	Foothill Bl.	w/o Etiwanda Av.	85.78%	3.58%	10.64%	100.00%	
5	6th St.	w/o Etiwanda Av.	79.93%	5.56%	14.51%	100.00%	
6	4th St.	e/o I-15 NB Ramps	85.48%	3.68%	10.84%	100.00%	
7	4th St.	w/o Etiwanda Av.	85.85%	3.56%	10.59%	100.00%	
8	Street A	s/o Dwy. 8	80.66%	5.74%	13.60%	100.00%	

¹ Bridge Point High-Cube Fulfillment Center Traffic Memo, Urban Crossroads, Inc.

² Total of vehicle mix percentage values rounded to the nearest one-hundredth.



				With P	roject ¹	
ID	Roadway	Segment	Autos	Medium Trucks	Heavy Trucks	Total ²
1	Etiwanda Av.	s/o Foothill Bl.	85.81%	3.57%	10.62%	100.00%
2	Etiwanda Av.	s/o Whittram Av.	85.81%	3.57%	10.62%	100.00%
3	Etiwanda Av.	s/o San Bernardino Av.	85.70%	3.60%	10.70%	100.00%
4	Foothill Bl.	w/o Etiwanda Av.	85.79%	3.57%	10.64%	100.00%
5	6th St.	w/o Etiwanda Av.	85.22%	3.77%	11.01%	100.00%
6	4th St.	e/o I-15 NB Ramps	85.51%	3.67%	10.82%	100.00%
7	4th St.	w/o Etiwanda Av.	85.85%	3.56%	10.59%	100.00%
8	Street A	s/o Dwy. 8	80.66%	5.74%	13.60%	100.00%

TABLE 7-8: HORIZON YEAR (2040) WITH VEHICLE MIX

¹ Bridge Point High-Cube Fulfillment Center Traffic Memo, Urban Crossroads, Inc.

² Total of vehicle mix percentage values rounded to the nearest one-hundredth.



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8 OFF-SITE TRAFFIC NOISE IMPACTS

To assess the off-site traffic CNEL noise level impacts associated with the proposed Project, noise contours were developed based on the *Bridge Point Rancho Cucamonga High-Cube Fulfillment Center Traffic Memo* (19). Noise contour boundaries represent the equal levels of noise exposure and are measured in CNEL from the center of the roadway.

8.1 TRAFFIC NOISE CONTOURS

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

Tables 8-1 through 8-8 present a summary of the exterior dBA CNEL traffic noise level without barrier attenuation. Roadway segments are analyzed without Project and with Project conditions in each of the following timeframes: Existing (2020), Opening Year Cumulative (2022), Opening Year Cumulative (2022) with the 6th Street Connection, and Horizon Year (2040). Appendix 8.1 includes a summary of the dBA CNEL traffic noise level contours for each of the traffic scenarios.

	Road	Segment	Receiving	CNEL at Receiving	Distance to Contour from Centerline (Feet)		
ID		Segment	Land Use ¹	Land Use (dBA) ²	70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Etiwanda Av.	s/o Foothill Bl.	Sensitive	74.8	105	225	485
2	Etiwanda Av.	s/o Whittram Av.	Non-Sensitive	76.0	126	271	584
3	Etiwanda Av.	s/o San Bernardino Av.	Non-Sensitive	76.0	150	323	697
4	Foothill Bl.	w/o Etiwanda Av.	Non-Sensitive	77.5	189	408	879
5	6th St.	w/o Etiwanda Av.	Non-Sensitive	58.4	RW	RW	RW
6	4th St.	e/o I-15 NB Ramps	Non-Sensitive	76.1	154	332	715
7	4th St.	w/o Etiwanda Av.	Sensitive	76.3	157	339	730
8	Street A	s/o Dwy. 8	Sensitive	n/a	n/a	n/a	n/a

TABLE 8-1:	EXISTING	WITHOUT	PROJECT	NOISE	CONTOURS
	2/10/11/0			TOIDE	0011100110

¹Noise sensitive uses limited to noise sensitive residential land uses and the West Valley Detention Center.

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

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



	Road	Segment	Receiving	CNEL at Receiving Land Use (dBA) ²	Distance to Contour from Centerline (Feet)		
ID		Segment	Land Use ¹		70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Etiwanda Av.	s/o Foothill Bl.	Sensitive	74.9	105	227	489
2	Etiwanda Av.	s/o Whittram Av.	Non-Sensitive	76.0	127	273	587
3	Etiwanda Av.	s/o San Bernardino Av.	Non-Sensitive	76.0	151	326	703
4	Foothill Bl.	w/o Etiwanda Av.	Non-Sensitive	77.5	190	409	882
5	6th St.	w/o Etiwanda Av.	Non-Sensitive	61.8	RW	RW	58
6	4th St.	e/o I-15 NB Ramps	Non-Sensitive	76.4	159	343	738
7	4th St.	w/o Etiwanda Av.	Sensitive	76.3	158	340	732
8	Street A	s/o Dwy. 8	Sensitive	60.7	RW	RW	33

TABLE 8-2: EXISTING WITH PROJECT NOISE CONTOURS

¹Noise sensitive uses limited to noise sensitive residential land uses and the West Valley Detention Center.

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

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

TABLE 8-3: OYC (2022) WITHOUT PROJECT AND WITHOUT 6TH ST. CONNECTION NOISE CONTOURS

		Formant	Receiving	CNEL at Receiving	Distance to Contour from Centerline (Feet)		
ID	Road	Segment	Land Use ¹	Land Use (dBA) ²	70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Etiwanda Av.	s/o Foothill Bl.	Sensitive	75.8	122	263	566
2	Etiwanda Av.	s/o Whittram Av.	Non-Sensitive	77.0	147	317	682
3	Etiwanda Av.	s/o San Bernardino Av.	Non-Sensitive	76.8	171	369	796
4	Foothill Bl.	w/o Etiwanda Av.	Non-Sensitive	78.2	211	455	980
5	6th St.	w/o Etiwanda Av.	Non-Sensitive	58.5	RW	RW	RW
6	4th St.	e/o I-15 NB Ramps	Non-Sensitive	76.8	169	365	786
7	4th St.	w/o Etiwanda Av.	Sensitive	76.9	173	372	801
8	Street A	s/o Dwy. 8	Sensitive	n/a	n/a	n/a	n/a

¹Noise sensitive uses limited to noise sensitive residential land uses and the West Valley Detention Center.

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

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



			Receiving	CNEL at	Distaı from C	Distance to Contour from Centerline (Feet)			
ID	Road	Segment	Land Use ¹	Land Use (dBA) ²	70 dBA CNEL	65 dBA CNEL	60 dBA CNEL		
1	Etiwanda Av.	s/o Foothill Bl.	Sensitive	75.9	123	264	569		
2	Etiwanda Av.	s/o Whittram Av.	Non-Sensitive	77.1	148	318	685		
3	Etiwanda Av.	s/o San Bernardino Av.	Non-Sensitive	76.9	173	372	801		
4	Foothill Bl.	w/o Etiwanda Av.	Non-Sensitive	78.2	212	456	983		
5	6th St.	w/o Etiwanda Av.	Non-Sensitive	61.9	RW	RW	58		
6	4th St.	e/o I-15 NB Ramps	Non-Sensitive	76.9	174	375	809		
7	4th St.	w/o Etiwanda Av.	Sensitive	76.9	173	373	804		
8	Street A	s/o Dwy. 8	Sensitive	60.7	RW	RW	33		

TABLE 8-4: OYC (2022) WITH PROJECT AND WITHOUT 6TH ST. CONNECTION NOISE CONTOURS

 $^{\rm 2}$ The CNEL is calculated at the boundary of the right-of-way of the receiving adjacent land use.

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

TABLE 8-5: OYC (2022) WITHOUT PROJECT WITH 6TH ST. CONNECTION NOISE CONTOURS

			Receiving	CNEL at	Distar from C	Distance to Contour from Centerline (Feet)			
ID	Road	Segment	Land Use ¹		70 dBA CNEL	65 dBA CNEL	60 dBA CNEL		
1	Etiwanda Av.	s/o Foothill Bl.	Sensitive	75.8	122	263	566		
2	Etiwanda Av.	s/o Whittram Av.	Non-Sensitive	77.0	147	317	682		
3	Etiwanda Av.	s/o San Bernardino Av.	Non-Sensitive	77.9	200	432	930		
4	Foothill Bl.	w/o Etiwanda Av.	Non-Sensitive	78.2	211	455	980		
5	6th St.	w/o Etiwanda Av.	Non-Sensitive	58.5	RW	RW	RW		
6	4th St.	e/o I-15 NB Ramps	Non-Sensitive	76.8	169	365	786		
7	4th St.	w/o Etiwanda Av.	Sensitive	78.0	204	439	945		
8	Street A	s/o Dwy. 8	Sensitive	n/a	n/a	n/a	n/a		

¹Noise sensitive uses limited to noise sensitive residential land uses and the West Valley Detention Center.

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

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



	Dead		Receiving	CNEL at	Distaı from C	Distance to Contour from Centerline (Feet)			
ID	Road	Segment	Land Use ¹	Land Use (dBA) ²	70 dBA CNEL	65 dBA CNEL	60 dBA CNEL		
1	Etiwanda Av.	s/o Foothill Bl.	Sensitive	75.9	123	264	569		
2	Etiwanda Av.	s/o Whittram Av.	Non-Sensitive	77.1	148	318	685		
3	Etiwanda Av.	s/o San Bernardino Av.	Non-Sensitive	77.9	202	434	936		
4	Foothill Bl.	w/o Etiwanda Av.	Non-Sensitive	78.2	212	456	982		
5	6th St.	w/o Etiwanda Av.	Non-Sensitive	61.8	RW	RW	58		
6	4th St.	e/o I-15 NB Ramps	Non-Sensitive	76.9	174	375	808		
7	4th St.	w/o Etiwanda Av.	Sensitive	78.0	204	440	947		
8	Street A	s/o Dwy. 8	Sensitive	60.6	RW	RW	33		

TABLE 8-6: OYC (2022) WITH PROJECT WITH 6TH ST. CONNECTION NOISE CONTOURS

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

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

TABLE 8-7: HORIZON YEAR (2040) WITHOUT PROJECT NOISE CONTOURS

			Receiving	CNEL at	Distar from C	Distance to Contour from Centerline (Feet)			
ID	Road	Segment	Land Use ¹	Land Use (dBA) ²	70 dBA CNEL	65 dBA CNEL	60 dBA CNEL		
1	Etiwanda Av.	s/o Foothill Bl.	Sensitive	78.0	170	367	791		
2	Etiwanda Av.	s/o Whittram Av.	Non-Sensitive	79.4	210	452	974		
3	Etiwanda Av.	s/o San Bernardino Av.	Non-Sensitive	77.1	177	381	822		
4	Foothill Bl.	w/o Etiwanda Av.	Non-Sensitive	80.1	285	613	1322		
5	6th St.	w/o Etiwanda Av.	Non-Sensitive	70.5	48	103	221		
6	4th St.	e/o I-15 NB Ramps	Non-Sensitive	77.2	182	392	845		
7	4th St.	w/o Etiwanda Av.	Sensitive	77.4	186	400	862		
8	Street A	s/o Dwy. 8	Sensitive	n/a	n/a	n/a	n/a		

¹Noise sensitive uses limited to noise sensitive residential land uses and the West Valley Detention Center.

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

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



			Receiving	CNEL at	Distar from C	nce to Co enterline	ntour e (Feet)
ID	Road	Segment	Land Use ¹	Land Use (dBA) ²	70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Etiwanda Av.	s/o Foothill Bl.	Sensitive	78.0	171	369	794
2	Etiwanda Av.	s/o Whittram Av.	Non-Sensitive	79.4	210	453	977
3	Etiwanda Av.	s/o San Bernardino Av.	Non-Sensitive	77.1	178	384	827
4	Foothill Bl.	w/o Etiwanda Av.	Non-Sensitive	80.2	285	615	1324
5	6th St.	w/o Etiwanda Av.	Non-Sensitive	70.8	50	108	232
6	4th St.	e/o I-15 NB Ramps	Non-Sensitive	77.4	187	402	867
7	4th St.	w/o Etiwanda Av.	Sensitive	77.4	186	401	864
8	Street A	s/o Dwy. 8	Sensitive	60.6	RW	RW	33

TABLE 8-8: HORIZON YEAR (2040) WITH PROJECT NOISE CONTOURS

 $^{\rm 2}$ The CNEL is calculated at the boundary of the right-of-way of the receiving adjacent land use.

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

8.2 EXISTING PROJECT TRAFFIC NOISE LEVEL INCREASES

An analysis of existing traffic noise levels plus traffic noise generated by the proposed Project has been included in this report to fully analyze all the existing traffic scenarios identified in the *Bridge Point Rancho Cucamonga High-Cube Fulfillment Center Traffic Memo*. 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. Table 8-1 shows the Existing (2020) without Project conditions CNEL noise levels. The Existing (2020) without Project exterior noise levels are expected to range from 58.4 to 77.5 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 8-2 shows the Existing (2020) with Project conditions will range from 61.8 to 77.5 dBA CNEL. Table 8-9 shows that the Project off-site traffic noise level impacts will range from 0.0 to 3.4 dBA CNEL. Based on the significance criteria for off-site traffic noise presented in Section 6.3, land uses adjacent to the study area roadway segments would experience *less than significant* noise level impacts due to unmitigated Project-related traffic noise levels.

8.3 OYC (2022) WITHOUT 6TH ST. CONNECTION PROJECT TRAFFIC NOISE LEVEL INCREASES

Table 8-3 presents the Opening Year Cumulative (2022) without Project and without the 6th Street connection conditions CNEL noise levels. The Opening Year (2022) without Project and without the 6th Street connection exterior noise levels are expected to range from 58.5 to 78.2 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 8-4 shows that the Opening Year Cumulative (2022) with Project but without the 6th Street connection conditions will range from 61.9 to 78.2 dBA CNEL. Table 8-10 shows that the Project off-site traffic noise level increases will range from 0.0 to 3.4 dBA CNEL. Based on the significance criteria for off-site traffic noise presented in Section 6.3, land uses adjacent to the study area



roadway segments would experience *less than significant* noise level impacts due to unmitigated Project-related traffic noise levels.

8.4 OYC (2022) WITH 6TH ST. CONNECTION PROJECT TRAFFIC NOISE LEVEL INCREASES

Table 8-5 presents the Opening Year Cumulative (2022) without Project with 6th Street connection conditions CNEL noise levels. The Opening Year (2022) without Project with 6th Street connection exterior noise levels are expected to range from 58.5 to 78.2 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 8-6 shows that the Opening Year Cumulative (2022) with Project with 6th Street connection conditions will range from 61.8 to 78.2 dBA CNEL. Table 8-11 shows that the Project off-site traffic noise level increases will range from 0.0 to 3.3 dBA CNEL. Based on the significance criteria for off-site traffic noise presented in Section 6.3, land uses adjacent to the study area roadway segments would experience *less than significant* noise level impacts due to unmitigated Project-related traffic noise levels.

8.5 HORIZON YEAR (2040) PROJECT TRAFFIC NOISE LEVEL INCREASES

Table 8-7 presents the Horizon Year (2040) without Project conditions CNEL noise levels. The Horizon Year (2040) without Project exterior noise levels are expected to range from 70.5 to 80.1 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 8-8 shows that the Horizon Year (2040) with Project conditions will range from 70.8 to 80.2 dBA CNEL. Table 8-12 shows that the Project off-site traffic noise level increases will range from 0.0 to 0.3 dBA CNEL. Based on the significance criteria for off-site traffic noise presented in Section 6.3, land uses adjacent to the study area roadway segments would experience *less than significant* noise level impacts due to unmitigated Project-related traffic noise levels.



ID	Road	Road Segment		CNE Lai	EL at Recei nd Use (dB	ving SA)²	Increme Level Thre	ental Noise Increase eshold ³
			Land Use ¹	No Project	With Project	Project Addition	Limit	Exceeded?
1	Etiwanda Av.	s/o Foothill Bl.	Sensitive	74.8	74.9	0.1	1.5	No
2	Etiwanda Av.	s/o Whittram Av.	Non-Sensitive	76.0	76.0	0.0	3.0	No
3	Etiwanda Av.	s/o San Bernardino Av.	Non-Sensitive	76.0	76.0	0.0	3.0	No
4	Foothill Bl.	w/o Etiwanda Av.	Non-Sensitive	77.5	77.5	0.0	3.0	No
5	6th St.	w/o Etiwanda Av.	Non-Sensitive	58.4	61.8	3.4	5.0	No
6	4th St.	e/o I-15 NB Ramps	Non-Sensitive	76.1	76.4	0.3	3.0	No
7	4th St.	w/o Etiwanda Av.	Sensitive	76.3	76.3	0.0	1.5	No

 TABLE 8-9: EXISTING WITH PROJECT 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.



ID	Road Segment		Receiving	CNI Lai	EL at Receind Use (dE	ving BA)²	Incremental Noise Level Increase Threshold ³	
			Land Use ¹	No Project	With Project	Project Addition	Limit	Exceeded?
1	Etiwanda Av.	s/o Foothill Bl.	Sensitive	75.8	75.9	0.1	1.5	No
2	Etiwanda Av.	s/o Whittram Av.	Non-Sensitive	77.0	77.1	0.1	3.0	No
3	Etiwanda Av.	s/o San Bernardino Av.	Non-Sensitive	76.8	76.9	0.1	3.0	No
4	Foothill Bl.	w/o Etiwanda Av.	Non-Sensitive	78.2	78.2	0.0	3.0	No
5	6th St.	w/o Etiwanda Av.	Non-Sensitive	58.5	61.9	3.4	5.0	No
6	4th St.	e/o I-15 NB Ramps	Non-Sensitive 76.8 76.9 0.1		3.0	No		
7	4th St.	w/o Etiwanda Av.	Sensitive	76.9	76.9	0.0	1.5	No

TABLE 8-10: OYC (2022) WITH PROJECT WITHOUT 6TH ST. CONNECTION TRAFFIC NOISE INCREASES

 1 Noise sensitive uses limited to noise sensitive residential land uses and the West Valley Detention Center.

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	CNI Lai	EL at Recei nd Use (dB	ving BA)²	Incremental Noise Level Increase Threshold ³	
			Land Use ⁺	No Project	With Project	Project Addition	Limit	Exceeded?
1	Etiwanda Av.	s/o Foothill Bl.	Sensitive	75.8	75.9	0.1	1.5	No
2	Etiwanda Av.	s/o Whittram Av.	Non-Sensitive	77.0	77.1	0.1	3.0	No
3	Etiwanda Av.	s/o San Bernardino Av.	Non-Sensitive	77.9	77.9	0.0	3.0	No
4	Foothill Bl.	w/o Etiwanda Av.	Non-Sensitive	78.2	78.2	0.0	3.0	No
5	6th St.	w/o Etiwanda Av.	Non-Sensitive	58.5	61.8	3.3	5.0	No
6	4th St.	e/o I-15 NB Ramps	Non-Sensitive	76.8	76.9	0.1	3.0	No
7	4th St.	w/o Etiwanda Av.	Sensitive	78.0	78.0	0.0	1.5	No

TABLE 8-11: OYC (2022) WITH PROJECT WITH 6TH ST. CONNECTION TRAFFIC NOISE INCREASES

 1 Noise sensitive uses limited to noise sensitive residential land uses and the West Valley Detention Center.

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	CNI Lai	EL at Receind Use (dE	ving BA)²	Incremental Noise Level Increase Threshold ³		
			Land Use ¹	No Project	With Project	Project Addition	Limit	Exceeded?	
1	Etiwanda Av.	s/o Foothill Bl.	Sensitive	78.0	78.0	0.0	1.5	No	
2	Etiwanda Av.	s/o Whittram Av.	Non-Sensitive	79.4	79.4	0.0	3.0	No	
3	Etiwanda Av.	s/o San Bernardino Av.	Non-Sensitive	77.1	77.1	0.0	3.0	No	
4	Foothill Bl.	w/o Etiwanda Av.	Non-Sensitive	80.1	80.2	0.1	3.0	No	
5	6th St.	w/o Etiwanda Av.	Non-Sensitive	70.5	70.8	0.3	3.0	No	
6	4th St.	e/o I-15 NB Ramps	Non-Sensitive	77.2	77.4	0.2	3.0	No	
7	4th St.	w/o Etiwanda Av.	Sensitive	77.4	77.4	0.0	1.5	No	

 TABLE 8-12: HORIZON YEAR (2040) WITH PROJECT TRAFFIC NOISE 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.



9 OPERATIONAL NOISE IMPACTS

This section analyzes the potential stationary-source operational noise impacts at the nearest receiver locations, identified in Section 8, resulting from the operation of the proposed Bridge Point Rancho Cucamonga Project. Exhibit 9-A identifies the representative noise source locations used to assess the operational noise levels with the planned 8-foot-high screen wall surrounding the northern and eastern loading dock areas.

9.1 OPERATIONAL NOISE SOURCES

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

9.2 **REFERENCE NOISE LEVELS**

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

9.2.1 MEASUREMENT PROCEDURES

The reference noise level measurements presented in this section were collected using a Larson Davis LxT Type 1 precisions sound level meter (serial number 01146). The LxT sound level meter was calibrated using a Larson-Davis calibrator, Model CAL 200, was programmed in "slow" mode to record noise levels in "A" weighted form and was located at approximately five feet above the ground elevation for each measurement. The sound level meters and microphones were equipped with a windscreen during all measurements. All noise level measurement equipment satisfies the American National Standards Institute (ANSI) standard specifications for sound level meters ANSI S1.4-2014/IEC 61672-1:2013 (13).





EXHIBIT 9-A: OPERATIONAL NOISE SOURCE LOCATIONS

Notes Coursel	Duration	Ref.	Noise Source	Min./Hour ³		Referen Level (d	Reference Noise Level (dBA L _{eq})	
Noise Source-	(hh:mm:ss)	(Feet)	Height (Feet)	Day	Night	@ Ref. Dist.	@ 50 Feet	Level (dBA) ⁴
Outdoor Loading Dock Activity	00:14:00	30'	8'	60	60	70.1	65.7	111.5
Truck Movements	00:15:00	20'	8'	_5	_5	64.0	58.0	89.7
Roof-Top Air Conditioning Units ²	96:00:00	5'	5'	39	28	77.2	57.2	88.9
Trash Enclosure Activity	00:00:32	8'	5'	5	5	72.7	56.8	89.0

TABLE 9-1: REFERENCE NOISE LEVEL MEASUREMENTS

¹ As measured by Urban Crossroads, Inc.

² Lennox SCA120 series 10-ton model packaged air conditioning unit.

³ Anticipated duration (minutes within the hour) of noise activity during typical hourly conditions expected at the Project site. "Daytime" = 7:00 a.m. to 10:00 p.m.; "Nighttime" = 10:00 p.m. to 7:00 a.m.

⁴ Sound power level represents the total amount of acoustical energy (noise level) produced by a sound source independent of distance or

surroundings. Sound power levels calculated using the CadnaA noise model at the reference distance to the noise source. Numbers may vary due to size differences between point and area noise sources.

⁵ Truck Movements are calculate based on the number of events by time of day (See Table 9-2).

9.2.2 OUTDOOR LOADING DOCK ACTIVITY

The reference loading dock activities are intended to describe the typical outdoor operational noise activities associated with the Project. This includes truck idling, reefer activity (refrigerator truck/cold storage), deliveries, backup alarms, trailer docking including a combination of tractor trailer semi-trucks, two-axle delivery trucks, and background operation activities. Since the noise levels generated by cold storage loading dock activity can be slightly higher due to the use of refrigerated trucks or reefers, this analysis conservatively assumes that all loading dock activity is associated with cold storage facilities, even though only 10 percent cold storage is anticipated. (19) To describe the loading dock activities for cold storage, a reference noise level measurement was collected at the Nature's Best distribution facility located at 16081 Fern Avenue in the City of Chino.

The reference noise level measurement was taken in the center of the loading dock activity area and represents multiple concurrent noise sources resulting in a combined noise level of 65.7 dBA L_{eq} at a uniform distance of 50 feet. Specifically, the reference noise level measurement represents one truck located approximately 30 feet from the noise level meter with another truck passing by to park roughly 20 feet away, both with their engines idling. Throughout the reference noise level measurement, a separate docked and running reefer truck was located approximately 50 feet east of the measurement location. Additional background noise sources included truck pass-by noise, truck drivers talking to each other next to docked trucks, and air brake release noise when trucks parked.

9.2.3 TRUCK MOVEMENTS

The truck movements reference noise level measurement were taken at the southern entry gate of the Motivational Fulfillment & Logistics Services distribution facility located at 6810 Bickmore Avenue in the City of Chino over a 15-minute period and represents multiple noise sources



producing a reference noise level of 58.0 dBA L_{eq} at 50 feet. The noise sources included at this measurement location account for the entry rattling and squeaking during normal opening and closing operations, the gate closure equipment, truck engines idling outside the entry gate, truck movements through the entry gate, and truck movement activities.

Consistent with the *Bridge Point Rancho Cucamonga High-Cube Fulfillment Center Traffic Memo*, the (non-sort) truck movements by driveway location are anticipated to contribute 4,008 daily trips (actual vehicles) including 536 truck trip-ends per day. All driveways have full access for both passenger cars and trucks except for driveways 3, 4 and 6 with full access for passenger cars only and Driveways 9 and 10 with full access for trucks only.

This noise study relies on the actual Project trips (as opposed to the passenger car equivalents) to accurately account for the effect of individual truck trips on the study area roadway network. Using the estimated number of truck trips in combination with time-of-day vehicle splits, the number of truck movements by driveway location were calculated. As shown on Table 9-2, this information is then used to calculate the truck movements operational noise source activity based on the number of events by time of day.

Truck	Total	Trip	Dist. ³	Truck	Time of	Day Vehicl	e Splits⁵	Truc	k Moveme	nts ⁶
Movement Location ¹	Project Truck Trips ²	In	Out	Trips by Location ⁴	Day	Evening	Night	Day	Evening	Night
Driveway 1		5%	5%	27	86.50%	2.70%	10.80%	23	1	3
Driveway 2		35%	35%	188	86.50%	2.70%	10.80%	163	5	20
Driveway 5		15%	15%	80	86.50%	2.70%	10.80%	69	2	9
Driveway 7	536	15%	15%	80	86.50%	2.70%	10.80%	69	2	9
Driveway 8		5%	5%	27	86.50%	2.70%	10.80%	23	1	3
Driveway 9		10%	10%	54	86.50%	2.70%	10.80%	47	1	6
Driveway 10		15%	15%	80	86.50%	2.70%	10.80%	69	2	9

TABLE 9-2 MOVEMENTS BY DRIVEWAY LOCATION

¹ Driveway locations as shown on Exhibit 9-A.

² Project truck trips based on Table 4 of the Bridge Point High-Cube Fulfillment Center Traffic Memo, Urban Crossroads, Inc.

³ Project truck trip distribution according to Exhibits 3A and 3B of the Bridge Point High-Cube Fulfillment Center Traffic Memo, Urban Crossroads, Inc.

⁴ Calculated trip trucks per location represents the product of the total (inbound and outbound) project truck trips by and the trip distribution. ⁵ Heavy truck time of day vehicle splits as shown on Table 7-3.

⁶ Calculated time of day truck movements by location.

9.2.4 ROOF-TOP AIR CONDITIONING UNITS

To assess the noise levels created by the roof-top air conditioning units, reference noise level measurements were collected from a Lennox SCA120 series 10-ton model packaged air conditioning unit. At 5 feet from the roof-top air conditioning unit, the exterior noise levels were measured at 77.2 dBA L_{eq} . At the uniform reference distance of 50 feet, the reference noise levels are 57.2 dBA L_{eq} . Based on the typical operating conditions observed over a four-day measurement period, the roof-top air conditioning units are estimated to operate for and average 39 minutes per hour during the daytime hours, and 28 minutes per hour during the



nighttime hours. These operating conditions reflect peak summer cooling requirements with measured temperatures approaching 96 degrees Fahrenheit (°F) with average daytime temperatures of 82°F. For this noise analysis, the air conditioning units are expected to be located on the roof of the Project buildings. This reference noise level describes the expected roof-top air conditioning units located 5 feet above the roof for the planned air conditioning units at the Project site.

9.2.5 TRASH ENCLOSURE ACTIVITY

To describe the noise levels associated with a trash enclosure activity, Urban Crossroads collected a reference noise level measurement at an existing trash enclosure containing two dumpster bins. The trash enclosure noise levels describe metal gates opening and closing, metal scraping against concrete floor sounds, dumpster movement on metal wheels, trash dropping into the metal dumpster. The reference noise levels describe trash enclosure noise activities when trash is dropped into an empty metal dumpster, as would occur at the Project site. The measured reference noise level at the uniform 50-foot reference distance is 57.3 dBA L_{eq} for the trash enclosure activity. The reference noise level describes the expected noise source activities associated with the trash enclosures for each of the Project buildings. Typical trash enclosure activities are estimated to occur for 5 minutes per hour.

9.3 CADNAA NOISE PREDICTION MODEL

To fully describe the exterior operational noise levels from the Project, Urban Crossroads, Inc. developed a noise prediction model using the CadnaA (Computer Aided Noise Abatement) computer program. CadnaA can analyze multiple types of noise sources using the spatially accurate Project site plan, georeferenced Nearmap aerial imagery, topography, buildings, and barriers in its calculations to predict outdoor noise levels. This includes the additional noise attenuation provided by the existing intervening building structures and noise barriers located between the Project and the nearest receiver locations. 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 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 as a result of intervening obstacles and barriers, air absorption, wind, and other factors. Sound power is the acoustical energy emitted by the sound source and is an absolute value that is not affected by the environment. The operational noise level calculations provided in this noise study account for the distance attenuation provided due to geometric spreading, when sound from a localized stationary source (i.e., a point source) propagates uniformly outward in a spherical pattern. A default ground attenuation factor of 0.5 was used in the noise analysis to account for mixed ground representing a combination of hard and soft surfaces.



Appendix 9.1 provides the detailed noise model inputs used to estimate the Project operational noise levels presented in this section.

9.4 PROJECT OPERATIONAL NOISE LEVELS

The operational noise levels describe the expected noise level impacts associated with typical warehouse storage uses including the planned 8-foot-high screen wall surrounding the northern and eastern loading dock areas. It is expected that the Project related operational noise levels with be generally consistent with the operational noise source activity associated with the previous Big Lots warehouse land use.

Using the reference noise levels to represent the proposed Project operations that include outdoor loading dock activity, truck movements, roof-top air conditioning units, and trash enclosure activity, Urban Crossroads, Inc. calculated the operational source noise levels that are expected to be generated at the Project site and the Project-related noise level increases that would be experienced at each of the sensitive receiver locations. Tables 9-3 shows the Project operational noise levels during the daytime hours of 7:00 a.m. to 10:00 p.m. The daytime hourly noise levels at the off-site receiver locations are expected to range from 35.5 to 44.5 dBA L_{eq} . The daytime operational noise levels at the eastern property line adjacent to the noise sensitive West Valley Detention Center is estimated at 59.9 dBA L_{eq} .

Naina Coursel	Operat	ional Noise Le	vels by Receiv	er Location (d	BA Leq)
Noise Source-	R1	R2	R3	R4	PL ²
Loading Dock Activity	44.4	53.3	35.4	35.8	59.9
Truck Movements	23.4	27.4	17.3	15.9	26.8
Roof-Top Air Conditioning Units	21.0	27.1	14.5	12.5	28.4
Trash Enclosure Activity	8.8	14.8	0.1	2.4	18.2
Total (All Noise Sources)	44.5	53.3	35.5	35.9	59.9

TABLE 9-3: DAYTIME PROJECT OPERATIONAL NOISE LEVELS

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

 $^{\rm 2}$ Represents the property line of the noise sensitive West Valley Detention Center.

Table 9-4 shows the Project operational noise levels during the nighttime hours of 10:00 p.m. to 7:00 a.m. The nighttime hourly noise levels at the off-site receiver locations are expected to range from 35.4 to 53.3 dBA L_{eq} . The nighttime operational noise levels at the eastern property line adjacent to the noise sensitive West Valley Detention Center is estimated at 59.9 dBA L_{eq} . The differences between the daytime and nighttime noise levels is largely related to the duration of noise activity (Table 9-1) and the number of Truck Movements (Table 9-2).



Noise Source ¹	Operational Noise Levels by Receiver Location (dBA Leq)					
Noise Source-	R1	R2	R3	R4	PL ²	
Loading Dock Activity	44.4	53.3	35.4	35.8	59.9	
Truck Movements	14.5	18.6	8.3	6.9	17.9	
Roof-Top Air Conditioning Units	18.6	24.7	12.1	10.1	26.0	
Trash Enclosure Activity	7.8	13.8	1.4	1.4	17.3	
Total (All Noise Sources)	44.4	53.3	35.4	35.8	59.9	

TABLE 9-4: NIGHTTIME PROJECT OPERATIONAL NOISE LEVELS

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

 $^{\ 2}$ Represents the property line of the noise sensitive West Valley Detention Center.

9.5 PROJECT OPERATIONAL NOISE LEVEL COMPLIANCE

To demonstrate compliance with local noise regulations, the Project-only operational noise levels are evaluated against exterior noise level thresholds based on the City of Rancho Cucamonga exterior noise level standards at the nearest noise-sensitive receiver locations and at the eastern property line adjacent to the noise sensitive West Valley Detention Center. Table 9-5 shows the operational noise levels associated with Bridge Point Rancho Cucamonga Project will satisfy the City of Rancho Cucamonga 65 dBA L_{eq} daytime and 60 dBA L_{eq} nighttime exterior noise level standards at the nearest receiver locations. In addition, Table 9-5 shows that the daytime and nighttime Project-related operational (stationary-source) including the planned 8-foot-high screen wall surrounding the northern and eastern loading dock areas will satisfy the General Industrial zoning district Class B (daytime and nighttime) performance standards of 65 dBA at the residential property line (City of Rancho Cucamonga Development Code, Table 17.66.110). Therefore, the operational noise impacts are considered *less than significant* at the nearby noise-sensitive receiver locations.

Receiver Location ¹	Project Operational Noise Levels (dBA Leq) ²		Noise Stand (dBA	Level lards Leq) ³	Noise Level Standards Exceeded? ⁴		
	Daytime	Nighttime	Daytime	Nighttime	Daytime	Nighttime	
R1	44.5	44.4	65	60	No	No	
R2	53.3	53.3	65	60	No	No	
R3	35.5	35.4	65	60	No	No	
R4	35.9	35.8	65	60	No	No	
PL⁵	59.9	59.9	65	65	No	No	

TABLE 9-5: OPERATIONAL NOISE LEVEL COMPLIANCE

¹ See Exhibit 5-A for the receiver locations.

² Proposed Project operational noise levels as shown on Tables 9-3 and 9-4.

³ City of Rancho Cucamonga Development Code, Section 17.66.050 & 17.66.110 Noise Standards.

⁴ Do the estimated Project operational noise source activities exceed the noise level standards?

 $^{\rm 5}$ Represents the property line of the noise sensitive West Valley Detention Center.

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

9.6 PROJECT OPERATIONAL NOISE LEVEL INCREASES

To describe the Project operational noise level increases, the Project operational noise levels are combined with the existing ambient noise levels measurements for the nearest receiver locations potentially impacted by Project operational noise sources. Since the units used to measure noise, decibels (dB), are logarithmic units, the Project-operational and existing ambient noise levels cannot be combined using standard arithmetic equations (2). Instead, they must be logarithmically added using the following base equation:

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

Where "SPL1," "SPL2," etc. are equal to the sound pressure levels being combined, or in this case, the Project-operational and existing ambient noise levels. The difference between the combined Project and ambient noise levels describe the Project noise level increases to the existing ambient noise environment. As indicated on Tables 9-6 and 9-7, the Project will generate daytime and nighttime operational noise level increases ranging from 0.0 to 2.9 dBA L_{eq} at the receiver locations. Project operational noise level increases are not provided at the property line since this location does not represent an area of frequent human use. In addition, it unlikely that individuals will perceive an increase in the project operation noise levels at the property line but instead at receiver location R2 representing the West Valley Detention Center. Project-related operational noise level increases will satisfy the operational noise level increase significance criteria presented in Section 6.3. Therefore, the incremental Project operational noise level increase level increase is considered *less than significant* at all receiver locations.



							-	
Receiver Location ¹	Total Project Operational Noise Level ²	Measurement Location ³	Reference Ambient Noise Levels⁴	Combined Project and Ambient ⁵	Project Increase ⁶	Noise Sensitive Land Use?	Increase Criteria ⁷	Increase Criteria Exceeded?
R1	44.5	L1	59.6	59.7	0.1	Yes	5	No
R2	53.3	L6	53.5	56.4	2.9	Yes	5	No
R3	35.5	L3	64.5	64.5	0.0	Yes	3	No
R4	35.9	L4	53.7	53.8	0.1	Yes	5	No

TABLE 9-6: DAYTIME PROJECT OPERATIONAL NOISE LEVEL INCREASES

¹ See Exhibit 8-A for the receiver locations.

² Total Project daytime operational noise levels as shown on Table 9-3.

³ Reference noise level measurement locations as shown on Exhibit 4-A.

⁴ Observed daytime ambient noise levels as shown on Table 4-1.

⁵ Represents the combined ambient conditions plus the Project activities.

⁶ The noise level increase expected with the addition of the proposed Project activities.

⁷ Significance increase criteria as shown in Section 6.3.



Receiver Location ¹	Total Project Operational Noise Level ²	Measurement Location ³	Reference Ambient Noise Levels ⁴	Combined Project and Ambient ⁵	Project Increase ⁶	Noise Sensitive Land Use?	Increase Criteria ⁷	Increase Criteria Exceeded?
R1	44.4	L1	56.1	56.4	0.3	Yes	5	No
R2	53.3	L6	54.6	57.0	2.4	Yes	5	No
R3	35.4	L3	62.7	62.7	0.0	Yes	3	No
R4	35.8	L4	56.8	56.8	0.0	Yes	5	No

TABLE 9-7: NIGHTTIME OPERATIONAL NOISE LEVEL INCREASES

¹ See Exhibit 8-A for the receiver locations.

² Total Project nighttime operational noise levels as shown on Table 9-4.

³ Reference noise level measurement locations as shown on Exhibit 4-A.

⁴ Observed nighttime ambient noise levels as shown on Table 4-1.

⁵ Represents the combined ambient conditions plus the Project activities.

⁶ The noise level increase expected with the addition of the proposed Project activities.

⁷ Significance increase criteria as shown in Section 6.3.



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 including the potential 6th Street railroad spur crossing connection, in relation to the nearest sensitive receiver locations previously described in Section 5. To prevent high levels of construction noise from impacting noise-sensitive land uses, City of Rancho Cucamonga Development Code Section 17.66.050[D][4], exempts noise sources associated with construction from the provision of the noise standards;

- a. When adjacent to a residential land use, school, church or similar type of use, the noise generating activity does not take place between the hours of 8:00 p.m. and 7:00 a.m. on weekdays, including Saturday, or at any time on Sunday or a national holiday, and provided that noise levels created do not exceed the base noise level standard of 65 dBA when measured at the adjacent property line.
- b. When adjacent to a commercial or industrial use, the noise generating activity does not take place between the hours of 10:00 p.m. and 6:00 a.m. on weekdays, including Saturday and Sunday, and provided noise levels created do not exceed the standards of 70 dBA at the adjacent property line.

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 operating simultaneously that when combined can reach high levels. The number and mix of construction equipment are expected to occur in the following stages:

- Demolition
- Grading
- Utilities/Infrastructure
- Paving
- Building Construction/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 with multiple pieces of equipment operating simultaneously to conservatively estimate Project construction noise levels.





EXHIBIT 10-A: TYPICAL CONSTRUCTION NOISE SOURCE LOCATIONS



10.2 Typical Construction Reference Noise Levels

To describe the Project typical 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. Construction noise generated from concrete crushing activities and nighttime concrete pours are addressed separately, below.

Area	Phase Name	Construction Stage	Reference Construction Activity ¹	Reference Noise Level @ 50 Feet (dBA Leq)	Highest Reference Noise Level (dBA L _{eq})	
			Demolition Activity	67.9		
		Demolition	Scraper, Water Truck, & Dozer Activity	75.3	75.3	
Overall	Site		Water Truck Pass-By & Backup Alarm	71.9		
Site	Work		Rough Grading Activities	73.5		
		Grading	Water Truck Pass-By & Backup Alarm	71.9	73.5	
			Construction Vehicle Activities	67.5		
		Utilities/ Infrastructure e rk Paving	Foundation Trenching	68.2		
			Framing	62.3	71.6	
	Site		Concrete Mixer Backup Alarms & Air Brakes	71.6		
	Work		Concrete Mixer Truck Movements	71.2		
			Concrete Paver Activities	65.6	71.2	
Bldg. 1			Concrete Mixer Pour & Paving Activities	65.9		
& Bldg. 2			Backhoe	64.2		
2.08		Building	Crane	62.3		
	Vertical	Construction/	Construction Vehicle Activities	67.5	67.5	
	Cons.	Architectural Coating	Air Compressors	65.2		
			Generator	64.9		
			Crane	62.3		

TABLE 10-1: TYPICAL CONSTRUCTION REFERENCE NOISE LEVELS

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



10.3 Typical Construction Noise Analysis

Using the reference construction equipment noise levels and the CadnaA noise prediction model, calculations of the Project construction noise level impacts with multiple pieces of equipment operating simultaneously at the nearest sensitive receiver locations were completed. The reference noise level measurements were collected from existing construction operations with similar equipment as those expected with the Project. While the construction size, scope of work, and ambient noise levels varies for each of the reference noise level measurements, each piece of construction equipment fully represents the expected noise levels for each activity. The construction noise analysis does not rely on any one reference noise level to fully describe the potential impacts. Rather, a combination of individual construction noise level measurements is used to describe typical activities for each stage of construction. As shown on Table 10-2, the unmitigated construction noise levels are expected to range from 66.4 to 68.9 dBA Leq at the parcel boundary of adjacent uses. Appendix 10.1 includes the unmitigated typical construction CadnaA noise model calculations.

Adiacent	Unmitigated Construction Noise Levels (dBA Leq)								
Property Line ¹	Demolition	Grading	Utilities/ Infrastructure	Paving	Building Construction/ Arch. Coating	Highest Levels ²			
North	66.4	64.6	62.7	62.3	58.6	66.4			
South	66.9	65.1	63.2	62.8	59.1	66.9			
East	67.6	65.8	63.9	63.5	59.8	67.6			
West	68.9	67.1	65.2	64.8	61.1	68.9			

TABLE 10-2: UNMITIGATED TYPICAL CONSTRUCTION EQUIPMENT NOISE LEVEL SUMMARY

¹ Adjacent property line as shown on Exhibit 10-A.

² Construction noise level calculations based on distance from the center of project construction activity to the property line of adjacent uses. The unmitigated CadnaA construction noise model inputs are included in Appendix 10.1.

10.4 Typical Construction Noise Level Compliance

To demonstrate compliance with local noise regulations, the Project-only construction noise levels are evaluated against exterior noise level thresholds established by Section 17.66.050[D][4] City of Rancho Cucamonga Development at the adjacent property line. As shown on Table 10-3, the estimated construction noise levels at the adjacent industrial uses to the north, south and west will satisfy the 70 dBA L_{eq} construction noise level standard. However, the construction noise levels at the noise sensitive West Valley Detention Center property line to the east will exceed the City of Rancho Cucamonga construction noise level standard 65 dBA L_{eq} . Therefore, the unmitigated noise impact due to Project construction activities is considered *potentially significant*.



Adjacent		Construction Noise Levels (dBA Leq)					
Property Line ¹	Use	Highest Construction ²	Construction Standard ³	Threshold Exceeded? ⁴			
North	Industrial	66.4	70	No			
South	Industrial	66.9	70	No			
East	Detention Center	67.6	65	Yes			
West	Industrial	68.9	70	No			

TABLE 10-3: UNMITIGATED TYPICAL CONSTRUCTION NOISE LEVEL COMPLIANCE

¹ Adjacent property line as shown on Exhibit 10-A.

² Construction noise level calculations based on distance from the center of project construction activity to the property line of adjacent uses as shown on Table 10-2.

³ Construction noise level standards as shown on Table 3-2.

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

Therefore, a minimum 6-foot-high temporary construction noise barrier at the east Project site boundary is required to reduce the typical construction noise levels as shown on Exhibit 10-B. As shown on Table 10-4, the mitigated construction noise levels are expected to range from 62.1 to 68.9 dBA L_{eq} at the parcel boundary of adjacent uses. Appendix 10.2 includes the mitigated typical construction CadnaA noise model calculations.

TABLE 10-4: MITIGATED TYPICAL CONSTRUCTION NOISE LEVELS

Adjacent Property Line ¹	Mitigated Construction Noise Levels (dBA L _{eq})							
	Demolition	Grading	Utilities/ Infrastructure	Paving	Building Construction/ Arch. Coating	Highest Levels ²		
North	66.4	64.6	62.7	62.3	58.6	66.4		
South	66.9	65.1	63.2	62.8	59.1	66.9		
East	62.1	60.3	58.4	58.0	54.3	62.1		
West	68.9	67.1	65.2	64.8	61.1	68.9		

¹ Adjacent property line as shown on Exhibit 10-A.

² Construction noise level calculations based on distance from the center of project construction activity to the property line of adjacent uses. The mitigated CadnaA construction noise model inputs are included in Appendix 10.2.

Table 10-5 shows that the mitigated construction noise levels will satisfy the City of Rancho Cucamonga construction noise level standard 65 dBA L_{eq} at the adjacent noise sensitive property line to the east. With the required 6-foot-high temporary noise barrier, the mitigated construction noise impacts are considered *less than significant* at adjacent property lines to the north, south, east, and west.



Adjacent		Construction Noise Levels (dBA Leq)				
Property Line ¹	Use	Highest Construction ²	Construction Standard ³	Threshold Exceeded? ⁴		
North	Industrial	66.4	70	No		
South	Industrial	66.9	70	No		
East	Detention Center	62.1	65	No		
West	Industrial	68.9	70	No		

TABLE 10-5: MITIGATED TYPICAL CONSTRUCTION NOISE LEVEL COMPLIANCE

¹ Adjacent property line as shown on Exhibit 10-A.

² Construction noise level calculations based on distance from the center of project construction activity to the property line of adjacent uses as shown on Table 10-4.

³ Construction noise level standards as shown on Table 3-2.

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

10.5 PROJECT CONSTRUCTION NOISE MITIGATION MEASURES

Though construction noise is temporary and intermittent, and will not present any long-term impacts, the following project construction noise mitigation measures shall be provided.

- To reduce construction noise at the West Valley Detention Center by a minimum of 2.6 dBA, the contractor shall install a minimum 6-foot-high temporary construction perimeter noise barrier at the east of the Project site boundary for the duration of construction activities. The limits of the noise barrier are shown on Exhibit 10-B. The noise control barrier shall include the following:
 - The noise control barriers must present a solid face from top to bottom.
 - The noise barrier shall be constructed using one of the following materials with no decorative cutouts or line-of-sight openings between shielded areas and the noise source:
 - An acoustical blanket (e.g. vinyl acoustic curtains, quilted blankets, or equivalent) attached to the construction site perimeter fence or equivalent temporary fence posts.
 - Any combination of these construction materials satisfying a weight of at least 4 pounds per square foot of face area.
 - The noise barriers shall be maintained, and any damage promptly repaired. Gaps, holes, or weaknesses in the barrier or openings between the barrier and the ground shall be promptly repaired.
- During all Project site construction, the construction contractors shall equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers, consistent with manufacturers' standards. The construction contractor shall place all stationary construction equipment so that emitted noise is directed away from the noise sensitive receptors nearest the Project site.





EXHIBIT 10-B: CONSTRUCTION NOISE MITIGATION MEASURES

LEGEND:

N

Temporary Noise Barrier

6' Temporary Noise Barrier Height (in feet)



10.6 NIGHTTIME CONCRETE POUR NOISE ANALYSIS

Nighttime concrete pouring activities could occur as a part of Project construction activities. Nighttime concrete pouring activities are often used to support reduced concrete mixer truck transit times and lower air temperatures than during the daytime hours. Since the nighttime concrete pours will take place outside the permitted City of Rancho Cucamonga Development Code, Section 17.66.050[D][4] hours of 7:00 a.m. to 8:00 p.m. on any day except Sundays or national holidays, the Project Applicant will be required to obtain authorization for nighttime work from the City of Rancho Cucamonga. Table 10-6 shows the mitigated concrete pour activities (paving) noise levels with the required 6-foot-high temporary noise barrier will range from 58.0 to 64.8 dBA Leq. at the parcel boundary of adjacent uses. With the required 6-foot-high temporary noise barrier, the mitigated nighttime concrete noise impacts are considered *less than significant* at adjacent property lines to the north, south, east, and west.

Adjacent		Construction Noise Levels (dBA L _{eq})				
Property Line ¹	Use	Paving Construction ²	Construction Standard ³	Threshold Exceeded? ⁴		
North	Industrial	62.3	70	No		
South	Industrial	62.8	70	No		
East	Detention Center	58.0	65	No		
West	Industrial	64.8	70	No		

TABLE 10-6: MITIGATED NIGHTTIME CONCRETE POUR NOISE LEVEL COMPLIANCE

¹ Adjacent property line as shown on Exhibit 10-A.

² Construction noise level calculations based on distance from the center of project construction activity to the property line of adjacent uses as shown on Table 10-4.

³ Construction noise level standards as shown on Table 3-2.

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

10.7 Typical Construction Vibration Impacts

Construction activity can result in varying degrees of ground vibration, depending on the equipment and methods used, distance to the affected structures and soil type. It is expected that ground-borne vibration from Project construction activities would cause only intermittent, localized intrusion. Ground-borne vibration levels resulting from typical construction activities occurring within the Project site were estimated by data published by the Federal Transit Administration (FTA) (7). 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 10-7. It should be noted that pile driving is not required for the Project. This list includes vibration source levels for a hoe ram or breaker representing a percussion hammer fitted to an excavator for breaking concrete. 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: $L_{VdB}(D) = L_{VdB}(25 \text{ ft}) - 30 \log(D/25)$

Equipment	Vibration Decibels (VdB) at 25 feet
Small bulldozer	58
Jackhammer	79
Loaded Trucks	86
Large bulldozer	87
Hoe Ram (Breaker)	87

ΓΔΒΙΕ 10-7 ·	VIBRATION	SOURCE LEVEL			CONSTRUCTION	
ADLE 10-7.	VIDRATION	SOURCE LEVEL	D FUR I	TFICAL	CONSTRUCTION	

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

Table 10-8 presents the expected typical construction equipment vibration levels at the nearest receiver locations. At distances ranging from 364 feet to 5,321 feet from typical Project construction activities (at the Project site boundary), construction vibration levels are estimated to range from 17.2 to 52.1 VdB and will remain below the FTA Transit Noise and Vibration Impact Assessment Manual maximum acceptable vibration criteria of 78 VdB for daytime residential uses at all receiver locations. Therefore, the Project-related vibration impacts are considered *less than significant* during typical construction activities at the Project site. Moreover, the vibration levels reported at the 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.

	Distance to	Receiver Vibration Levels (VdB) ²						
Receiver Location ¹	Construction Activity (Feet)	Small Bulldozer	Jack- hammer	Loaded Trucks	Large Bulldozer	Highest Vibration Levels	Threshold VdB ³	Threshold Exceeded? ⁴
R1	1,248'	7.1	28.1	35.1	36.1	36.1	78	No
R2	364'	23.1	44.1	51.1	52.1	52.1	78	No
R3	4,167'	0.0	12.3	19.3	20.3	20.3	78	No
R4	5,321'	0.0	9.2	16.2	17.2	17.2	78	No

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

² Based on the Vibration Source Levels of Construction Equipment included on Table 10-5.

³ FTA Transit Noise and Vibration Impact Assessment maximum acceptable vibration criteria as shown in Section 6.3.

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

10.8 CONCRETE CRUSHING REFERENCE NOISE LEVELS

An additional analysis was completed to assess potential noise level impacts due to concrete crushing activities planned near the eastern project site boundary. Exhibit 10-C shows the location of the planned concrete crushing activity area in relation to the receiver locations. The concrete crushing construction noise analysis was prepared using reference construction



equipment noise levels from the Federal Highway Administration (FHWA) published in the Roadway Construction Noise Model (RCNM), which includes a national database of construction equipment reference noise emission levels (20). Table 10-9 provides a summary of the reference average L_{eq} noise levels used to describe concrete crushing construction activities. The reference noise level summary describes construction activity noise levels with multiple pieces of concrete construction equipment operating simultaneously and includes source noise levels for a hoe ram or breaker representing a percussion hammer fitted to an excavator for breaking concrete.

Construction Stage	Typical Equipment	Reference Noise Level @ 50 Feet (dBA L _{eq}) ¹	Highest Reference Noise Level (dBA Leq)
	Impact Hammer (hoe ram)	83	
Concrete	Front End Loader	75	83
Crushing	Dump Truck	72	

¹ FHWA's Roadway Construction Noise Model, January 2006.

10.9 CONCRETE CRUSHING CONSTRUCTION NOISE ANALYSIS AND COMPLIANCE

Using the reference RCNM construction equipment noise levels and the CadnaA noise prediction model, calculations of the Project concrete construction noise level impacts at the parcel boundary of adjacent uses were completed. Exhibit 10-C identifies the location of the planned concrete crushing activities. As shown on Table 10-10, the unmitigated construction noise levels are expected to range from 50.8 to 72.1 dBA L_{eq} at the parcel boundary of adjacent uses. Table 10-10 shows that the estimated construction noise levels at the adjacent industrial uses to the north, south and west will satisfy the 70 dBA L_{eq} construction noise level standard. However, the construction noise levels at the noise sensitive West Valley Detention Center property line to the east will exceed the City of Rancho Cucamonga construction noise level standard 65 dBA L_{eq} . Appendix 10.3 includes the unmitigated concrete crushing CadnaA noise model calculations.

TABLE 10-10:	UNMITIGATED CO	NCRETE CRUSHING	NOISE LEVEL SUMMARY

Adjacent		Unmitigated Construction Noise Levels (dBA Leq)				
Property Line ¹	Use	Concrete Crushing ²	Construction Standard ³	Threshold Exceeded? ⁴		
North	Industrial	50.8	70	No		
South	Industrial	51.8	70	No		
East	Detention Center	72.1	65	Yes		
West	Industrial	55.5	70	No		

¹ Adjacent property line as shown on Exhibit 10-C.

² Construction noise level calculations based on distance from the concrete crushing activity to the property line of adjacent uses.

³ Construction noise level standards as shown on Table 3-2.

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





EXHIBIT 10-C: CONCRETE CRUSHING NOISE SOURCE LOCATIONS



Table 10-11 shows that the mitigated concrete crushing construction noise levels will range from 50.8 to 64.7 dBA L_{eq} at the parcel boundary of adjacent uses. With the required 6-foot high temporary noise barrier, the mitigated construction noise impacts are considered *less than significant* at adjacent property lines to the north, south, east, and west. Appendix 10.4 includes the mitigated concrete crushing CadnaA noise model calculations.

Adjacent		Mitigated Construction Noise Levels (dBA Leq)				
Property Line ¹	Use	Concrete Crushing ²	Construction Standard ³	Threshold Exceeded? ⁴		
North	Industrial	50.8	70	No		
South	Industrial	51.8	70	No		
East	Detention Center	64.7	65	No		
West	Industrial	55.5	70	No		

¹ Adjacent property line as shown on Exhibit 10-C.

² Construction noise level calculations based on distance from the concrete crushing activity to the property line of adjacent uses.

³ Construction noise level standards as shown on Table 3-2.

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

10.10 CONCRETE CRUSHING CONSTRUCTION VIBRATION ANALYSIS AND COMPLIANCE

Using the vibration source level of construction equipment list provided on Table 10-6 that includes source levels for a hoe ram or breaker representing a percussion hammer fitted to an excavator for breaking concrete and the construction vibration assessment methodology published by the FTA, it is possible to estimate the Project concrete crushing construction vibration impacts. Table 10-11 presents the expected concrete crushing construction equipment vibration levels when the equipment with the highest reference vibration activity operating at the closest point from the edge of primary construction activity (Exhibit 5-A) to each receiver location.

At distances ranging from 614 feet to 6,310 feet from the Project concrete crushing construction vibration levels are estimated to range from 14.9 to 45.3 VdB and will remain below the FTA Transit Noise and Vibration Impact Assessment Manual maximum acceptable vibration criteria of 78 VdB for daytime residential uses at all receiver locations. Therefore, the Project-related vibration impacts are considered *less than significant* during Project concrete crushing construction activities at the Project site.



	Distance to		Rece						
Receiver Location ¹	Construction Activity (Feet)	Small Bulldozer	Jack- hammer	Loaded Trucks	Large Bulldozer	Hoe Ram (Breaker)	Highest Vibration Levels	Threshold VdB ³	Threshold Exceeded? ⁴
R1	3,401'	0.0	15.0	22.0	23.0	23.0	23.0	78	No
R2	614'	16.3	37.3	44.3	45.3	45.3	45.3	78	No
R3	5,837'	0.0	8.0	15.0	16.0	16.0	16.0	78	No
R4	6,310'	0.0	6.9	13.9	14.9	14.9	14.9	78	No

TABLE 10-11: CONCRETE CRUSHING VIBRATION LEVELS

¹Concrete Crushing receiver locations are shown on Exhibit 10-B.

² Based on the Vibration Source Levels of Construction Equipment included on Table 10-5.

³ FTA Transit Noise and Vibration Impact Assessment maximum acceptable vibration criteria as shown in Section 6.3.

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





11 REFERENCES

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- 3. Environmental Protection Agency Office of Noise Abatement and Control. Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety. March 1974. EPA/ONAC 550/9/74-004.
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- 5. **U.S. Department of Transportation, Federal Highway Administration.** *Highway Traffic Noise in the United States, Problem and Response.* April 2000. p. 3.
- 6. U.S. Environmental Protection Agency Office of Noise Abatement and Control. *Noise Effects Handbook-A Desk Reference to Health and Welfare Effects of Noise.* October 1979 (revised July 1981). EPA 550/9/82/106.
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- 8. Office of Planning and Research. State of California General Plan Guidelines. October 2017.
- 9. State of California. 2016 California Green Building Standards Code. January 2017.
- 10. City of Rancho Cucamonga. General Plan Public Health and Safety Element. May 2010.
- 11. —. Development Code, 17.66 Performance Standards.
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- 13. American National Standards Institute (ANSI). Specification for Sound Level Meters ANSI S1.4-2014/IEC 61672-1:2013.
- 14. California Court of Appeal. *Gray v. County of Madera, F053661.* 167 Cal.App.4th 1099; Cal.Rptr.3d, October 2008.
- 15. Federal Interagency Committee on Noise. Federal Agency Review of Selected Airport Noise Analysis Issues. August 1992.
- 16. U.S. Department of Transportation, Federal Highway Administration. FHWA Highway Traffic Noise Prediction Model. December 1978. FHWA-RD-77-108.
- 17. California Department of Transportation Environmental Program, Office of Environmental Engineering. Use of California Vehicle Noise Reference Energy Mean Emission Levels (Calveno REMELs) in FHWA Highway Traffic Noise Prediction. September 1995. TAN 95-03.
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- 19. Urban Crossroads, Inc. High-Cube Fulfillment Center Traffic Memo. April, 2021.
- 20. U.S. Department of Transportation, Federal Highway Administration, Office of Environment and Planning. FHWA Roadway Construction Noise Model. January, 2006.



12 CERTIFICATIONS

The contents of this noise study report represent an accurate depiction of the noise environment and impacts associated with the proposed Bridge Point Rancho Cucamonga 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





APPENDIX 3.1:

CITY OF RANCHO CUCAMONGA MUNICIPAL CODE





Rancho Cucamonga Municipal Code

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 Title 17 DEVELOPMENT CODE
 ARTICLE IV. SITE DEVELOPMENT PROVISIONS
 Chapter 17.66 PERFORMANCE STANDARDS
 Print
 No Frames

17.66.050 Noise standards.

A. *Purpose*. In order to control unnecessary, excessive, and annoying noise and vibration in the city, it is hereby declared to be the policy of the city to prohibit such noise generated from or by all sources as specified in this section. The provisions apply within all jurisdictions within all zoning districts. Provisions apply based on the designated noise zones:

Noise Zone I: All single- and multiple-family residential properties.

Noise Zone II: All commercial properties.

B. *Decibel measurement criteria*. Any decibel measurement made pursuant to the provisions of this section shall be based on a reference sound pressure of 20 micropascals as measured with a sound level meter using the A-weighted network (scale) at slow response.

C. Exterior noise standards.

1. It shall be unlawful for any person at any location within the city to create any noise or allow the creation of any noise on the property owned, leased, occupied, or otherwise controlled by such person, which causes the noise level when measured on the property line of any other property to exceed the basic noise level as adjusted below:

a. Basic noise level for a cumulative period of not more than 15 minutes in any one hour; or

b. Basic noise level plus five dBA for a cumulative period of not more than ten minutes in any one hour; or

c. Basic noise level plus 14 dBA for a cumulative period of not more than five minutes in any one hour; or

d. Basic noise level plus 15 dBA at any time.

2. If the measurement location is a boundary between two different noise zones, the lower noise level standard shall apply.

3. If the intruding noise source is continuous and cannot reasonably be discontinued or stopped for a time period whereby the ambient noise level can be determined, the measured noise level obtained while the noise is in operation shall be compared directly to the allowable noise level standards as specified respective to the measurement's location, designated land use, and for the time of day the noise level is measured. The reasonableness of temporarily discontinuing the noise generation by an intruding noise source shall be determined by the planning director for the purpose of establishing the existing ambient noise level at the measurement location.

D. Special exclusions. The following activities shall be exempted from the provisions of this section:

1. City- or school-approved activities conducted on public parks, public playgrounds, and public or private school grounds including, but not limited to, athletic and school entertainment events between the hours of 7:00 a.m. and 10:00 p.m.

2. Occasional outdoor gatherings, dances, shows, and sporting and entertainment events, provided said events are conducted pursuant to the approval of a temporary use permit issued by the city.

3. Any mechanical device, apparatus, or equipment used, related to, or connected with emergency machinery, vehicle, work, or warning alarm or bell, provided the sounding of any bell or alarm on any building or motor vehicle shall terminate its operation within 30 minutes in any hour of its being activated.

4. Noise sources associated with, or vibration created by, construction, repair, remodeling, or grading of any real property or during authorized seismic surveys, provided said activities:

17.66.050 Noise standards.

a. When adjacent to a residential land use, school, church or similar type of use, the noise generating activity does not take place between the hours of 8:00 p.m. and 7:00 a.m. on weekdays, including Saturday, or at any time on Sunday or a national holiday, and provided noise levels created do not exceed the noise standard of 65 dBA when measured at the adjacent property line.

b. When adjacent to a commercial or industrial use, the noise generating activity does not take place between the hours of 10:00 p.m. and 6:00 a.m. on weekdays, including Saturday and Sunday, and provided noise levels created do not exceed the noise standards of 70 dBA at the when measured at the adjacent property line.

5. All devices, apparatus, or equipment associated with agricultural operations, provided:

a. Operations do not take place between 8:00 p.m. and 7:00 a.m. on weekdays, including Saturday, or at any time on Sunday or a national holiday.

b. Such operations and equipment are utilized for protection or salvage of agricultural crops during periods of potential or actual frost damage or other adverse weather conditions.

c. Such operations and equipment are associated with agricultural pest control through pesticide application, provided the application is made in accordance with permits issued by, or regulations enforced by, the state department of agriculture.

6. Noise sources associated with the maintenance of real property, provided said activities take place between the hours of 7:00 a.m. and 8:00 p.m. on any day.

7. Any activity to the extent regulation thereof has been preempted by state or federal law.

E. *Schools, churches, libraries, health care institutions.* It shall be unlawful for any person to create any noise which causes the noise level at any school, hospital or similar health care institution, church, or library while the same is in use, to exceed the noise standards specified in this section and prescribed for the assigned noise zone in which the school, hospital, church, or library is located.

F. Residential noise standards.

1. Table 17.66.050-1 (Residential Noise Limits) includes the maximum noise limits in residential zones. These are the noise limits when measured at the adjacent residential property line (exterior) or within a neighboring home (interior).

Logation of Maggunamont	Maximum Allowable					
Locution of Measurement	10:00 p.m. to 7:00 a.m.	7:00 a.m. to 10:00 p.m.				
Exterior	60 dBA	65dBA				
Interior	45 dBA	50dBA				

TABLE 17.66.050-1 RESIDENTIAL NOISE LIMITS

Additional:

(A) It shall be unlawful for any person at any location within the city to create any noise or to allow the creation of any noise which causes the noise level when measured within any other fully enclosed (windows and doors shut) residential dwelling unit to exceed the interior noise standard in the manner described herein.

(B) If the intruding noise source is continuous and cannot reasonably be discontinued or stopped for a time period whereby the ambient noise level can be determined, each of the noise limits above shall be reduced five dBA for noise consisting of impulse or simple tone noise.

2. Other residential noise limitations.

a. *Peddlers; use of loud noise, etc., to advertise goods, etc.* No peddler or mobile vendor or any person in their behalf shall shout, cry out, or use any device or instrument to make sounds for the purpose of advertising in such a manner as to create a noise disturbance.

b. *Animal noises*. No person owning or having the charge, care, custody, or control of any dog or other animal or fowl shall allow or permit the same to habitually howl, bark, yelp, or make other noises, in such a manner as to create a noise disturbance.

c. *Radios, television sets, musical instruments, and similar devices*. No person shall operate or permit the operation or playing of any device which reproduces, produces, or amplifies sound, such as a radio, musical instrument, phonograph, or sound amplifier, in such a manner as to create a noise disturbance.

i. Across any real property boundary or within Noise Zone I, between the hours of 10:00 p.m. and 7:00 a.m. on the following day (except for activities for which a temporary use permit has been 80

17.66.050 Noise standards.

issued).

ii. At 50 feet from any such device, if operated on or over any public right-of-way.

G. *Commercial and office noise provisions*. All operations and businesses shall be conducted to comply with the following standards:

1. All commercial and office activities shall not create any noise that would exceed an exterior noise level of 65 dBA during the hours of 10:00 p.m. to 7:00 a.m. and 70 dBA during the hours of 7:00 a.m. to 10:00 p.m. when measured at the adjacent property line.

2. *Loading and unloading*. No person shall cause the loading, unloading, opening, closing, or other handling of boxes, crates, containers, building materials, garbage cans, or similar objects between the hours of 10:00 p.m. and 7:00 a.m., in a manner which would cause a noise disturbance to a residential area.

3. *Vehicle repairs and testing*. No person shall cause or permit the repairing, rebuilding, modifying, or testing of any motor vehicle, motorcycle, or motorboat in such a manner as to increase a noise disturbance between the hours of 10:00 p.m. and 8:00 a.m. adjacent to a residential area.

H. Industrial noise provision included in Table 17.66.110-1 (Industrial Performance Standards). (Code 1980, § 17.66.050; Ord. No. 855, § 4, 2012)

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17.66.070 Vibration.

Uses that generate vibrations that may be considered a public nuisance or hazard on any adjacent property shall be cushioned or isolated to prevent generation of vibrations. Uses shall be operated in compliance with the following provisions:

A. No vibration shall be produced that is transmitted through the ground and is discernible without the aid of instruments at the points of measurement specified in section 17.66.030 (Points of Measurement) of this chapter, nor shall any vibration produced exceed 0.002g peak at up to 50 CPS frequency, measured at the point of measurement specified in section 17.66.030 (Points of Measurement) of this chapter using either seismic or electronic vibration measuring equipment. Vibrations occurring at higher than 50 CPS frequency of a periodic vibration shall not induce accelerations exceeding 0.001g. Single-impulse periodic vibrations occurring at an average interval greater than five minutes shall not induce accelerations exceeding 0.01g.

B. Uses, activities, and processes shall not generate vibrations that cause discomfort or annoyance to reasonable persons of normal sensitivity or which endangers the comfort, repose, health, or peace of residents whose property abuts the property line of the parcel.

C. Uses shall not generate ground vibration that interferes with the operations of equipment and facilities of adjoining parcels.

D. Vibrations from temporary construction/demolition and vehicles that leave the subject parcel (e.g., trucks, trains, and aircraft) are exempt from the provisions of this section. (Code 1980, § <u>17.66.070</u>; Ord. No. 855, § 4, 2012)

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Rancho Cucamonga Municipal Code

Print Up **Previous** Next Main Search **No Frames** Title 17 DEVELOPMENT CODE ARTICLE IV. SITE DEVELOPMENT PROVISIONS Chapter 17.66 PERFORMANCE STANDARDS

17.66.110 Special industrial performance standards.

Purpose. The performance standards allow industrial uses to operate consistent with the overall characteristics A. of the land use category to provide for a healthy, safe, and pleasing environment in keeping with the nature and level of surrounding industrial activity. The performance standards contained in Table 17.66.110-1 (Industrial Performance Standards) are applied based on the zoning district as follows:

Industrial Park (IP) Zoning District; Class A performance standards. The most restrictive of the 1. performance standards to ensure a high quality working environment and available sites for industrial and business firms whose functional and economic needs require protection from the adverse affects of noise, odors, vibration, glare, or high-intensity illumination, and other nuisances.

General Industrial (GI) Zoning District; Class B performance standards. These standards are intended to 2. provide for the broadest range of industrial activity while assuring a basic level environmental protection. It is the intent of the standards of this section to provide for uses whose operational needs may produce noise, vibration, particulate matter and air contaminants, odors, or humidity, heat, and glare which cannot be mitigated sufficiently to meet the Class A standards. The standards are so designed to protect uses on adjoining sites from effects which could adversely affect their functional and economic viability.

Medium Impact/High Impact (MI/HI) and Heavy Industrial (HI) Zoning Districts; Class C performance 3. standards. It is the intent of the standards of this section to make allowances for industrial uses whose associated processes produce noise, particulate matter and air contaminants, vibration, odor, humidity, heat, glare, or high-intensity illumination which would adversely affect the functional and economic viability of other uses. The standards, when combined with standards imposed by other governmental agencies, serve to provide basic health and safety protection for persons employed within or visiting the area.

Class A	Class B	Class C								
	Noise Maximum									
• 70dB (anywhere on lot)	• 80 dB (anywhere on lot)	• 85 dB (lot line)								
• 65 dB (interior space of neighboring use on same	• 65dB (at residential property line)	• 65dB (at residential property line)								
lot)	• Noise caused by motor vehicles and trains is	• Where a use occupies a lot abutting or separated by								
Noise caused by motor vehicles is exempted from	exempted from this standard.	a street from a lot within the designated Class A or B								
this standard.		performance standard or residential property, the								
		performance standard of the abutting property shall								
		apply at the common or facing lot line.								
Vibration										
All uses shall be so operated as not to generate	All uses shall be operated so as not to generate	All uses shall be operated so as not to generate								
vibration discernible without instruments by the	vibration discernible without instruments by the	vibration discernible without instruments by the								
average person while on or beyond the lot upon which	average persons beyond the lot upon which the source	average person beyond 600 feet from where the								
the source is located or within an adjoining enclosed	is located. Vibration caused by motor vehicles, trains,	source is located. Vibration caused by motor vehicles,								
space if more than one establishment occupies a	and temporary construction or demolition is exempted	trains, and temporary construction and demolition is								
structure. Vibration caused by motor vehicles, trains,	from this standard.	exempted from this standard.								
and temporary construction or demolition work is										
exempted from this standard.										
	Particulate Matter and Air Contaminants									
In addition to compliance with the Air Quality	In addition to compliance with the AQMD standards,	In addition to compliance with the AQMD standards,								
Maintenance District (AQMD) standards, all uses	all uses shall be operated so as not to emit particulate	all uses shall be operated so as not to emit particulate								

TABLE 17.66.110-1 INDUSTRIAL PERFORMANCE STANDARDS

10/6/2020

17.66.110 Special industrial performance standards.

shall be operated so as not to emit particulate matter	matter or air contaminants that are readily detectable	matter or air contaminants that (a) are injurious to the
or air contaminants that are readily detectable without	without instruments by the average person beyond	health of either persons engaged in or related to the
instruments by the average person while on the lot	any lot line of the lot containing such uses.	use of the lot, or persons residing, working, visiting,
containing such uses.		or recreating in neighboring areas; (b) substantially
		and adversely affect the maintenance of property in
		nearby areas; (c) are disruptive of industrial processes
		carried on in other parts of the industrial area. Where
		a use occupies a lot abutting or separated by a street
		lot with designated Class A or B, the A or B
		performance standard for particulate matter and air
		contaminants shall apply at the common or facing lot
		line.
	Odor	
All uses shall be operated so as not to emit matter	All uses shall be operated so as not to emit matter	All uses shall be operated so as not to emit matter
causing unpleasant odors that are perceptible to the	causing unpleasant odors that are perceptible to the	causing unpleasant odors that are perceptible to the
average person while within or beyond the lot	average person beyond any lot line of the lot	average person beyond any lot line of the lot
containing such uses.	containing such uses.	containing such uses.
	Humidity, Heat, and Glare	
All uses shall be operated so as not to produce	All uses shall be operated so as not to produce	All uses shall be operated so as not to produce
humidity, heat, glare, or high-intensity illumination	humidity, heat, glare, or high-intensity illumination	humidity, heat, glare, or high-intensity illumination
that is perceptible without instruments by the average	that is perceptible without instruments by the average	that is perceptible without instruments by the average
person while on or beyond the lot containing such use.	person beyond the lot line of any lot containing such	person while on any lot zoned for residential purposes
	use.	or any industrial property with a Class A or B
		performance standard designation.
		1

(Code 1980, § 17.66.110; Ord. No. 855, § 4, 2012)

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APPENDIX 4.1:

STUDY AREA PHOTOS







L1_E 34, 5' 17.380000", 117, 32' 25.460000"



L1_N 34, 5' 17.050000", 117, 32' 25.460000"



L1_S 34, 5' 17.180000", 117, 32' 25.490000"



L1_W 34, 5' 17.560000", 117, 32' 25.460000"



L2_E 34, 5' 10.230000", 117, 31' 29.070000"



L2_N



L2_S 34, 5' 10.230000", 117, 31' 29.070000"



L2_W 34, 5' 10.250000", 117, 31' 29.020000"



34, 4' 13.830000", 117, 32' 46.500000"



34, 4' 13.810000", 117, 32' 46.530000"



L3_S 34, 4' 13.830000", 117, 32' 46.530000"



L3_W 34, 4' 13.840000", 117, 32' 46.470000"



L4_E 34, 4' 44.040000", 117, 33' 11.550000"



L4_N 34, 4' 43.570000", 117, 33' 11.740000"



L4_S 34, 4' 43.790000", 117, 33' 11.770000"



34, 4' 44.020000", 117, 33' 11.550000"



L5_E 34, 5' 4.600000", 117, 31' 54.860000"



L5_N 34, 5' 4.790000", 117, 31' 54.830000"



34, 5' 4.600000", 117, 31' 54.860000"



L5_W 34, 5' 4.470000", 117, 31' 54.890000"



L6_E 34, 4' 43.890000", 117, 31' 55.910000"



L6_N 34, 4' 43.870000", 117, 31' 55.910000"



L6_S 34, 4' 43.910000", 117, 31' 55.910000"



L6_W 34, 4' 43.910000", 117, 31' 55.910000"

APPENDIX 4.2:

NOISE LEVEL MEASUREMENT WORKSHEETS





24-Hour Noise Level Measurement Summary																
Date:	Wednesday	, April 22, 20	20		Location	L1 - Located	northwest	of the Project	t site near 6t	h Street by	Meter	: Piccolo II			JN:	13349
Project:	Bridge Deve	lopment				the JKI WIIra	cie Center	Christian Chi	urcn.						Analyst:	P. Mara
							Hourly L _{eq}	dBA Readings	(unadjusted)							
85.0)															
	ξ 													_		
e 75.0																
65.0 - 65.0 س 60.0																
<u></u> 55.0			<u> </u>	య రె.	<u> </u>	9 D		ni u		0.1		1.9 1.9	0.6	<u>N</u>	<u>ν</u> σ	
9 45.0) — 1 .9	.1.6 3.3	56.	56.	2	<mark>55.1</mark>	<mark></mark>	57	<mark>- 57.</mark>	9	20			<mark></mark>	55	55
40.0)	_ U U														
	0	1 2	3	4 5	6	7 8	9	10 11 Hour Br	12 1	.3 14	15 1	6 17	18 19	20	21 22	23
Timoframo	llour	,	,	,	110/	1.3%	1 50/			150%	100%	105%	100%		A di	Adi I
Timejrame	Hour	L eq	L max	L min	L1%	L2%	L5%	L8%	52.3	L50%	L90%	L95%	50.0	L eq	Аај. 10.0	61.9
	1	51.6	58.2	49.1	57.9	57.3	55.6	54.2	51.5	50.6	49.6	49.4	49.2	51.6	10.0	61.6
	2	53.3	57.3	51.1	57.1	56.8	55.9	55.3	53.7	52.7	51.6	51.4	51.2	53.3	10.0	63.3
Night	3	56.5	59.9	54.0	59.7	59.4	58.7	58.2	57.0	56.2	54.7	54.4	54.1	56.5	10.0	66.5
	4	56.8	64.5	53.7	63.6	62.6	61.0	59.9	57.0	55.1	54.2	54.0	53.8	56.8	10.0	66.8
	5	57.9	63.8 64.4	55.6 56.1	63.1 63.8	62.3	60.5 61.8	59.6 60.8	58.1	57.3	56.2	55.9	55.7	57.9	10.0	67.9 68.6
	7	58.6	66.2	54.3	65.4	64.3	62.7	61.8	59.3	57.0	54.9	54.7	54.4	58.6	0.0	58.6
	8	55.5	61.6	51.4	60.9	60.2	58.8	58.2	56.6	54.9	52.1	51.9	51.6	55.5	0.0	55.5
	9	55.1	59.5	53.1	59.2	58.7	57.8	57.0	55.4	54.5	53.6	53.4	53.1	55.1	0.0	55.1
	10	58.5	63.6	56.4	62.9	62.0	60.5	59.9	58.9	58.2	56.9	56.7	56.5	58.5	0.0	58.5
	11	57.3	61.2	55.6	60.9	60.4	59.1	58.5	57.6	57.0	56.1	55.9	55.7	57.3	0.0	57.3
Day	12	57.1 63.2	74.4	57.0	73.2	00.3 71 4	59.2 68.1	58.0 66.7	57.5 63.0	50.8 60.5	55.0	57.8	57.5	63.2	0.0	57.1 63.2
	14	60.1	65.6	57.4	65.1	64.4	62.7	61.8	60.4	59.5	58.3	57.8	57.5	60.1	0.0	60.1
	15	59.5	62.2	57.7	61.9	61.7	61.1	60.8	60.0	59.3	58.2	58.0	57.8	59.5	0.0	59.5
	16	61.1	64.3	59.4	64.1	63.8	62.8	62.4	61.4	60.8	60.0	59.8	59.5	61.1	0.0	61.1
	17	61.9	64.4	60.2	64.2	63.9	63.4	63.1	62.3	61.8	60.8	60.5	60.3	61.9	0.0	61.9
	18	60.6	64.1	58.4	63.9	63.6	62.9	62.5	62.8	62.1	59.0	58.8	58.5	60.6	0.0	65.6
Evening	20	57.2	59.9	55.4	59.6	59.3	58.8	58.4	57.7	56.9	55.9	55.7	55.5	57.2	5.0	62.2
Ŭ	21	55.7	59.0	53.7	58.8	58.5	57.9	57.5	56.1	55.2	54.3	54.0	53.8	55.7	5.0	60.7
Night	22	56.9	62.1	54.4	61.7	61.3	59.9	59.0	57.3	56.2	55.1	54.8	54.5	56.9	10.0	66.9
Timoframo	23	55.7	60.2	53.6	60.0	59.8	58.6	56.8	55.9	55.2	54.1	53.9	53.7	55.7	10.0	65.7
Timeframe	Hour Min	L _{eq} 55.1	L _{max}	L _{min} 51.4	L1% 59.2	L2% 58.7	L5% 57.8	L8%	L25%	54 5	L90%	L95% 51.9	L99%		L _{еq} (ава)	
Day	Max	63.2	74.4	60.5	73.2	71.4	68.1	66.7	63.0	62.1	61.1	60.8	60.6	24-Hour	Daytime	Nighttime
Energy	Average	59.9	Ave	erage:	63.6	63.0	61.7	61.0	59.6	58.5	57.1	56.9	56.6	58 G	50 6	56 1
Evening	Min	55.7	59.0	53.7	58.8	58.5	57.9	57.5	56.1	55.2	54.3	54.0	53.8	50.0	59.0	JU.I
Enorgy	Max	60.6	64.1	58.4	63.9	63.6	62.9	62.5	61.0	60.1	59.0	58.8	58.5	24-	Hour CNEL (d	ВА)
chergy .	Min	58.5	55.4	49.1	55.2	54.9	59.9	53.5	58.5	50.6	49.6	49.4	49.2			
Night	Max	58.6	64.5	56.1	63.8	63.3	61.8	60.8	58.7	57.8	56.6	56.4	56.2		b3.b	
Energy	Average	56.1	Ave	erage:	60.2	59.7	58.4	57.5	55.7	54.7	53.6	53.4	53.2			



Date: Project:	Wednesday Bridge Deve	r, April 22, 20 Plopment	20		Location:	24-Ho L2 - Located Inland Emp Recycling Pl	ur Noise Le deast of the ire Utilities A lant at 12811 Hourly Lego	evel Measu Project site c gency Regior . 6th Street. dBA Readings	urement St on 6th Street nal Water Qu (unadjusted)	ummary near the ality	Meter:	Piccolo I			JN: Analyst:	13349 P. Mara
85.0 80.0 (Y g 7).0 1 A Juno H 60.0 1 A Juno	27.0	56.3	60.8	62.4 65.0	e2:3	64.1 60.8	60.4	61.6 59.2	61.3 61.3	58.5	58.4 56.2	22:5	55.7 57.2	20:8	57.2 57.1	58.4
35.0) + + + (1 2	3	4 5	6	7 8	9 1	0 11	12 13	3 14	15 16	17	18 19	20	21 22	23
	-		-		-			Hour Be	ginning							
Timeframe	Hour	L _{eq}	L max	L _{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L _{eq}	Adj.	Adj. L _{ea}
	0	57.0	78.8	46.1	67.0	65.0	62.0	60.0	54.0	49.0	47.0	47.0	46.0	57.0	10.0	67.0
	1	56.3	69.7	44.9	66.0	65.0	62.0	61.0	55.0	50.0	47.0	46.0	45.0	56.3	10.0	66.3
	2	57.9	75.7	45.9	67.0	66.0	64.0	62.0	57.0	52.0	48.0	47.0	46.0	57.9	10.0	67.9
Night	3	60.8	80.2	47.8	69.0	67.0	65.0	64.0	60.0	56.0	50.0	49.0	48.0	60.8	10.0	70.8
	4	62.4	80.1	49.4	71.0	69.0	67.0	66.0	62.0	58.0	52.0	51.0	50.0	62.4	10.0	72.4
	5	65.0	83.5	50.4	74.0	71.0	69.0	68.0	65.0	62.0	54.0	53.0	51.0	65.0	10.0	75.0
	5	64.1	88.7	50.6	75.0	73.0	67.0	67.0	62.0	61.0 50.0	54.0	53.0	51.0	64.1	10.0	/5.3 64.1
	/ 8	60.8	80.0	47.7	76.0	68.0	65.0	63.0	60.0	59.0	52.0	31.0 49.0	49.0	60.8	0.0	60.8
	9	60.4	82.1	47.7	72.0	69.0	64.0	62.0	58.0	54.0	49.0	49.0	48.0	60.4	0.0	60.4
	10	61.6	84.8	47.3	74.0	71.0	65.0	61.0	57.0	54.0	49.0	48.0	48.0	61.6	0.0	61.6
	11	59.2	83.0	47.4	71.0	68.0	62.0	60.0	56.0	53.0	49.0	49.0	48.0	59.2	0.0	59.2
	12	61.2	84.7	46.2	73.0	71.0	64.0	61.0	57.0	54.0	50.0	48.0	47.0	61.2	0.0	61.2
Day	13	61.3	85.1	49.1	73.0	69.0	63.0	61.0	57.0	54.0	51.0	50.0	49.0	61.3	0.0	61.3
	14	58.5	78.5	49.2	70.0	67.0	61.0	60.0	56.0	53.0	51.0	50.0	49.0	58.5	0.0	58.5
	15	58.4	81.0	49.3	68.0	66.0	61.0	60.0	56.0	53.0	51.0	50.0	50.0	58.4	0.0	58.4
	16	56.2	74.3	49.2	65.0	62.0	59.0	58.0	55.0	53.0	51.0	50.0	50.0	56.2	0.0	56.2
	17	55.2	73.3	49.5	62.0	61.0	59.0	58.0	55.0	53.0	51.0	50.0	50.0	55.2	0.0	55.2
	18	55./	74.9	49.6	63.0	61.0	59.0	58.0	55.0	53.0	51.0	51.0	50.0	55./	0.0	55.7
Evening	20	56.8	77.3	40.0	66.0	65.0	62.0	61.0	56.0	53.0	48.0	48.0	47.0	57.2	5.0	61.8
Lucinia	20	57.2	75.7	45.7	67.0	65.0	63.0	61.0	56.0	51.0	46.0	46.0	45.0	57.2	5.0	62.2
	22	57.1	73.8	46.4	67.0	66.0	63.0	61.0	56.0	51.0	48.0	47.0	46.0	57.1	10.0	67.1
Night	23	58.4	80.6	46.6	68.0	66.0	63.0	62.0	57.0	52.0	48.0	48.0	47.0	58.4	10.0	68.4
Timeframe	Hour	L _{eq}	L max	L _{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%		L _{eq} (dBA)	
Day	Min	55.2	73.3	46.2	62.0	61.0	59.0	58.0	55.0	53.0	49.0	48.0	47.0	24-Hour	Davtime	Nighttime
Day	Max	64.1	85.1	49.6	76.0	72.0	67.0	66.0	62.0	59.0	52.0	51.0	50.0	24-11001	Duytime	Mightume
Energy	Average	60.1	Ave	erage:	69.8	67.1	62.4	60.7	57.0	54.1	50.4	49.6	48.8	60.4	59.7	61.3
Evening	Min	56.8	75.7	45.1	66.0	64.0	62.0	61.0	56.0	50.0	46.0	46.0	45.0	24		
Energy	Average	57.2	//.3 Δνα	46.6 erage:	66.3	64.7	62.3	61.0	56.0	53.0	48.0	48.0	47.0	24-	nour civer (a	DAJ
Linergy	Min	56.3	69.7	44.9	66.0	65.0	62.0	60.0	54.0	49.0	47.0	46.0	45.0			
Night	Max	65.3	88.7	50.6	75.0	73.0	69.0	68.0	65.0	62.0	54.0	53.0	51.0		b/.b	
Energy	Average	61.3	Ave	erage:	69.3	67.6	64.8	63.4	58.9	54.6	49.8	49.0	47.8	1		



						24-Ho	ur Noise Le	evel Measu	urement Su	ummary						
Date: Project:	Wednesday Bridge Deve	r, April 22, 20 elopment	20		Location	L3 - Located	southwest o r Hyatt Place	of the Project Ontario.	t site by Roch	nester	Meter:	Piccolo I			JN: Analyst:	13349 P. Mara
							Hourly L _{eq} d	dBA Readings	(unadjusted)							
85.0)															
₹ 80.0	i															
a 75.0 p 70.0	$\beta = +$															
و 65.0				~ ~		N				2			- <mark>0.</mark>			
→ 55.0	ب آن – ا			54.C			<mark>5.5</mark>		67		53.5 53.4	5.8	2.1	5.6	6	
9 45.0) — 6 —	<u> </u>	9		+		9						9	9	23 6	0
40.0 35.0																
	0	1 2	3	4 5	6	7 8	9 1	LO 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	59.5	72.4	52.2	67.0	64.0	62.0	62.0	59.0	58.0	55.0	55.0	53.0	59.5	10.0	69.5
	1	61.5	85.5	53.8	69.0	67.0	64.0	62.0	60.0	58.0	56.0	56.0	55.0	61.5	10.0	71.5
Night	2	60.1	73.5	53.7	68.0	65.0	63.0	62.0	60.0	59.0	56.0	55.0	54.0	60.1	10.0	70.1
	3	61.8	69.7 75.5	55.8	65.U	65.0	64.0 66.0	64.0 65.0	62.0	61.0	59.0	58.0	57.0	61.8	10.0	71.8
	4 5	65.8	75.6	61.0	69.0	68.0	67.0	67.0	66.0	65.0	63.0	63.0	62.0	65.8	10.0	75.8
	6	65.4	74.6	60.2	70.0	69.0	68.0	67.0	66.0	64.0	62.0	62.0	61.0	65.4	10.0	75.4
	7	65.2	84.7	59.2	69.0	68.0	67.0	66.0	65.0	64.0	62.0	62.0	61.0	65.2	0.0	65.2
	8	63.4	74.5	57.2	67.0	66.0	65.0	65.0	64.0	63.0	60.0	60.0	59.0	63.4	0.0	63.4
	9	62.5	73.6	56.7	66.0	66.0	65.0	64.0	63.0	62.0	60.0	59.0	58.0	62.5	0.0	62.5
	10 11	62.7	79.4 83.8	56.1	69.0 69.0	67.0	65.0 65.0	64.0 64.0	63.0 63.0	61.0 62.0	59.0 60.0	59.0 59.0	58.0 58.0	62.7	0.0	62.7
	12	63.5	78.7	58.3	70.0	68.0	65.0	65.0	63.0	62.0	60.0	60.0	59.0	63.5	0.0	63.5
Day	13	67.0	93.3	57.3	75.0	71.0	66.0	65.0	63.0	62.0	60.0	60.0	59.0	67.0	0.0	67.0
	14	63.3	76.3	58.7	68.0	66.0	65.0	65.0	63.0	62.0	60.0	60.0	59.0	63.3	0.0	63.3
	15	63.9	84.5	57.5	69.0	68.0	66.0	65.0	63.0	62.0	60.0	60.0	59.0	63.9	0.0	63.9
	16	63.4	80.1	59.1	67.0	66.0	65.0	65.0	63.0	62.0	61.0	60.0	60.0	63.4	0.0	63.4
	17 18	62.8 70.0	100.3	57.4	68.0 73.0	69.0	65.0 66.0	64.0 64.0	63.0 62.0	62.0 61.0	60.0 59.0	59.0	59.0 58.0	62.8 70.0	0.0	62.8 70.0
	19	62.1	74.2	56.8	68.0	66.0	64.0	63.0	62.0	61.0	59.0	59.0	58.0	62.1	5.0	67.1
Evening	20	62.6	80.6	56.8	69.0	67.0	65.0	64.0	62.0	61.0	59.0	59.0	58.0	62.6	5.0	67.6
	21	62.3	88.2	54.2	66.0	65.0	63.0	62.0	61.0	60.0	57.0	57.0	55.0	62.3	5.0	67.3
Night	22	59.6	71.5	53.8	66.0	64.0	62.0	61.0	59.0	58.0	56.0	55.0	55.0	59.6	10.0	69.6
Timeframe	23 Hour	60.8	80.7	54.3	68.0 11%	64.0	63.0 15%	62.0	60.0 125%	59.0 150%	57.0	57.0	56.0	60.8	10.0	/0.8
Timejrume	Min	62.5	73.6	56.1	66.0	66.0	65.0	64.0	62.0	61.0	59.0	59.0	58.0			
Day	Max	70.0	100.3	59.2	75.0	71.0	67.0	66.0	65.0	64.0	62.0	62.0	61.0	24-Hour	Daytime	Nighttime
Energy	Average	64.9	Ave	rage:	69.2	67.3	65.4	64.7	63.2	62.1	60.1	59.8	58.9	63.9	64 5	62 7
Evening	Min	62.1	74.2	54.2	66.0	65.0	63.0	62.0	61.0	60.0	57.0	57.0	55.0	03.5		
Energy	Max Average	62.6	88.2 Ave	56.8	69.0 67.7	67.0	65.0	64.0	62.0	61.0	59.0	59.0	58.0	24-1	Hour CNEL (d	ВАЈ
Lifergy	Min	59.5	69.7	52.2	65.0	64.0	62.0	61.0	59.0	58.0	55.0	55.0	53.0			
Night	Max	65.8	85.5	61.0	70.0	69.0	68.0	67.0	66.0	65.0	63.0	63.0	62.0		69.6	
Energy	Average	62.7	Ave	rage:	67.8	65.9	64.3	63.6	61.8	60.6	58.3	58.0	57.0			



Date: Wednesday, April 22, 2020 Location: L4 - Located west of the Project site by the Courtyard by Meter: Piccolo II Project: Bridge Development Marriott Ontario. A											JN: Analyst:	13349 P. Mara				
							Hourly L _{eq}	dBA Readings	(unadjusted)							
85 (י															
	ž															
B 70.0																
65.0																
→ 55.0	ž	_		4												
9 50.0	5 – 6 –	1.7		59		56.5	5 .8	3.6		22.5	<mark>3.3</mark>	0.7	2.8	5.2	4.1	1.4
▲ 40.0 35.0		- <u>v</u> v					- <u>10</u>	<u>и</u> – и –	- ⁰ i	<u>, </u>	- <mark>10</mark> - 10	0 - 10 -	- <mark>0</mark> - 0	<u>0</u>		
	0	1 2	3	4 5	6	7 8	9	10 11	12 1	.3 14	15 16	5 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	53.4	57.2	51.1	57.0	56.7	56.1	55.7	54.0	52.8	51.6	51.5	51.2	53.4	10.0	63.4
	1	51.7	56.2	49.0	55.9	55.5	54.6	54.1	52.4	50.7	49.5	49.3	49.0	51.7	10.0	61.7
	2	54.2	58.6	51.2	58.4	58.1	57.4	57.0	55.1	53.1	51.7	51.5	51.3	54.2	10.0	64.2
Night	3	55.4	59.7	52.3	59.5	59.2	58.5	58.0	56.1	54.7	52.9	52.7	52.4	55.4	10.0	65.4
	4	58.4 59.6	62.2	50.4	62.9	61.8	61.2	60.2	58.0	57.8	58.5	50.7	50.5	58.4 59.6	10.0	69.6
	6	61.3	66.5	59.5	65.9	65.3	63.9	62.9	61.5	60.8	59.9	59.8	59.6	61.3	10.0	71.3
	7	56.9	65.0	52.0	64.7	64.3	62.6	61.3	56.6	54.2	52.5	52.3	52.1	56.9	0.0	56.9
	8	55.7	62.3	50.4	61.9	61.4	60.4	59.7	56.5	54.1	51.2	50.9	50.6	55.7	0.0	55.7
	9	52.8	58.6	48.9	58.3	58.0	57.3	56.3	53.4	51.3	49.6	49.4	49.0	52.8	0.0	52.8
	10	54.1	60.7	48.2	60.4	60.0	58.8	58.0	55.0	52.3	49.0	48.6	48.3	54.1	0.0	54.1
	11	53.0	62.1 64.1	47.4	61.4 63.8	60.6 63.5	59.2 62.3	58.3	53.8 54.2	50.7	48.3	47.9	47.6	53.0	0.0	53.6
Day	13	52.1	59.3	47.1	58.9	58.5	57.0	56.1	52.6	50.8	47.8	47.5	47.2	52.1	0.0	52.1
	14	55.5	63.8	47.6	63.4	62.9	61.2	60.3	56.3	52.4	48.4	48.1	47.7	55.5	0.0	55.5
	15	52.2	58.5	48.2	58.0	57.5	56.4	55.6	52.7	50.8	48.9	48.6	48.3	52.2	0.0	52.2
	16	53.3	60.7	47.8	60.3	59.9	58.4	57.4	53.6	51.0	48.5	48.2	47.9	53.3	0.0	53.3
	17	52.0	58.9	47.6	58.5	57.9	56.3	55.2	52.7	50.5	48.4	48.1	47.8	52.0	0.0	52.0
	18	52.8	61.6	46.9	61.0	60.6	58.9	57.4	52.5	49.7	47.6	47.3	47.0	52.8	0.0	52.8
Evening	20	50.4	58.0	40.0 47.4	57.4 58.1	57.7	56.6	55.9	53.2	48.0 50.4	47.1	40.9	40.7	50.4	5.0	57.4 57.2
LVCIIIIS	20	52.5	61.1	47.8	60.6	59.8	57.7	56.6	52.4	49.8	48.4	48.2	47.9	52.5	5.0	57.5
Night	22	54.1	61.7	46.6	61.4	61.2	60.1	59.1	54.5	51.0	47.3	47.0	46.7	54.1	10.0	64.1
Night	23	51.4	58.0	48.1	57.7	57.3	56.0	54.6	51.5	49.7	48.6	48.4	48.2	51.4	10.0	61.4
Timeframe	Hour	L _{eq}	L _{max}	L _{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%		L _{eq} (dBA)	
Day	Min	52.0	58.5	46.9	58.0	57.5	56.3	55.2	52.5	49.7	47.6	47.3	47.0	24-Hour	Daytime	Nighttime
Energy	Average	50.9	05.0 Ave	Drage [.]	60.9	60.4	02.0 59.1	58.0	50.0	51.5	52.5 49.0	52.3 48.7	48.4			
	Min	50.4	58.0	46.6	57.4	56.5	54.7	53.9	50.7	48.6	47.1	46.9	46.7	55.2	53.7	56.8
Evening	Max	52.5	61.1	47.8	60.6	59.8	57.7	56.6	53.2	50.4	48.4	48.2	47.9	24-	Hour CNEL (a	IBA)
Energy	Average	51.8	Ave	erage:	58.7	58.0	56.4	55.4	52.1	49.6	47.9	47.6	47.4			
Night	Min	51.4	56.2	46.6	55.9	55.5	54.6	54.1	51.5	49.7	47.3	47.0	46.7		63 0	
Energy	Average	61.3 56.8	66.5 Δνε	59.5 Prage:	65.9 60.1	65.3 59.7	63.9 58.7	58.0	61.5 56.0	60.8 54.4	59.9	59.8	59.6	-	55.0	
Lincigy	, actuge	50.0			00.1	55.1	50.7	50.0	50.0	J4.4	55.0	52.0	52.0			



Date: Project:	Date: Tuesday, September 29, 2020 Location: L5 - Located near northeastern boundary of the Project site near the West Valley Detention Center at 9500 Etiwanda Meter: Piccolo II JN: 13349 Project: Bridge Development Avenue. Analyst: P. Mara															
							Hourly L _{eq}	dBA Readings	(unadjusted)							
85.0	<u> </u>															
₹ ^{80.0}																
B 70.0	Ś															
، 65.0 60.0 ت				0.0												
<u>רא</u> 55.0				6	0.7			ດ								
9 45.0	5.1	.0.9 .2.9	.2.9		9	- <mark>28</mark> 9		56	24.4		54.2 0.1	5.2	55.		1.4	0.2
40.0)	- u u -	U							,						<u> </u>
	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	52.1	54.3	51.2	54.0	53.8	53.3	53.0	52.3	52.0	51.5	51.4	51.3	52.1	10.0	62.1
	1	50.9	52.4	50.2	52.3	52.1	51.8	51.6	51.2	50.8	50.4	50.4	50.2	50.9	10.0	60.9
Night	2	52.9	55.7	51.6	55.5	55.3	54.7	54.3	53.4	52.5	51.8	51.8	51.6	52.9	10.0	62.9
Nigrit	3	52.9 62.7	55.1 67.9	52.0	54.9 67.6	54.8 67.1	54.3 66.1	54.0	53.1 64.0	52.7 62.0	52.3	52.2	52.1	52.9 62.7	10.0	62.9 72.7
	5	69.0	77.4	65.9	76.8	76.3	75.5	75.0	73.0	71.1	67.8	67.0	66.2	69.0	10.0	72.7
	6	60.7	67.9	57.6	67.2	66.3	64.5	63.5	61.2	59.4	58.1	57.9	57.7	60.7	10.0	70.7
	7	61.4	65.2	59.3	64.6	64.1	63.4	63.1	62.0	61.0	59.8	59.6	59.4	61.4	0.0	61.4
	8	58.3	62.4	55.8	62.0	61.7	61.0	60.6	59.0	57.5	56.3	56.1	55.9	58.3	0.0	58.3
	9	56.1	62.8	52.6	61.8	60.9	59.4	58.8	56.8	55.0	53.3	53.0	52.7	56.1	0.0	56.1
	10	56.9	63.1	52.6	62.7	62.1	61.0	60.2	57.9	55.3	53.3	53.0	52.7	56.9	0.0	56.9
	11	52.7	50.4	50.4 50.7	50.0	55.0 58.0	54.9 58.0	54.5	53.4	52.2	51.0	50.8 51.2	50.5	52.7 54.4	0.0	52.7
Day	13	53.4	57.2	50.9	57.0	56.6	56.0	55.6	54.0	52.8	51.5	51.2	51.0	53.4	0.0	53.4
	14	53.6	57.8	50.9	57.4	57.1	56.3	55.8	54.3	53.0	51.7	51.4	51.0	53.6	0.0	53.6
	15	54.2	61.0	50.2	60.2	59.7	57.8	57.3	54.9	52.8	50.8	50.6	50.3	54.2	0.0	54.2
	16	50.1	54.1	48.1	53.5	53.0	52.1	51.7	50.5	49.7	48.6	48.5	48.2	50.1	0.0	50.1
	17	52.2	56.0	50.4	55.5	55.1	54.3	53.8	52.6	51.8	50.9	50.8	50.5	52.2	0.0	52.2
	18	54.0	56.7	52.6	56.3	56.0	55.4	55.1	54.3	53.7	53.0	52.9	52.7	54.0	0.0	54.0
Evening	20	55.1 55.4	59.1 57.7	53.0 54.1	58.7 57.4	58.2 57.2	57.0	56.5	55.3	54.7 55.2	54.0 54.5	53.9 54.4	53.7	55.1 55.4	5.0	60.1 60.4
Lvening	20	51.6	53.4	50.5	53.2	53.0	52.7	52.5	51.9	51.4	50.9	50.7	50.6	51.6	5.0	56.6
Niaht	22	51.4	54.3	50.1	54.0	53.8	53.0	52.6	51.7	51.1	50.5	50.3	50.2	51.4	10.0	61.4
Night	23	50.2	52.1	49.2	51.8	51.6	51.3	51.0	50.4	50.0	49.5	49.4	49.3	50.2	10.0	60.2
Timeframe	Hour	L _{eq}	L _{max}	L _{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%		L _{eq} (dBA)	
Day	Min	50.1	54.1	48.1	53.5	53.0	52.1	51.7	50.5	49.7	48.6	48.5	48.2	24-Hour	Daytime	Nighttime
Energy		55.9	05.2 Ave	orage.	58.8	58.4	57.5	57.0	62.0 55.4	54.0	59.8	59.0 52.4	59.4			
	Min	51.6	53.4	50.5	53.2	53.0	52.7	52.5	51.9	51.4	50.9	50.7	50.6	58.6	55.6	61.2
Evening	Max	55.4	59.1	54.1	58.7	58.2	57.0	56.5	55.7	55.2	54.5	54.4	54.2	24-	Hour CNEL (d	BA)
Energy	Average	54.3	Ave	erage:	56.4	56.1	55.5	55.1	54.3	53.8	53.1	53.0	52.8			
Night	Min	50.2	52.1	49.2	51.8	51.6	51.3	51.0	50.4	50.0	49.5	49.4	49.3		67 2	
Enorm	Max	69.0	77.4	65.9	76.8	76.3	75.5	75.0	73.0	71.1	67.8	67.0	66.2	1	U/ .L	
Energy	Average	01.2	AV	erage.	59.4	59.0	58.3	57.8	50.7	55.8	54.5	54.2	53.9			



Date: Project:	Date: Tuesday, September 29, 2020 Location: L6 -Located near the southeastern boundary of the Project: Bridge Development Location: L6 -Located near the southeastern boundary of the Project: Bridge Development Avenue.											Piccolo II			JN: Analyst:	13349 P. Mara
							Hourly L _{eq} d	dBA Readings	(unadjusted)							
95.0	n															
- 80.0	$i \mapsto i$															
	2 ++															
5 ,000	β															
<u>_</u> 60.0																
- 55.0						<mark>-4</mark>		n						<u> </u>	N	
9 45.0		53.9		55.	<u>13</u>	20 2							- <mark>11.6</mark>	3.1	54.	5.6
35.0							0									
	0	1 2	3	4 5	6	7 8	9 1	LO 11	12 1	3 14	15 16	17	18 19	20	21 22	23
								Hour Be	eginning							
Timeframe	Hour	Lag	Lmax	Lmin	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	Lag	Adi.	Adi. L 👦
	0	- eq	- mux	50.1	56.2	55.9	55 1	54 5	52.6	51 5	50.5	50.3	50.2	- eq	10.0	62.2
	1	50.5	54.4	48.7	54.2	53.8	52.9	52.4	50.9	49.9	49.1	48.9	48.8	50.5	10.0	60.5
	2	53.9	58.8	51.3	58.4	57.9	57.1	56.7	54.6	52.7	51.8	51.6	51.4	53.9	10.0	63.9
Night	3	53.3	56.8	51.4	56.5	56.3	55.6	55.2	53.8	52.8	51.8	51.7	51.5	53.3	10.0	63.3
_	4	55.6	58.6	54.0	58.3	58.0	57.3	57.0	56.1	55.3	54.4	54.3	54.1	55.6	10.0	65.6
	5	56.3	60.6	54.8	60.0	59.2	58.1	57.7	56.6	55.9	55.1	55.0	54.8	56.3	10.0	66.3
	6	58.3	60.6	57.0	60.4	60.1	59.7	59.4	58.6	58.1	57.4	57.3	57.1	58.3	10.0	68.3
	7	59.7	62.4	58.5	62.0	61.7	61.1	60.8	60.0	59.5	58.9	58.8	58.6	59.7	0.0	59.7
	8	56.4	59.8	54.8	59.4	59.1	58.3	57.8	56.7	56.1	55.2	55.1	54.9	56.4	0.0	56.4
	9	51.9	58.7	48.6	58.4	57.9	56.0	54.5	52.1	50.8	49.2	49.0	48.7	51.9	0.0	51.9
	10	54.9	63.9	48.3	63.2	62.8	60.8	58.5	55.5	52.0	48.9	48.7	48.4	54.9	0.0	54.9
	11	50.6	57.6	47.0	56.6	55.6	54.1	53.2	51.0	49.6	47.7	47.4	47.2	50.6	0.0	50.6
Day	12	49.9	56.3	45.7	55.6	55.0	53.4	52.7	50.6	49.0	46.7	46.2	45.9	49.9	0.0	49.9
- ,	13	51.2	54.9	48.8	54.6	54.3	53.6	53.2	51.9	50.8	49.4	49.2	48.9	51.2	0.0	51.2
	14	50.2	73.5	53.9	73.4	73.2	72.3	69.5	62.6	59.1	55.5	54.7	54.0	50.2	0.0	50.2
	15	50.3	57.2	45.7	56.6	56.0	54.5	53.5	50.9	49.0	46.7	46.3	45.9	50.3	0.0	50.3
	15	50.1	55.5	46.2	54.9	54.3	53.1	52.5	51.0	49.4 40 E	47.1	40.8	40.4 46 E	50.1	0.0	50.1
	17	51.6	56.8	40.4	56.0	55.8	54.5	53.9	51.2	49.5 51.0	47.1	40.0 /10_1	40.5	51.6	0.0	50.0
	19	50.2	54.4	47.9	54.0	53.6	52.7	52.2	50.7	49.7	48.4	48.2	48.0	50.2	5.0	55.2
Evening	20	53.1	57.7	50.8	57.5	57.1	56.0	55.3	53.5	52.3	51.3	51.1	50.9	53.1	5.0	58.1
- 0	21	54.2	57.0	52.5	56.8	56.6	56.1	55.7	54.7	54.0	53.0	52.8	52.6	54.2	5.0	59.2
Nicht	22	53.5	57.9	51.6	57.5	57.0	56.1	55.4	53.8	53.0	52.0	51.9	51.7	53.5	10.0	63.5
Night	23	52.6	57.1	50.4	56.6	56.0	55.1	54.5	53.0	52.1	51.0	50.8	50.5	52.6	10.0	62.6
Timeframe	Hour	L _{eq}	L max	L _{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%		L _{eq} (dBA)	
Dav	Min	49.9	54.9	45.7	54.6	54.3	53.1	52.5	50.6	49.0	46.7	46.2	45.9	24-Hour	Davtime	Niahttime
Day	Max	59.7	73.5	58.5	73.4	73.2	72.3	69.5	62.6	59.5	58.9	58.8	58.6			
Energy	Average	53.6	Ave	erage:	58.9	58.4	57.2	56.2	53.8	52.2	50.1	49.8	49.5	53.9	53.5	54.6
Evening	Min	50.2	54.4	47.9	54.0	53.6	52.7	52.2	50.7	49.7	48.4	48.2	48.0			
Enorgy	Max	54.2	57.7	52.5	57.5	57.1	56.1	55.7	54.7	54.0	53.0	52.8	52.6	24-	HOUR CNEL (d	DAJ
Energy	Min	52.8 50.5	AVE	10 7	50.1	55.8	54.9	54.4	53.0	52.0	50.9	50.7	50.5			
Night	Max	50.5	54.4 60.6	48.7 57.0	54.Z	53.8 60.1	52.9	52.4 59.4	58.6	49.9 58.1	49.1 57 A	40.9	40.0		61.1	
Energy	Average	54.6	Ave	erage:	57.6	57.1	56.3	55.9	54.5	53.5	52.6	52.4	52.2			
		3 1.0	,,,,,		57.0	57.1	00.0	55.5	51.5		52.0	52.7	52.2			



APPENDIX 8.1:

OFF-SITE TRAFFIC NOISE CONTOURS





	FH1	WA-RD-77-108	B HIGH	IWAY N	OISE PI	REDICTI	ON MO	DEL			
Scenar Read Nor	rio: Existing (2)	020)				Project	Name:	Bridge	Point		
Road Segme	nt: s/o Foothill	BI.				300 14	umber.	10040			
SITE	SPECIFIC I	NPUT DATA				N	OISE I	NODE	EL INPUT	5	
Highway Data				5	Site Con	ditions	(Hard =	10, S	oft = 15)		
Average Daily	Traffic (Adt):	13,077 vehicl	es					Autos	15		
Peak Hour	Percentage:	10.14%			Me	dium Tru	icks (2 /	Axles)	: 15		
Peak H	lour Volume:	1,326 vehicle	s		He	avy Truc	cks (3+ /	Axles)	: 15		
Ve	hicle Speed:	50 mph		1	/ehicle	Mix					
Near/Far La	ne Distance:	50 feet		F	Veh	icleType		Day	Evening	Night	Daily
Site Data						A	Autos:	77.5%	6 12.9%	9.6%	6 85.80%
Ba	rrier Height:	0.0 feet			M	edium Tr	ucks:	84.8%	6 4.9%	10.3%	6 3.57%
Barrier Type (0-V	Vall, 1-Berm):	0.0			1	Heavy Tr	ucks:	86.5%	6 2.7%	10.8%	6 10.63%
Centerline D	ist. to Barrier:	50.0 feet		1	Voise Sc	ource El	evation	s (in f	eet)		
Centerline Dist.	to Observer:	50.0 feet				Autos	s: 0.	000			
Barrier Distance	Barrier Distance to Observer: 0.0 feet					m Trucks	s: 2.:	297			
Observer Height	Observer Height (Above Pad): 5.0 feet					y Trucks	s: 8.	004	Grade Ad	justmen	nt: 0.0
P	Pad Elevation: 0.0 feet										
Ro	ad Elevation:	0.0 feet		1	ane Eq	uivalent	Distant	ce (in	teet)		
	Road Grade:	0.0%				Autos	s: 43.	589			
	Left View:	-90.0 degre	es		Mediu	m Trucks	s: 43.	386			
	Right View:	90.0 degre	es		Heav	/y Trucks	s: 43.	405			
FHWA Noise Mod	el Calculation	S									
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fresr	nel	Barrier Att	en Be	rm Atten
Autos:	70.20	-1.73		0.79	Э	-1.20		-4.65	0.0	000	0.000
Medium Trucks:	81.00	-15.54		0.82	2	-1.20		-4.87	0.0	000	0.000
Heavy Trucks:	85.38	-10.80		0.82	2	-1.20		-5.43	0.0)00	0.000
Unmitigated Nois	e Levels (with	out Topo and	barrie	er atten	uation)						
VehicleType	Leq Peak Ho	ur Leq Daj	y	Leq Ev	rening	Leq	Night		Ldn	0	SNEL
Autos:	68	3.1	66.1		64.3		58.3	3	66.9	3	67.5
Medium Trucks:	Medium Trucks: 65.1 63.5				57.1		55.6	6	64.1	1	64.3
Heavy Trucks:	Heavy Trucks: 74.2 72.7				63.7		64.9	9	73.3	3	73.4
Vehicle Noise:	75	5.5	74.0		67.5		66.2	2	74.6	3	74.8
Centerline Distan	ce to Noise C	ontour (in feet	t)	=0				-			
			L	70 a	IBA	65 0	JRA		ьо авА	5	5 aBA
			Ldn:		101		218		469		1,010
			105		225		485		1,045		

											-
Scenari Bood Norm	c: Existing (20)	20)				Project	t Name	: Bridge	Point		
Road Nam Road Seame	e. ⊑uwanda A af∵s/o San Ber	v. nardino Av				J0D I	uniber	. 15349			
erer -								MOD		·e	
Highway Data	SPECIFIC IN	PUIDAIA			Site Con	ditions	(Hard	= 10, S	oft = 15)	3	
Average Daily	Traffic (Adt):	19 731 vehicle	s					Autos	: 15		
Peak Hour	Percentage:	10.14%			Me	dium Tr	ucks (2	Axles)	: 15		
Peak H	our Volume:	2.001 vehicles	s		He	avy Tru	cks (3+	Axles)	: 15		
Ve	hicle Speed:	50 mph		-	Vahiala	Mise					
Near/Far La	ne Distance:	73 feet			Venicie i Veh	icleTvni	•	Dav	Evenina	Niaht	Daily
Site Data					10/1	0.01300	Autos:	77.5%	6 12.9%	9.6%	85.80
Bai	rier Height:	0.0 feet			M	edium T	rucks:	84.89	6 4.9%	10.3%	3.57
Barrier Type (0-W	all. 1-Berm):	0.0			I	leavy T	rucks:	86.5%	6 2.7%	10.8%	10.63
Centerline Dis	st. to Barrier:	60.0 feet		-	Naiaa Cr	uree E	lovatio	no (in f	in nt)		
Centerline Dist.	to Observer:	60.0 feet		-	NUISe St	Auto	levalio	ns (m i	eel)		
Barrier Distance	to Observer:	0.0 feet			Modiu	AUIC m Truck	15. 1	2 207			
Observer Height (Above Pad):	5.0 feet			Heav	v Truck	10. 1 re: 1	2.297 R 004	Grade An	liustment	· 0.0
Pa	Pad Elevation: 0.0 feet							5.001		,	
Roa	ad Elevation:	0.0 feet		-	Lane Eq	uivalen	t Dista	nce (in	feet)		
1	Road Grade:	0.0%				Auto	s: 4	7.883			
	Left View:	-90.0 degree	es		Mediu	m Truck	(s: 4	7.698			
	Right View:	90.0 degree	es		Heav	y Truck	(S. 4	7.716			
FHWA Noise Mode	el Calculations	5									
VehicleType	REMEL	Traffic Flow	Di	stance	Finite	Road	Fre	snel	Barrier Att	ten Ber	m Atten
Autos:	70.20	0.05		0.1	8	-1.20		-4.69	0.	000	0.00
Medium Trucks:	81.00	-13.76		0.2	0	-1.20		-4.88	0.	000	0.00
Heavy Trucks:	85.38	-9.02		0.2	0	-1.20		-5.34	0.	000	0.00
Unmitigated Noise	e Levels (with	out Topo and	barri	er atter	uation)						
VehicleType	Leq Peak Hou	r Leq Day	'	Leq E	vening	Leq	Night		Ldn	C	NEL
Autos:	69	.2	67.3		65.5		59	9.5	68.	1	68
Meaium Trucks:	66	.2	64.7		58.3		56	5.8	65.	2	65.
Mehicle Noise	/5	.4	75.1		64.8		66	0.1	74.	4 0	74.
venicle Noise:	76	.1	10.1		08.0		67	.0	75.	0	76.
Centerline Distance	e to Noise Co	ntour (in feet,)	70	dD A	6E	dB A	-	EO dDA	55	dB A
			I dn'	70	145	00	UDA 21	2	OU UBA	55	1 AE
		0	LUII:		145		31	3	6074	+ 7	1,45
		0	* L L.		150		32		097		1,50

Thursday, January 21, 2021

Thursday, January 21, 2021

	FHW	/A-RD-77-108 HI	IGHWAY	NOISE P	REDICTI	ON MC	DEL			
Scenari Road Nam Road Segmer	o: Existing (20: e: Etiwanda Av nt: s/o Whittran	20) /. n Av.			Project Job N	Name: umber:	Bridgel 13349	Point		
SITE S	SPECIFIC IN	PUT DATA			N	OISE	MODE	L INPUT	s	
Highway Data				Site Cor	ditions	(Hard =	10, So	ft = 15)		
Average Daily	Traffic (Adt):	17,260 vehicles					Autos:	15		
Peak Hour	Percentage:	10.14%		Me	dium Tru	icks (2	Axles):	15		
Peak H	our Volume:	1,750 vehicles		He	avy Truc	:ks (3+	Axles):	15		
Vel	nicle Speed:	50 mph		Vohiclo	Mix					
Near/Far Lar	ne Distance:	50 feet		Venicie	vicle Type		Dav	Evening	Night	Daily
Site Data				Ver	icie i ype	utos:	77.5%	12.9%	9.6%	85.80%
				M	r Iedium Ti	ucks:	84.8%	4.9%	10.3%	3.57%
Bar Damian Tura (0.14)	rier Height:	0.0 feet			Heavy Tr	ucks:	86.5%	2.7%	10.8%	10.63%
Barrier Type (U-VV	all, 1-Berm):	0.0			noury n	aono.	00.070	2.17.0	10.07	10.007
Centerline Dist	a Observer	50.0 feet		Noise S	ource El	evation	s (in fe	et)		
Barrier Distance	o Observer.	0.0 feet			Autos	s: 0.	000			
Observer Height (Above Pad):		Mediu	m Trucks	s: 2	297				
Doserver Height ()	d Elevation:		Hea	vy Trucks	s: 8	004	Grade Ac	ljustmen	t: 0.0	
Roa	d Elevation:	0.0 feet		Lane Eo	uivalent	Distan	ce (in f	eet)		
Rua	oad Grade	0.0 100		Lano Lq	Auto	. 43	589	000		
,	Left View:	0.0 /0 dogroop		Mediu	m Truck	: 13	386			
	Right View:	90.0 degrees		Hea	vy Truck	5: 43	405			
FHWA Noise Mode	l Calculations	;								
VehicleType	REMEL	Traffic Flow	Distance	e Finite	Road	Fres	nel	Barrier At	ten Be	rm Atten
Autos:	70.20	-0.53	0	.79	-1.20		-4.65	0.	000	0.000
Medium Trucks:	81.00	-14.34	0	.82	-1.20		-4.87	0.	000	0.000
Heavy Trucks:	85.38	-9.60	0	.82	-1.20		-5.43	0.	000	0.000
Unmitigated Noise	Levels (witho	out Topo and ba	rrier atte	enuation)						
VehicleType	Leq Peak Hou	r Leq Day	Leq	Evening	Leq	Night		Ldn	C	NEL
Autos:	69.	3 67	.3	65.5		59.	5	68.	1	68.7
Medium Trucks:	3 64	.7	58.4		56.	В	65.	3	65.5	
Heavy Trucks:	.9	64.9		66.	1	74.	5	74.6		
Vehicle Noise:	76.	8 75	.2	68.7		67.	4	75.	8	76.0
Centerline Distanc	e to Noise Co	ntour (in feet)	-							
			. 70	и авА	65 (JBA	6	и авА	55	авА
		Ld	in:	122		262		564	+	1,216
		CNE	L:	126		271		584	ł	1,258

	FH\	WA-RD-77-108	HIGHW	AY NO	DISE PR	EDICTI	ON MO	DEL					
Scenari Road Nam Road Segmer		Project Name: BridgePoint Job Number: 13349											
SITE	SPECIFIC IN	IPUT DATA	_		_	N	OISE N	IODE		5			
Highway Data			_	S	ite Cond	litions (Hard =	10, Sc	oft = 15)				
Average Daily	Traffic (Adt):	27,934 vehicle	es		Autos: 15								
Peak Hour	Percentage:	10.14%			Med	lium Tru	icks (2 A	(xles):	15				
Peak H	our Volume:	2,833 vehicles	6		Hea	avy Truc	ks (3+ A	(xles)	15				
Ve	hicle Speed:	50 mph		V	ehicle N	lix							
Near/Far La	ne Distance:	73 feet		H	Vehi	cleType		Day	Evening	Night	Daily		
Site Data						A	utos:	77.5%	12.9%	9.6%	85.80%		
Bar	rier Height:	0.0 feet			Me	dium Tr	ucks:	84.8%	4.9%	10.3%	3.57%		
Barrier Type (0-W	all, 1-Berm):	0.0			Н	leavy Tr	ucks:	86.5%	2.7%	10.8%	5 10.63%		
Centerline Dis	st. to Barrier:	60.0 feet		N	oise So	urce Ele	evations	s (in fe	eet)				
Centerline Dist.	to Observer:	60.0 feet				Autos	s: 0.0	000					
Barrier Distance	to Observer:	0.0 feet			Mediun	n Trucks	: 2.2	297					
Observer Height (Above Pad):	5.0 feet			Heav	/ Trucks	s: 8.0	004	Grade Adj	iustmen	t: 0.0		
Pa	ad Elevation:	0.0 feet				inclose	Distant	o (in i	-				
Roa	ad Elevation:	0.0 feet		Li	ane Equ	Autor			eeŋ				
,	Koad Grade:	0.0%			Medium Trucks: 47.609								
	Right View:	-90.0 degree	25 25		Heavy Trucks: 47.716								
		and dogio											
FHWA Noise Mode	Calculation	S Traffic Elevi	Dista	200	Finite	Poad	Ereco		Parrier A#	an Ro	rm Atton		
Autos	70.20	1 56	Distal	0.18	rinite i	-1.20	riesn	-4 69		511 Be	0.000		
Medium Trucks	81.00	-12 25		0.10		-1.20		-4.88	0.0	00	0.000		
Heavy Trucks:	85.38	-7.51		0.20		-1.20		-5.34	0.0	000	0.000		
Unmitigated Noise	Lovels (with	out Topo and	harrior a	attonu	ation)								
VehicleType	Lea Peak Hou	ur Lea Dav		ea Eve	enina	Lea I	Viaht		Ldn	C	NEL		
Autos:	70).7	68.8	.,	67.0	- 4 -	61.0)	69.6	3	70.2		
Medium Trucks:	67	7.8	66.2		59.8		58.3		66.7	,	67.0		
Heavy Trucks:	76	6.9	75.4		66.4		67.6		76.0)	76.1		
Vehicle Noise:	78	3.2	76.7		70.1		68.9)	77.3	3	77.5		
Centerline Distance	e to Noise Co	ontour (in feet)										
				70 dl	BA	65 c	1BA	6	0 dBA	55	5 dBA		
			Ldn:		183		394		849		1,830		
		Ci	VEL:		189		408		879		1,893		

Thursday, January 21, 2021

	FH	WA-RD-77-108	HIGHWA	AY NO	DISE PF	REDICTIO	ON MC	DEL						
Scenar Road Nam Road Segme		Project Name: BridgePoint Job Number: 13349												
SITE	SPECIFIC IN	NPUT DATA				N	OISE	MODE	EL INPUT	S				
Highway Data				S	ite Con	ditions (Hard =	10, S	oft = 15)					
Average Daily	Traffic (Adt):	337 vehicl	es		Autos: 15									
Peak Hour	Percentage:	10.14%			Mee	dium Tru	cks (2	Axles)	: 15					
Peak H	lour Volume:	34 vehicle	s		Hea	avy Truc	ks (3+ .	Axles)	: 15					
Ve	hicle Speed:	40 mph		V	ohiclo I	Air								
Near/Far La	ne Distance:	50 feet			Vehi	cleType		Dav	Evening	Niah	t Daily			
Site Data						A	utos:	77.5%	6 12.9%	9.6	5% 85.80%			
Ba	rrier Heiaht:	0.0 feet			Me	edium Tru	ucks:	84.8%	6 4.9%	10.3	3% 3.57%			
Barrier Type (0-W	/all, 1-Berm):	0.0			F	leavy Tru	ucks:	86.5%	6 2.7%	10.8	3% 10.63%			
Centerline Di	Centerline Dist. to Barrier: 44.0 feet					urce Fle	vation	s (in f	eet)					
Centerline Dist.	to Observer:	44.0 feet			0.00 00	Autos	. 0	000						
Barrier Distance	Barrier Distance to Observer: 0.0 feet				Medium Trucks: 2 297									
Observer Height	Observer Height (Above Pad): 5.0 feet				Heavy Trucks: 8 004 Grade Adjustment: 0.0									
P	ad Elevation:	0.0 feet			mour	,				,				
Ro	ad Elevation:	0.0 feet		La	Lane Equivalent Distance (in feet)									
	Road Grade:	0.0%			Autos: 36.551									
	Left View:	-90.0 degre	es		Medium Trucks: 36.308									
	Right View:	90.0 degre	es		Heav	y Trucks	: 36	.332						
FHWA Noise Mod	el Calculation	s												
VehicleType	REMEL	Traffic Flow	Distan	се	Finite	Road	Fres	nel	Barrier Att	en E	Berm Atten			
Autos:	66.51	-16.66		1.94		-1.20		-4.61	0.	000	0.000			
Medium Trucks:	77.72	-30.47		1.98		-1.20		-4.87	0.	000	0.000			
Heavy Trucks:	82.99	-25.73		1.98		-1.20		-5.50	0.	000	0.000			
Unmitigated Noise	e Levels (with	out Topo and	barrier a	ttenu	ation)									
VehicleType	Leq Peak Ho	ur Leq Day	/ Le	q Eve	ening	Leq N	Vight		Ldn		CNEL			
Autos:	50	0.6	48.6		46.9		40.	В	49.	4	50.0			
Medium Trucks:	48	3.0	46.5		40.1		38.	6	47.	0	47.2			
Heavy Trucks:	Heavy Trucks: 58.0 56.6			47.5			48.8 57.			57.3				
Vehicle Noise:	59	9.1	57.6		50.6		49.	В	58.	2	58.4			
Centerline Distant	ce to Noise C	ontour (in feet)											
				70 dE	BA	65 d	IBA		60 dBA		55 dBA			
			Ldn:		7		15	i	33	5	71			
		C	NEL:		7		16	i	34	ļ	74			

	FHV	VA-RD-77-108	HIGI	HWATN	IOISE PI	KEDIC I		DEL						
Scenar	io: Existing (20	120)				Project	Name:	Bridge	Point					
Road Nam	e: 4th St.					Job N	umber:	13349						
Road Segme	nt: w/o Etiwano	la Av.												
SITE	SPECIFIC IN	PUT DATA			NOISE MODEL INPUTS									
Highway Data				5	Site Con	ditions	(Hard =	= 10, Se	oft = 15)					
Average Daily	Traffic (Adt):	17,800 vehicl	es		Autos: 15									
Peak Hour	Percentage:	10.14%			Medium Trucks (2 Axles): 15									
Peak H	lour Volume:	1,805 vehicle	s		Heavy Trucks (3+ Axles): 15									
Ve	hicle Speed:	55 mph		١	Vehicle Mix									
Near/Far La	ne Distance:	73 feet			Veh	icleType		Day	Evening	Night	Daily			
Site Data						,	Autos:	77.5%	12.9%	9.6%	85.80%			
Ba	rrier Height:	0.0 feet			M	edium T	rucks:	84.8%	4.9%	10.3%	3.57%			
Barrier Type (0-W	/all, 1-Berm):	0.0			ŀ	leavy T	rucks:	86.5%	2.7%	10.8%	10.63%			
Centerline Di	st. to Barrier:	60.0 feet		,	Voise Sc	urce El	evatior	ns (in f	eet)					
Centerline Dist.	to Observer:	60.0 feet		Ľ.		Auto	s: 0	.000	,					
Barrier Distance to Observer: 0.0 feet					Medium Trucks: 2 297									
Observer Height (Above Pad): 5.0 feet					Heavy Trucks: 8.004 Grade Adjustment: 0.0									
Pad Elevation: 0.0 feet				L.	Long Equivalent Distance (in fact)									
Roa	ad Elevation:	0.0 feet		4	Lane Equivalent Distance (In feet)									
	Road Grade:	0.0%			AUIOS: 41.883 Medium Trucks: 47.609									
	Left View:	-90.0 degre	es		Heavy Trucks: 47,716									
	Right view:	90.0 degre	es		neav	у писк	5. 47	./ 10						
FHWA Noise Mode	el Calculation	s												
VehicleType	REMEL	Traffic Flow	Di	stance	Finite	Road	Fres	nel	Barrier Att	en Ber	m Atten			
Autos:	71.78	-0.81		0.18	3	-1.20		-4.69	0.0	000	0.00			
Medium Trucks:	82.40	-14.62		0.20	0	-1.20		-4.88	0.0	000	0.00			
Heavy Trucks:	86.40	-9.88		0.20	U	-1.20		-5.34	0.0	000	0.00			
Unmitigated Noise	e Levels (with	out Topo and	barri	ier atten	uation)									
VehicleType	Leq Peak Hou	r Leq Day	/	Leq Ev	/ening	Leq	Night		Ldn	C	NEL			
Autos:	70	.0	68.0		66.2 6		60.	2 68.8		В	69.4			
Medium Trucks:	66	.8	65.2		58.9 5			7.3 65.8			66.			
Heavy Trucks:	Heavy Irucks: 75.5 74.0			65.0 66.			3	3 74.6 74						
venicle Noise:	//	.0	10.4		69.1		67.	o	76.	J	76.			
Centerline Distand	ce to Noise Co	ontour (in feet)					-		1				
			. L	70 a	iBA	65	dBA		60 dBA	55	dBA			
		~	Ldn:		152		327	r	704		1,518			
		C	NEL:		157		- 339	9	730		1.572			

Thursday, January 21, 2021

Thursday, January 21, 2021

	FHV	VA-RD-77-108 H	IGHWA	YNC	DISE PI			DEL					
Scenar Road Narr Road Segme	Project Name: BridgePoint Job Number: 13349												
SITE	SPECIFIC IN	PUT DATA				NC	DISE N	IODE	L INPUT	5			
Highway Data				Si	te Con	ditions (H	lard =	10, S	oft = 15)				
Average Daily	Traffic (Adt):	17,250 vehicles					,	Autos:	15				
Peak Hour	Percentage:	10.14%			Me	dium Truc	cks (2 A	xles).	15				
Peak H	lour Volume:	1,749 vehicles			He	avy Truck	(3+ A	xles).	15				
Ve	hicle Speed:	55 mph		V	hiclel	Mix							
Near/Far La	ne Distance:	73 feet		-	Veh	icleTyne		Dav	Evenina	Night	Daily		
Site Data	Site Data						itos:	77.5%	6 12.9%	9.6%	85.80%		
Ba	rrier Height:	0.0 feet			M	edium Tru	icks:	84.8%	6 4.9%	10.3%	3.57%		
Barrier Type (0-M	/all_1_Berm)	0.0			1	Heavy Tru	cks:	86.5%	6 2.7%	10.8%	10.63%		
Centerline Di	ist to Barrier:	60.0 feet											
Centerline Dist.	Centerline Dist. to Observer: 60.0 feet				Noise Source Elevations (in feet)								
Barrier Distance	to Observer:	0.0 feet				Autos:	0.0	000					
Observer Height	Observer Height (Above Pad): 5.0 feet				Mediu	m Trucks:	2.2	297	Out de Ad				
P	ad Elevation:	0.0 feet			Heav	y Trucks:	8.0)04	Grade Adj	usimen	: 0.0		
Ro	ad Elevation:	0.0 feet		Lá	ane Eq	uivalent L	Distand	e (in	feet)				
	Road Grade:	0.0%				Autos:	47.8	383					
	Left View:	-90.0 degrees			Mediu	m Trucks:	47.6	598					
	Right View:	90.0 degrees			Heav	y Trucks:	47.	716					
FHWA Noise Mod	el Calculations	5											
VehicleType	REMEL	Traffic Flow	Distanc	e	Finite	Road	Fresn	el	Barrier Atte	en Be	rm Atten		
Autos:	71.78	-0.95		0.18		-1.20		-4.69	0.0	000	0.000		
Medium Trucks:	82.40	-14.75		0.20		-1.20		-4.88	0.0	000	0.000		
Heavy Trucks:	86.40	-10.02		0.20		-1.20		-5.34	0.0	000	0.000		
Unmitigated Noise	e Levels (with	out Topo and ba	arrier at	tenu	ation)								
VehicleType	Leq Peak Hou	r Leq Day	Leo	q Eve	ening	Leq N	light		Ldn	С	NEL		
Autos:	69	.8 67	.9		66.1		60.0		68.7	7	69.3		
Medium Trucks:	66	.7 65	i.1		58.7		57.2		65.6	6	65.9		
Heavy Trucks: 75.4		.4 73	1.9		64.9	66.1			74.5		74.6		
Vehicle Noise:	76	.9 75	5.3		69.0		67.5		75.9)	76.1		
Centerline Distan	ce to Noise Co	ontour (in feet)								1			
				70 dE	BA	65 dl	BA	1	60 dBA	55	dBA		
		Lo	in:		149		320		690		1,486		
		CNE	EL:		154		332		715		1,540		

		WA-IND-77-100	monw			EDICTIO									
Scenar	io: Existing + F	Project			Project Name: BridgePoint										
Road Nam	e: Etiwanda A	v.			Job Number: 13349										
Road Segme	nt: s/o Foothill	BI.													
SITE	SPECIFIC IN	IPUT DATA			NOISE MODEL INPUTS										
Highway Data				S	Site Conditions (Hard = 10, Soft = 15)										
Average Daily	Traffic (Adt):	13,250 vehicle	es		Autos: 15										
Peak Hour	Percentage:	10.14%			Medium Trucks (2 Axles): 15										
Peak H	lour Volume:	1,344 vehicles	6		Heavy Trucks (3+ Axles): 15										
Ve	hicle Speed:	50 mph		v	Vehicle Mix										
Near/Far La	ne Distance:	50 feet		-	Vehi	cleType	Di	ay	Evening	Night	Daily				
Site Data						Aut	os: 71	7.5%	12.9%	9.6%	85.83%				
Ba	rrier Heiaht:	0.0 feet			Me	edium Truc	:ks: 84	4.8%	4.9%	10.3%	3.57%				
Barrier Type (0-W	/all, 1-Berm):	0.0			F	leavy Truc	:ks: 86	6.5%	2.7%	10.8%	10.60%				
Centerline Di	st. to Barrier:	50.0 feet		Ν	loise So	urce Elev	ations (in fee	et)						
Centerline Dist.	Centerline Dist. to Observer: 50.0 feet						Autos: 0 000								
Barrier Distance		Medium Trucks: 2,297													
Observer Height (Observer Height (Above Pad): 5.0 feet					Heavy Trucks: 8 004 Grade Adjustment: 0.0									
Pa	Pad Elevation: 0.0 feet														
Roa	ad Elevation:	0.0 feet		L	Lane Equivalent Distance (in feet)										
	Road Grade:	0.0%			Autos: 43.589										
	Left View:	-90.0 degree	es		Medium Trucks: 43.386										
	Right View:	90.0 degree	es		Heavy Trucks: 43.405										
FHWA Noise Mode	el Calculation	s													
VehicleType	REMEL	Traffic Flow	Dista	nce	Finite	Road	Fresnel	E	Barrier Atte	en Ber	m Atten				
Autos:	70.20	-1.68		0.79)	-1.20	-4	.65	0.0	00	0.000				
Medium Trucks:	81.00	-15.49		0.82		-1.20	-4	.87	0.0	00	0.000				
Heavy Trucks:	85.38	-10.76		0.82		-1.20	-5	.43	0.0	00	0.000				
Unmitigated Noise	e Levels (with	out Topo and	barrier	attenu	uation)										
VehicleType	Leq Peak Hou	ir Leq Day	Ľ	eq Ev	ening	Leq Nig	ght		Ldn	C	VEL				
Autos:	68	.1	66.2		64.4		58.3		67.0)	67.6				
Medium Trucks:	65	.1	63.6		57.2		55.7		64.1		64.4				
Heavy Trucks:	74	.2	72.8		63.7		65.0		73.3	5	73.5				
Vehicle Noise:	75	.6	74.0		67.5		66.2		74.6	5	74.9				
Centerline Distant	ce to Noise Co	ontour (in feet,		_											
				70 d	BA	65 dB	BA 6		60 dBA		55 dBA				
			Ldn:		102		219		473		1,018				
		CI	VEL:		105	105 227 489					1,053				

Thursday, January 21, 2021
	FH	WA-RD-77-108	HIGHW	VAY NC	DISE PF	REDICTIC		DEL			
Scenai Road Nan Road Segme	rio: Existing + I ne: Etiwanda A ent: s/o Whittra	Project \v. m Av.				Project N Job Nu	lame: E mber: 1	Bridge 13349	Point		
SITE	SPECIFIC IN	NPUT DATA				NC	DISE N	IODE	L INPUT	S	
Highway Data				Si	te Con	ditions (F	Hard =	10, Sc	oft = 15)		
Average Daily	Traffic (Adt):	17,471 vehicl	es				,	Autos:	15		
Peak Hour	Percentage:	10.14%			Me	dium Truc	cks (2 A	(xles):	15		
Peak H	Hour Volume:	1,772 vehicle	s		He	avy Truck	(3+ A	(xles):	15		
Ve	ehicle Speed:	50 mph		Ve	hicle I	Mix					
Near/Far La	ane Distance:	50 feet			Vehi	icleTvpe		Dav	Evenina	Niaht	Dailv
Site Data						AL	itos:	77.5%	12.9%	9.6%	85.85%
Ba	rrier Height:	0.0 feet			Me	edium Tru	icks:	84.8%	4.9%	10.3%	3.56%
Barrier Type (0-V	Vall, 1-Berm):	0.0			ŀ	leavy Tru	icks:	86.5%	2.7%	10.8%	10.59%
Centerline D	ist. to Barrier:	50.0 feet		No	oise So	urce Ele	vations	s (in fe	et)		
Centerline Dist.	to Observer:	50.0 feet				Autos:	0.0	000	.,		
Barrier Distance	to Observer:	0.0 feet			Medium Trucks: 2.297						
Observer Height	(Above Pad):	5.0 feet			Heav	v Trucks:	8.0	004	Grade Ad	iustment	: 0.0
P	Pad Elevation: 0.0 feet										
Ro	Road Elevation: 0.0 feet				ane Equ	uivalent l	Distanc	:e (in 1	'eet)		
	Road Grade:	0.0%				Autos:	43.	589			
	Left View:	-90.0 degre	es		Mediur	m Trucks:	43.3	386			
	Right View:	90.0 degre	es		Heav	y Trucks:	43.4	105			
FHWA Noise Mod	el Calculation	s									
VehicleType	REMEL	Traffic Flow	Dista	nce	Finite	Road	Fresn	el	Barrier Att	en Ber	rm Atten
Autos:	70.20	-0.47		0.79		-1.20		-4.65	0.0	000	0.000
Medium Trucks:	81.00	-14.30		0.82		-1.20		-4.87	0.0	000	0.000
Heavy Trucks:	85.38	-9.56		0.82		-1.20		-5.43	0.0	000	0.000
Unmitigated Nois	e Levels (with	out Topo and	barrier	attenu	ation)						
VehicleType	Leq Peak Ho	ur Leq Daj	/ L	Leq Eve	ening	Leq N	light		Ldn	C	NEL
Autos:	69	9.3	67.4		65.6		59.5		68.2	2	68.8
Medium Trucks:	66	3.3	64.8		58.4		56.9)	65.3	3	65.5
Heavy Trucks:	75	5.4	74.0		64.9		66.2		74.5	5	74.6
Vehicle Noise:	76	5.8	75.2		68.7		67.4		75.8	3	76.0
Centerline Distan	Centerline Distance to Noise Contour (in feet)										
				70 dBA 65 dBA 60 dBA 55			dBA				
			Ldn:		122		263		568		1,223
		С	NEL:		127 273 587 1,26						1,265

			_								
Scenario: Exi	sting + Pr	oject				Project	Name: I	Bridge	Point		
Road Name: Fo	othill Bl.					Job N	umber:	13349			
Road Segment. W/	Euwanda	a AV.									
SITE SPEC	IFIC IN	PUT DATA				N	OISE N	NODE	L INPUT	S	
Highway Data					Site Con	ditions	(Hard =	10, So	oft = 15)		
Average Daily Traffic	(Adt): 2	28,070 vehicle	es					Autos:	15		
Peak Hour Perce	ntage:	10.14%			Me	dium Tru	ucks (2 A	Axles):	15		
Peak Hour Vo	olume:	2,846 vehicles	S		He	avy Truc	cks (3+ A	Axles):	15		
Vehicle S	Speed:	50 mph		Ī	Vehicle I	<i>lix</i>					
Near/Far Lane Dis	tance:	73 feet		Ī	Vehi	cleType		Day	Evening	Night	Daily
Site Data						A	Autos:	77.5%	12.9%	9.6%	85.79
Barrier H	eight:	0.0 feet			Me	edium Ti	ucks:	84.8%	4.9%	10.3%	3.57
Barrier Type (0-Wall, 1-	Berm):	0.0			ŀ	leavy Ti	ucks:	86.5%	2.7%	10.8%	10.63
Centerline Dist. to E	Barrier:	60.0 feet		ŀ	Noise So	urce Fl	evation	s (in fi	pet)		
Centerline Dist. to Obs	server:	60.0 feet		ŀ		Auto	s' 01	000	,		
Barrier Distance to Obs	server:	0.0 feet			Mediur	n Truck:	s: 2.	297			
Observer Height (Above	Pad):	5.0 feet			Heav	v Truck	s: 8.0	004	Grade Ad	justmen	: 0.0
Pad Ele	Pad Elevation: 0.0 feet										
Road Ele	Road Elevation: 0.0 feet						Distanc	ce (in i	feet)		
Road	Grade:	0.0%				Auto	s: 47.	883			
Lef	View:	-90.0 degree	es		Meaiur	n Truck	S: 47.	598			
Right	View:	90.0 degree	es		Heav	y Truck	5. 47.	/10			
FHWA Noise Model Cale	culations										
VehicleType RE	MEL	Traffic Flow	Di	stance	Finite	Road	Fresh	el	Barrier Att	en Be	rm Atten
Autos:	70.20	1.58		0.1	8	-1.20		-4.69	0.0	000	0.00
Medium Trucks:	81.00	-12.22		0.2	20	-1.20		-4.88	0.0	000	0.00
Heavy Trucks:	85.38	-7.49		0.2	20	-1.20		-5.34	0.0	000	0.00
Unmitigated Noise Leve	ls (witho	ut Topo and	barri	er atter	nuation)						
VehicleType Leq F	eak Hour	Leq Day	r -	Leq E	vening	Leq	Night		Ldn	С	NEL
Autos:	70.8	3	68.8		67.0		61.0)	69.	6	70.
Medium Trucks:	67.8	3	66.2		59.9		58.3	3	66.	В	67
Heavy Trucks:	76.9	Ð	75.4		66.4		67.6	6	76.	0	76.
Vehicle Noise:	78.2	2	76.7		70.2		68.9)	77.3	3	77.
Centerline Distance to N	loise Cor	ntour (in feet,)								
				70	dBA	65	dBA	6	60 dBA	55	dBA
			Ldn:		184		395		852	2	1,836
		0	NEL ·		100		400		007		1 800

Thursday, January 21, 2021

	FHV	VA-RD-77-108 I	IIGHW.	AY N	DISE PF	REDICTI	ON MO	DEL			
Scenari Road Nam Road Segmer	o: Existing + F e: Etiwanda A nt: s/o San Ber	Project v. mardino Av.				Project Job N	Name: I umber:	Bridge 13349	Point		
SITE	SPECIFIC IN	IPUT DATA				N	OISE N	IODE		5	
Highway Data				S	ite Con	ditions	(Hard =	10, S	oft = 15)		
Average Daily	Traffic (Adt):	19,850 vehicles					,	Autos.	15		
Peak Hour	Percentage:	10.14%			Me	dium Tru	icks (2 A	(xles	: 15		
Peak H	our Volume:	2,013 vehicles			He	avy Truc	cks (3+ A	Axles)	: 15		
Vel	nicle Speed:	50 mph		V	ohiclo I	Niv					
Near/Far Lar	ne Distance:	73 feet		-	Veh	icleTvne	1	Dav	Evenina	Night	Daily
Site Data					VCIII	A	Autos:	77.5%	6 12.9%	9.6%	85.67%
Bar	rior Hoight:	0.0 foot			Me	edium Tr	ucks:	84.89	6 4.9%	10.3%	3.61%
Barrier Type (0-W	all 1-Berm)	0.0			ŀ	leavy Tr	ucks:	86.5%	6 2.7%	10.8%	10.72%
Centerline Dis	t. to Barrier:	60.0 feet							41		
Centerline Dist.	o Observer:	60.0 feet		N	oise so	ource El	evations	5 (IN T	eet)		
Barrier Distance t	o Observer:	0.0 feet				Autos	s: 0.0	000			
Observer Height (J	Above Pad):	5.0 feet			Meaiui	m Trucks	S: Z.,	297	Crada Adi	uatman	
Pa	d Elevation:	0.0 feet			Heav	y Trucks	s: 8.0	J04	Grade Auj	usunen	. 0.0
Roa	d Elevation:	0.0 feet		L	ane Equ	uivalent	Distand	ce (in	feet)		
F	Road Grade:	0.0%				Autos	s: 47.	883			
	Left View:	-90.0 degrees	;		Mediur	n Trucks	s: 47.	698			
	Right View:	90.0 degrees			Heav	y Trucks	5. 47.	716			
FHWA Noise Mode	Calculation:	s									
VehicleType	REMEL	Traffic Flow	Distar	ice	Finite	Road	Fresn	e/	Barrier Atte	en Be	rm Atten
Autos:	70.20	0.07		0.18		-1.20		-4.69	0.0	000	0.000
Medium Trucks:	81.00	-13.68		0.20		-1.20		-4.88	0.0	000	0.000
Heavy Trucks:	85.38	-8.96		0.20		-1.20		-5.34	0.0	000	0.000
Unmitigated Noise	Levels (with	out Topo and b	arrier a	ttenu	ation)						
VehicleType	Leq Peak Hou	ir Leq Day	Le	eq Ev	ening	Leq I	Night		Ldn	С	NEL
Autos:	69	.3 6	7.3		65.5		59.5	5	68.1		68.7
Medium Trucks:	66	.3 6	4.8		58.4		56.9)	65.3	3	65.5
Heavy Trucks:	75	.4 7	3.9		64.9		66.2	2	74.5	5	74.6
Vehicle Noise:	76	.8 7	5.2		68.7		67.4	ŀ	75.8	3	76.0
Centerline Distanc	e to Noise Co	ontour (in feet)									
				70 d	BA	65 0	dBA		60 dBA	55	dBA
		L	dn:	146 315 679 1			1,464				
		CN	EL:		151 326 703 1,51						1,514

F1	IWA-RD)-//-108 H	HIGH	IWAY I	NOISE PH	REDICTIO	ON MO	DEL				
Scenario: Existing +	Project					Project I	Vame:	Bridge	Point			
Road Name: 6th St.						Job Nu	mber:	13349				
Road Segment: w/o Etiwa	nda Av.											
SITE SPECIFIC	NPUT	DATA				N	DISE	NODE	L INPUT	S		
Highway Data					Site Con	ditions (l	Hard =	10, Se	oft = 15)			
Average Daily Traffic (Adt):	59	1 vehicles	5					Autos:	15			
Peak Hour Percentage:	10.14	%			Me	dium Tru	cks (2 /	Axles):	15			
Peak Hour Volume:	60	vehicles			He	avy Trucl	ks (3+7	Axles):	15			
Vehicle Speed:	40	mph		ŀ	Vehicle I	Mix						
Near/Far Lane Distance:	50	feet		F	Veh	icleType		Day	Evening	Night	Daily	
Site Data						A	utos:	77.5%	12.9%	9.6	% 81.09%	
Barrier Height	0.0	0 feet			Me	edium Tru	icks:	84.8%	4.9%	10.3	% 5.25%	
Barrier Type (0-Wall, 1-Berm):	0.0	0			ŀ	leavy Tru	icks:	86.5%	2.7%	10.8	% 13.67%	
Centerline Dist. to Barrier:	44.(0 feet		-	Noise So	ource Ele	vation	s (in f	eet)			
Centerline Dist. to Observer:	44.0	0 feet				Autos	0	000				
Barrier Distance to Observer:	0.0	0 feet			Mediu	m Trucks	2	297				
Observer Height (Above Pad):	Observer Height (Above Pad): 5.0 feet					Heavy Trucks: 8,004 Grade Adjustment: 0.0						
Pad Elevation:	0.0	0 feet		L		,						
Road Elevation:	0.0	0 feet			Lane Eq	uivalent l	Distan	ce (in	feet)			
Road Grade:	0.0%	6				Autos.	36.	551				
Left View:	-90.0	0 degrees	5		Mediui	m Trucks.	36.	308				
Right View:	90.0	0 degrees	5		Heav	y Trucks.	36.	332				
FHWA Noise Model Calculation	ns											
VehicleType REMEL	Traffi	c Flow	Dis	tance	Finite	Road	Fresr	nel	Barrier At	en B	erm Atten	
Autos: 66.5	1	-14.46		1.9	14	-1.20		-4.61	0.	000	0.000	
Medium Trucks: 77.7	2	-26.35		1.9	8	-1.20		-4.87	0.	000	0.000	
Heavy Trucks: 82.9	9	-22.19		1.9	18	-1.20		-5.50	0.	000	0.000	
Unmitigated Noise Levels (with	hout To	po and b	arrie	er atter	nuation)							
VehicleType Leq Peak H	our	Leq Day		Leq E	vening	Leq N	light		Ldn		CNEL	
Autos:	52.8	5	0.8		49.1		43.0)	51.	6	52.2	
Medium Trucks:	52.1	5	0.6		44.2		42.7	7	51.	1	51.4	
Heavy Trucks:	51.6	6	i0.1		51.1		52.3	3	60.	7	60.8	
Vehicle Noise:	52.5	6	1.0		53.7		53.2	2	61.	6	61.8	
Centerline Distance to Noise	Contour	(in feet)										
				70	dBA	65 d	BA		50 dBA	1	55 dBA	
		L	.dn:		12		26		56	6	121	
		CN	EL:		12 27 58 1					124		

	FH\	WA-RD-77-108	HIGHW	VAY NO	DISE PF	REDICTIC	ON MOD	DEL			
Scenar Road Nan Road Segme	io: Existing + I ne: 4th St. nt: e/o I-15 NE	Project 3 Ramps				Project N Job Nu	lame: E mber: 1	iridge 3349	Point		
SITE	SPECIFIC IN	NPUT DATA				NC	DISE M	ODE	L INPUT	S	
Highway Data				S	ite Con	ditions (F	Hard = 1	10, Sc	oft = 15)		
Average Daily	Traffic (Adt):	17,809 vehicl	es				A	utos:	15		
Peak Hour	Percentage:	10.14%			Me	dium Truc	cks (2 A	xles):	15		
Peak H	lour Volume:	1,806 vehicle	s		He	avy Truck	(3+ A	xles):	15		
Ve	hicle Speed:	55 mph		V	ehicle I	Aix					
Near/Far La	ne Distance:	73 feet			Vehi	cleTvpe	1	Dav	Evenina	Night	Dailv
Site Data						AL	itos:	77.5%	12.9%	9.6	% 85.46%
Ba	rrier Heiaht:	0.0 feet			Me	edium Tru	icks: {	34.8%	4.9%	10.3	% 3.69%
Barrier Type (0-W	/all, 1-Berm):	0.0			ŀ	leavy Tru	icks: {	36.5%	2.7%	10.8	% 10.85%
Centerline Di	st. to Barrier:	60.0 feet		N	oise So	urce Ele	vations	(in fe	eet)		
Centerline Dist.	to Observer:	60.0 feet				Autos:	0.0	00	,		
Barrier Distance	to Observer:	0.0 feet			Mediur	n Trucks:	2.2	97			
Observer Height	Observer Height (Above Pad): 5.0 feet				Heav	v Trucks:	8.0	04	Grade Ad	justme	nt: 0.0
P	Pad Elevation: 0.0 feet					,					
Ro	Road Elevation: 0.0 feet				ane Equ	ivalent l	Distanc	e (in :	feet)		
	Road Grade:	0.0%				Autos:	47.8	83			
	Left View:	-90.0 degre	es		Mediur	n Trucks:	47.6	98			
	Right View:	90.0 degre	es		Heav	y Trucks:	47.7	16			
FHWA Noise Mod	el Calculation	S									
VehicleType	REMEL	Traffic Flow	Dista	nce	Finite	Road	Fresne	e/	Barrier Att	en B	erm Atten
Autos:	71.78	-0.82		0.18		-1.20		4.69	0.0	000	0.000
Medium Trucks:	82.40	-14.47		0.20		-1.20	-	4.88	0.0	000	0.000
Heavy Trucks:	86.40	-9.79		0.20		-1.20	-	5.34	0.0	000	0.000
Unmitigated Nois	e Levels (with	out Topo and	barrier	attenu	ation)						
VehicleType	Leq Peak Hou	ur Leq Da	/ L	Leq Eve	ening	Leq N	light		Ldn		CNEL
Autos:	69	9.9	68.0		66.2		60.2		68.	В	69.4
Medium Trucks:	66	3.9	65.4		59.0		57.5		65.9	9	66.2
Heavy Trucks:	75	5.6	74.1		65.1		66.3		74.	7	74.8
Vehicle Noise:	77	7.1	75.5		69.1		67.7		76.	1	76.4
Centerline Distan	ce to Noise Co	ontour (in feet)								
				70 dE	BA	65 di	BA	6	60 dBA	5	5 dBA
			Ldn:	154 331 713			1,535				
	CNEL:				159		343		738		1,590

	FHV	VA-RD-77-108	HIGH	IWAY N	OISE PF	REDICT		DEL			
Scenari Road Nam Road Segmer	o: Existing + F e: Street A nt: s/o Dwy. 8	Project				Project Job N	Name: E lumber: 1	lridge 3349	Point		
SITE S	SPECIFIC IN	PUT DATA				N	IOISE N	ODE		s	
Highway Data				s	ite Con	ditions	(Hard =	10, Sc	oft = 15)		
Average Daily	Traffic (Adt):	370 vehicle	es				A	lutos:	15		
Peak Hour	Percentage:	10.14%			Me	dium Tr	ucks (2 A	xles):	15		
Peak H	our Volume:	37 vehicle	s		He	avy Tru	cks (3+ A	xles):	15		
Vel	hicle Speed:	40 mph		v	/ehicle I	Nix					-
Near/Far Lar	ne Distance:	11 feet		F	Vehi	cleType		Day	Evening	Night	Daily
Site Data					-		Autos:	77.5%	12.9%	9.6%	82.65%
Bar	rier Heiaht:	0.0 feet			Me	edium T	rucks:	34.8%	4.9%	10.3%	5.15%
Barrier Type (0-W	all. 1-Berm):	0.0			ŀ	leavy T	rucks:	36.5%	2.7%	10.8%	12.20%
Centerline Dis	st. to Barrier:	30.0 feet			loiso Sa	urco E	ovations	(in fr	ootl		
Centerline Dist.	to Observer:	30.0 feet		-	0136 30	Auto		00	eel)		
Barrier Distance t	to Observer:	0.0 feet			Modiu	n Truck	a. 0.0	00			
Observer Height (Above Pad):	5.0 feet			Heav	v Truck	s. 2.2 e [,] 80	04	Grade Ad	iustment	· 0.0
Pa	Pad Elevation: 0.0 feet						3. 0.0	-0-	0/000 / 10	aounoni	0.0
Roa	Road Elevation: 0.0 feet						t Distanc	e (in i	feet)		
F	Road Grade:	0.0%				Auto	s: 29.9	12			
	Left View:	-90.0 degree	es		Mediur	n Truck	s: 29.6	515			
	Right View:	90.0 degre	es		Heav	y Truck	s: 29.6	44			
FHWA Noise Mode	el Calculations	5									
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fresn	e/	Barrier Att	en Ber	m Atten
Autos:	66.51	-16.41		3.24	Ļ	-1.20		4.49	0.0	000	0.000
Medium Trucks:	77.72	-28.47		3.31		-1.20		4.86	0.0	000	0.000
Heavy Trucks:	82.99	-24.72		3.30	1	-1.20		5.77	0.0	000	0.00
Unmitigated Noise	Levels (with	out Topo and	barrie	er atteni	lation)						
VehicleType	Leq Peak Hou	r Leq Day	/	Leq Ev	ening	Leq	Night		Ldn	C	VEL
Autos:	52	.1	50.2		48.4		42.4		51.0)	51.6
Medium Trucks:	51	.4	49.8		43.4		41.9		50.3	3	50.6
Heavy Trucks:	60	.4	58.9		49.9		51.1		59.5	-	59.6
Vehicle Noise:	61	.4	59.9		52.7		52.1		60.5	0	60.1
Centerline Distanc	e to Noise Co	ontour (in feet)	70 4	0.4				0.404		-/0.4
			L day	70 a	DA 7	05	udA 45	e	OU OBA	55	uBA 70
		0	LUN: NEL		7 15 32				70		
	CNEL:				/ 15 33				72		

Thursday, January 21, 2021

FH	WA-RD-77-108	HIGHWAY	' NOISE P	REDICTION	MODEL		
Scenario: Existing + Road Name: 4th St. Road Segment: w/o Etiwar	Project nda Av.			Project Nai Job Numi	me: Bridg ber: 1334	ePoint 9	
SITE SPECIFIC I	NPUT DATA			NOI	SE MOD	EL INPUTS	
Highway Data			Site Cor	nditions (Ha	rd = 10, S	Soft = 15)	
Average Daily Traffic (Adt):	17,963 vehicles	s			Autos	s: 15	
Peak Hour Percentage:	10.14%		Me	edium Trucks	(2 Axles): 15	
Peak Hour Volume:	1,821 vehicles		He	eavy Trucks	3+ Axles): 15	
Vehicle Speed:	55 mph		Vehicle	Mix			
Near/Far Lane Distance:	73 feet		Veh	nicleType	Day	Evening	Night Daily
Site Data				Auto	s: 77.5	% 12.9%	9.6% 85.87%
Barrier Height:	0.0 feet		M	ledium Truck	s: 84.8	% 4.9%	10.3% 3.55%
Barrier Type (0-Wall, 1-Berm):	0.0			Heavy Truck	s: 86.5	% 2.7%	10.8% 10.58%
Centerline Dist. to Barrier:	60.0 feet		Noise S	ource Eleva	tions (in	feet)	
Centerline Dist. to Observer:	60.0 feet			Autos	0.000	1000	
Barrier Distance to Observer:	0.0 feet		Mediu	m Trucks	2 297		
Observer Height (Above Pad):	5.0 feet		Hea	wy Trucks:	8 004	Grade Adiu	stment: 0.0
Pad Elevation:		nea	vy mucho.	0.004			
Road Elevation:		Lane Eq	uivalent Dis	tance (in	n feet)		
Road Grade:	0.0%			Autos:	47.883		
Left View:	-90.0 degree	S	Mediu	m Trucks:	47.698		
Right View:	90.0 degree	S	Hea	vy Trucks:	47.716		
FHWA Noise Model Calculation	ns						
VehicleType REMEL	Traffic Flow	Distance	e Finite	Road F	resnel	Barrier Atte	n Berm Atten
Autos: 71.70	8 -0.77	0	.18	-1.20	-4.69	9 0.00	0.00
Medium Trucks: 82.40	-14.60	0	.20	-1.20	-4.88	3 0.00	0.00
Heavy Trucks: 86.40	9.86	0	.20	-1.20	-5.34	4 0.00	0.00
Unmitigated Noise Levels (with	hout Topo and b	arrier att	enuation)				
VehicleType Leq Peak Ho	our Leq Day	Leq	Evening	Leq Nigl	nt	Ldn	CNEL
Autos: 7	0.0 6	68.0	66.3		60.2	68.8	69.4
Medium Trucks: 6	6.8 6	5.2	58.9)	57.3	65.8	66.
Heavy Trucks: 7	5.5 7	'4.1	65.0)	66.3	74.6	74.
Vehicle Noise: 7	7.0 7	5.5	69.1		67.7	76.1	76.
Centerline Distance to Noise C	contour (in feet)			1	-		
		7	0 dBA	65 dBA		60 dBA	55 dBA
	1	.dn:	152		328	707	1,523
	CN	EL:	158		340	732	1,578

	FH'	WA-RD-77-108	3 HIGH	IWAY N	NOISE PR	REDICTI	ON MOI	DEL			
Scenar Road Nan Road Segme	io: OYC 2022 ne: Etiwanda A nt: s/o Foothill	NV. BI.				Project Job N	Name: E umber: 1	Bridgel 3349	Point		
SITE	SPECIFIC II	NPUT DATA				N	OISE N	IODE	L INPUTS	3	
Highway Data					Site Con	ditions	(Hard =	10, So	oft = 15)		
Average Daily	Traffic (Adt):	16,469 vehicl	es				A	Autos:	15		
Peak Hour	Percentage:	10.14%			Me	dium Tru	icks (2 A	xles):	15		
Peak H	lour Volume:	1,670 vehicle	s		He	avy Truc	:ks (3+ A	xles):	15		
Ve	hicle Speed:	50 mph		-	Vehicle I	Mix					
Near/Far La	ne Distance:	50 feet		-	Veh	icleType		Day	Evening	Night	Daily
Site Data						A	utos:	, 77.5%	12.9%	9.6%	85.80%
Ba	rrier Height	0.0 feet			M	edium Tr	ucks:	84.8%	4.9%	10.3%	3.57%
Barrier Type (0-V	Vall, 1-Berm):	0.0			ŀ	leavy Tr	ucks:	86.5%	2.7%	10.8%	10.63%
Centerline Di	ist. to Barrier:	50.0 feet			Noise So	ource El	evations	in fe	et)		
Centerline Dist.	to Observer:	50.0 feet		-		Autos	x 0.0	000			
Barrier Distance	to Observer:	0.0 feet			Mediu	m Trucks	2.2	97			
Observer Height	(Above Pad):	5.0 feet			Heav	v Trucks	s: 8.0	04	Grade Adj	ustment:	0.0
P	ad Elevation:	0.0 feet		_		,					
Ro	ad Elevation:	0.0 feet		4	Lane Eq	uivalent	Distanc	e (in f	feet)		
	Road Grade:	0.0%				Autos	s: 43.5	589			
	Left View:	-90.0 degre	es		Mediui	m Trucks	s: 43.3	886			
	Right View:	90.0 degre	es		Heav	y Trucks	5: 43.4	105			
FHWA Noise Mod	el Calculation	s									
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fresn	el	Barrier Atte	en Ber	m Atten
Autos:	70.20	-0.73	5	0.7	'9	-1.20		-4.65	0.0	00	0.000
Medium Trucks:	81.00	-14.54	ŀ	0.8	2	-1.20		-4.87	0.0	00	0.000
Heavy Trucks:	85.38	-9.80)	0.8	2	-1.20		-5.43	0.0	00	0.000
Unmitigated Nois	e Levels (with	out Topo and	barrie	er atter	nuation)						
VehicleType	Leq Peak Ho	ur Leq Da	y	Leq E	vening	Leq	Night		Ldn	CI	VEL
Autos:	69	9.1	67.1		65.3		59.3		67.9		68.5
Medium Trucks:	66	5.1	64.5		58.1		56.6		65.1		65.3
Heavy Trucks:	75	5.2	73.7		64.7		65.9		74.3		74.4
Vehicle Noise:	76	6.5	75.0		68.5		67.2		75.6		75.8
Centerline Distan	ce to Noise C	ontour (in fee	t)	70	-/0.4			_	0 -10 4		
			L	70	aBA 440	65 (JBA 05.4	6	U dBA	55	aBA
			Lan:		118		254		547		1,1/8
		C	NEL:		122		263		566		1,219

	FH\	WA-RD-77-108	HIGHW	AY NO	DISE PF	REDICTIO	ON MO	DEL			
Scenar Road Nan Road Segme	io: OYC 2022 ne: Etiwanda A nt: s/o Whittra	w. m Av.				Project I Job Nu	Vame: mber:	Bridge 13349	Point		
SITE	SPECIFIC IN	NPUT DATA				N	DISE I	NODE	L INPUT	s	
Highway Data				S	ite Con	ditions (Hard =	10, S	oft = 15)		
Average Daily	Traffic (Adt):	21,789 vehicl	es					Autos	15		
Peak Hour	Percentage:	10.14%			Me	dium Tru	cks (2 /	Axles)	15		
Peak H	lour Volume:	2,209 vehicle	s		He	avy Truci	ks (3+ /	Axles)	15		
Ve	hicle Speed:	50 mph		V	ehicle I	Nix					
Near/Far La	ne Distance:	50 feet			Vehi	icleType		Day	Evening	Night	Daily
Site Data						A	utos:	77.5%	6 12.9%	9.6%	6 85.80%
Ba	rrier Heiaht:	0.0 feet			Me	edium Tru	icks:	84.8%	6 4.9%	10.3%	6 3.57%
Barrier Type (0-W	/all, 1-Berm):	0.0			ŀ	leavy Tru	icks:	86.5%	6 2.7%	10.8%	6 10.63%
Centerline Di	st. to Barrier:	50.0 feet		N	oise So	urce Ele	vation	s (in f	eet)		
Centerline Dist.	to Observer:	50.0 feet				Autos	: 0.	000	,		
Barrier Distance	to Observer:	0.0 feet			Medium Trucks: 2.297						
Observer Height	Observer Height (Above Pad): 5.0 feet				Heav	v Trucks	: 8.	004	Grade Ad	justmer	nt: 0.0
P	Pad Elevation: 0.0 feet										
Ro	Road Elevation: 0.0 feet				ane Equ	uivalent	Distan	ce (in	feet)		
	Road Grade:	0.0%				Autos	: 43.	589			
	Left View:	-90.0 degre	es		Mediur	m Trucks	: 43.	386			
	Right View:	90.0 degre	es		Heav	y Trucks	43.	405			
FHWA Noise Mod	el Calculation	s									
VehicleType	REMEL	Traffic Flow	Dista	nce	Finite	Road	Fresr	nel	Barrier Att	en Be	erm Atten
Autos:	70.20	0.48		0.79		-1.20		-4.65	0.0	000	0.000
Medium Trucks:	81.00	-13.33		0.82		-1.20		-4.87	0.0	000	0.000
Heavy Trucks:	85.38	-8.59		0.82		-1.20		-5.43	0.0	000	0.000
Unmitigated Noise	e Levels (with	out Topo and	barrier	attenu	ation)						
VehicleType	Leq Peak Hou	ur Leq Day	/ L	.eq Eve	ening	Leq N	light		Ldn	0	ONEL
Autos:	70	0.3	68.3		66.6		60.	5	69.	1	69.7
Medium Trucks:	67	7.3	65.7		59.4		57.8	3	66.3	3	66.5
Heavy Trucks:	76	6.4	74.9		65.9		67.1	1	75.	5	75.6
Vehicle Noise:	77	7.8	76.2		69.7		68.4	4	76.	8	77.0
Centerline Distan	ce to Noise Co	ontour (in feet)					1		T	
				70 dBA 65 dBA 60 dBA 5			5 dBA				
		_	Ldn:	142 306 659		1	1,420				
	CNEL:				147	147 317 682 1,4					1,469

	FH\	VA-RD-77-108	HIGH	HWAY N	OISE P	REDICT	TION MC	DEL			
Scenario	o: OYC 2022					Projec	t Name:	Bridge	Point		
Road Name	e: Foothill Bl.					Job N	lumber:	13349			
Road Segmen	<i>nt:</i> w/o Etiwano	la Av.									
SITE S	SPECIFIC IN	PUT DATA				1	NOISE	MODE	L INPUT	S	
Highway Data				s	ite Con	ditions	(Hard =	10, Se	oft = 15)		
Average Daily	Traffic (Adt):	32,898 vehicle	es					Autos:	15		
Peak Hour I	Percentage:	10.14%			Ме	dium Tr	rucks (2	Axles):	15		
Peak He	our Volume:	3,336 vehicles	s		He	avy Tru	icks (3+	Axles):	15		
Vel	hicle Speed:	50 mph		V	ehicle	Mix					
Near/Far Lar	ne Distance:	73 feet			Veh	icleType	e	Day	Evening	Night	Daily
Site Data							Autos:	77.5%	12.9%	9.6%	85.80%
Bar	rier Height:	0.0 feet			М	edium T	rucks:	84.8%	4.9%	10.3%	3.57%
Barrier Type (0-Wa	all, 1-Berm):	0.0			1	Heavy T	rucks:	86.5%	2.7%	10.8%	10.63%
Centerline Dis	t. to Barrier:	60.0 feet			loise Si	ource F	levation	s (in f	eef)		
Centerline Dist. t	to Observer:	60.0 feet		-		Auto	os: 0	000			
Barrier Distance t	o Observer:	0.0 feet			Mediu	m Truck	(s: 2	297			
Observer Height ()	Above Pad):	5.0 feet			Hear	y Truck	(s: 8	004	Grade Ad	justment	: 0.0
Pa	Pad Elevation: 0.0 feet							,,			
Roa	d Elevation:	0.0 feet		1	ane Eq	uivalen	t Distan	ce (In	feet)		
F	Road Grade:	0.0%			Martin	Auto	os: 47	.883			
	Left View:	-90.0 degree	es		Mealu	m Truck	(S: 47	716			
	Right view.	90.0 degree	25		rica	y much	13. 47	.710			
FHWA Noise Mode	l Calculation	s									
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fres	nel	Barrier Att	en Ber	m Atten
Autos:	70.20	2.27		0.18		-1.20		-4.69	0.0	000	0.00
Medium Trucks:	81.00	-11.54		0.20)	-1.20		-4.88	0.0	000	0.00
Heavy Trucks:	85.38	-6.80		0.20)	-1.20		-5.34	0.0	000	0.00
Unmitigated Noise	Levels (with	out Topo and	barri	er attenı	uation)						
VehicleType	Leq Peak Hou	r Leq Day	′	Leq Ev	ening	Leq	Night		Ldn	CI	NEL
Autos:	71	.5	69.5		67.7		61.	7	70.3	3	70.
Meaium Trucks:	68	.5	76.1		67.1		59.	0 2	67.5	2 7	67.
Vehicle Noise	70	.u	77 /		70.9		60. 60	5 6	70.	, 1	70.
venicie noise.	70	.9	11.4		70.0		09.	0	70.0	J	70.
Centerline Distanc	e to Noise Co	ontour (in feet,)	70 d	RΔ	65	dBA		SO dBA	55	dB∆
			Ldn.	700	204	00	<u>4</u> /	<u> </u>	0/17	, 55	2 0/1
		C	NEL:		204		440		980		2 111
		0.			211		400		500		2,111

Thursday, January 21, 2021

	FH\	VA-RD-77-108	HIGHWA	Y NC	DISE PI	REDICT	ION MO	DEL				
Scena Road Nan Road Segme	rio: OYC 2022 ne: Etiwanda A ent: s/o San Be	v. rnardino Av.				Project Job N	Name: I lumber:	Bridge I 3349	Point			
SITE	SPECIFIC IN	IPUT DATA				N	IOISE N	IODE	EL INPUT	s		
Highway Data				Si	te Con	ditions	(Hard =	10, S	oft = 15)			
Average Daily	Traffic (Adt):	24,076 vehicle	s				,	Autos.	15			
Peak Hour	r Percentage:	10.14%			Me	dium Tr	ucks (2 A	xles)	: 15			
Peak I	Hour Volume:	2,441 vehicles			He	avy Tru	cks (3+ A	xles)	: 15			
Ve	ehicle Speed:	50 mph		V	hiclo	Mix						
Near/Far La	ane Distance:	73 feet			Veh	icleTvpe		Dav	Evenina	Nie	aht	Dailv
Site Data						,	Autos:	77.5%	6 12.9%		9.6%	85.80%
Pa	verior Hoight:	0.0 foot			М	edium T	rucks:	84.89	6 4.9%	10	0.3%	3.57%
Barrier Type (0-V	Vall 1-Berm)	0.0 1001			1	Heavy T	rucks:	86.5%	6 2.7%	10	0.8%	10.63%
Centerline D	ist. to Barrier:	60.0 feet						6	41			
Centerline Dist.	to Observer:	60.0 feet		NO	oise so	ource El	evations	5 (IN T	eet)			
Barrier Distance	to Observer:	0.0 feet			Autos: 0.000							
Observer Height	(Above Pad):	5.0 feet			Meaiu	m Truck	S: 2	297	Crada A	divert	mont	0.0
F	Pad Elevation: 0.0 feet				Heav	у тиск	S: 8.0	JU4	Graue At	ijusu	nem.	0.0
Ro	Road Elevation: 0.0 feet					uivalent	t Distand	e (in:	feet)			
	Road Grade:	0.0%				Auto	s: 47.	383				
	Left View:	-90.0 degree	s		Mediu	m Truck	s: 47.	598				
	Right View:	90.0 degree	s		Heav	ry Truck	s: 47.	716				
FHWA Noise Mod	lel Calculation	s										
VehicleType	REMEL	Traffic Flow	Distanc	ce	Finite	Road	Fresn	el	Barrier At	ten	Berr	n Atten
Autos:	70.20	0.92		0.18		-1.20		-4.69	0.	.000		0.000
Medium Trucks:	81.00	-12.89		0.20		-1.20		-4.88	0.	000		0.000
Heavy Trucks:	85.38	-8.15		0.20		-1.20		-5.34	0.	.000		0.000
Unmitigated Nois	e Levels (with	out Topo and I	barrier at	tenu	ation)							
VehicleType	Leq Peak Hou	ır Leq Day	Lee	q Eve	ening	Leq	Night		Ldn		CN	IEL
Autos:	70	.1 6	58.1		66.4		60.3		68	.9		69.5
Medium Trucks:	67	.1 (35.5		59.2		57.6	i	66	.1		66.3
Heavy Trucks:	76	.2	74.7		65.7		67.0		75	.3		75.4
Vehicle Noise:	77	.6	76.0		69.5		68.2		76	.6		76.8
Centerline Distan	ce to Noise Co	ontour (in feet)										
				70 dE	BA	65	dBA		60 dBA		55 (dBA
		1	.dn:		166		357		76	9		1,657
		CN	IEL:		171		369		79	6		1,714

Scenario: OYC 2022 Road Name: Project Name: BridgePoint Job Number: Job Number: 13349 Road Segment: SITE SPECIFIC INPUT DATA NOISE MODEL INPUTS Input Input Highway Data Site Conditions (Hard = 10, Soft = 15) Autos: 15 Average Daily Traffic (Adt): 350 vehicles Medium Trucks (24 kales): 15 Peak Hour Volume: 35 vehicles Medium Trucks (3+ Axles): 15 Vehicle Speed: 40 mph Vehicle Type Day Evening Night Daily Site Data Autos: 77.5% 12.9% 9.6% 85.80 Barrier Height: 0.0 feet Medium Trucks: 84.8% 4.9% 10.3% 3.57 Barrier Height: 0.0 feet Noise Source Elevations (in feet) Noise Source Elevations (in feet) Centerline Dist. to Dserver: 44.0 feet Autos: 0.00 Medium Trucks: 86.30 Barrier Height: 0.0 feet Road Grade: 0.0% Lare Equivalent Distance (in feet) Autos: 36.303 Barrier Height:		FRV	VA-RD-77-100 HI	GHWATI	NUISE PI	KEDIC IIC					
Road Name: Stite Specific INPUT DATA Noise Model INPUTS Highway Data Site Conditions (Hard = 10, Soft = 15) Average Daily Traffic (Adi): \$50 vehicles Autos: 15 Peak Hour Vencentage: 10.14% Medium Trucks (2 Axles): 15 Vehicle Speed: Vehicle Speed: 40 mph Medium Trucks (3 Axles): 15 Vehicle Speed: Vehicle Speed: 40 mph Vehicle Type Day Evening Night Daily Site Dat Vehicle Type Day Evening Night Daily Daily Barrier Height: 0.0 feet Medium Trucks: 84.8% 4.9% 0.3% 3.57 Barrier Distance to Observer: 0.0 feet Moles 77.5% 12.9% 9.6% & 85.80 Barrier Distance to Observer: 0.0 feet Autos: 0.004 Medium Trucks: 8.2.97 Pobserver Height (Nove Pai): 5.0 feet Autos: 36.551 VehicleType Rad Grade: 0.0% Road Grade: 0.0% Eut Ivaks: 36.330 8.647 0.000	Scenar	rio: OYC 2022				Project N	lame: B	ridgel	Point		
Road Segment: who Etiwanda Av. Site Segment: who Etiwanda Av. Site Segment: who Etiwanda Av. Noise Model LiNPUTS Marka Site Conditions (Hard = 10, Soft = 15) Autron: 10, 10, 4%. Autron: 20, Soft = 15 Peak Hour Percentage: 10, 14%. Medium Trucks (2 Axles): 15 Vehicle Speed: 40 mph Near/Far Lane Distance: 50 feet Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Doserver: 44.0 feet Autos: 77.5% 12.9% 9.6% 85.50% Barrier Type (0-Wall, 1-Berm): 0.0 Medium Trucks: 86.5% 2.7% 10.8% 0.5% Centerline Dist. to Doserver: 44.0 feet Autos: 0.00 Barrier Subserver: 44.0 feet Autos: 8.004 Grade: 0.0% Left View: -90.0 degrees Right View: 90.0	Road Nan	ne: 6th St.				Job Nu	mber: 1	3349			
SITE SPECIFIC INPUT DATA NOISE MODEL INPUTS Highway Data Site Conditions (Hard = 10, Soft = 15) Average Daily Traffic (Adt): 350 vehicles	Road Segme	<i>nt:</i> w/o Etiwano	da Av.								
Site Conditions (Hard = 10, Soft = 15) Average Daily Traffic (Adt): Site Conditions (Hard = 10, Soft = 15) Average Daily Traffic (Adt): 350 vehicles Autos: 15 Peak Hour Volume: 35 vehicles Medium Trucks (3 + Axles): 15 Vehicle Speed: 40 mph Vehicle Max Day Evening Night Daily Site Conditions (Hard = 10, Soft = 15) Mary Terms (3 + Axles): 15 Vehicle Speed: 40 mph Wehicle Speed: Meany Trucks (3 + Axles): 15 Wehicle Max Barrier Height: 0.0 feet Medium Trucks: 84.8% 4.9% 10.8% 10.8% 10.8% 10.8% 10.8% 10.8% 10.8% 10.8% 10.8% 10.8% 10.8% 10.8% 10.8% 10.8% 10.8% 10.8%	SITE	SPECIFIC IN	IPUT DATA			NC	DISE M	ODE	L INPUT	s	
Average Daily Traffic (Ad): 350 vehicles Autos: 15 Peak Hour Vorcentage: 10.14% Medium Trucks (2 Axles): 15 Peak Hour Volume: 35 vehicles Heavy Trucks (3 Axles): 15 Vehicle Speed: 40 mph Medium Trucks (2 Axles): 15 Vehicle Speed: 40 mph Vehicle Type Day Evening Night Daily Site Dat So vehicles Vehicle Type Day Evening Night Daily Barrier Height: 0.0 feet Moles Trucks: 84.8% 4.9% 10.3% 3.57 Barrier Distance to Observer: 0.0 feet Moles Source Elevations (in feet) Noise Source Elevations (in feet) 0.0% Barrier Distance to Observer: 0.0 feet Autos: 36.551 Heavy Trucks: 8.004 Grade Adjustment: 0.0 Road Grade: 0.0% Autos: 36.551 Heavy Trucks: 36.33 Heavy Trucks: 36.33 VehicleType REMEL Traffic Flow Distance Finite Road Fresnel <	Highway Data				Site Con	ditions (H	lard = 1	10, So	ft = 15)		
Peak Hour Percentage: 10.14% Medium Trucks (2 Axles): 15 Peak Hour Volume: 35 vehicles Heavy Trucks (3 + Axles): 15 Vehicle Speed: 40 mph Vehicle Type Day Evening Night Daily Site Data Autos: 75% 12.9% 9.6% 85.60% 85.6% 85.6% 85.6% 85.6% 85.6% 85.6% 85.6% 85.6% 10.8% 85.7% 10.8% 85.7% 10.8% 85.7% 10.8% 85.7% 10.8% 85.7% 10.8% 85.7% 10.8% 10.63 Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Doserver: 0.0 feet Autos: 86.5% 2.7% 10.8% 8.5% 2.7% 10.8% 10.63 Barrier Type (0-Wall, 1-Berm): 0.0 feet Autos: 8.004 Grade Adjustment: 0.0 Barrier Distance to Observer: 0.0 feet Autos: 8.004 Grade Adjustment: 0.0 4.0 4.0 4.0 4.0 1.0 9.0 1.0	Average Daily	Traffic (Adt):	350 vehicles				A	utos:	15		
Peak Hour Volume: 35 vehicles Heavy Trucks (3+ Axles): 15 Vehicle Speed: 40 mph Vehicle Mix Vehicle Mix Vehicle Mix Site Data Vehicle Type Day Evening Night Daily Barrier Height: 0.0 feet Autos: 77.5% 12.9% 9.6% 85.80' Barrier Height: 0.0 feet Autos: 77.5% 12.9% 9.6% 85.80' Barrier Height: 0.0 feet Autos: 77.5% 10.8% 10.3% 3.57' Barrier Dist. to Dserver: 44.0 feet Autos: 0.000 Medium Trucks: 86.5% 10.8% 10.63' Observer Height (Above Pad): 5.0 feet Heavy Trucks: 8.004 Grade Adjustment: 0.0 Road Elevation: 0.0 feet Motis: 36.303 Heavy Trucks: 36.308 WehicleType REMEL Traffic Flow Distance Finite Road Fresnel Barrier Atten Berm Atten Autos: 66.51 -16.49 1.94 -1.20	Peak Hour	Percentage:	10.14%		Me	dium Truc	:ks (2 A	xles):	15		
Vehicle Speed: 40 mph Vehicle Speed: 40 mph Vehicle Mix Site Data Vehicle Mix Barrier Height: 0.0 feet Day Evening Night Daily Day Barrier Height: 0.0 feet Medium Trucks: 84.8% 4.9% 10.3% 3.57 Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Dasriver: 44.0 feet Moise Source Elevations (in feet) Autos: 77.5% 12.9% 2.7% 10.8% 10.3% 3.57 Observer right (Above Pad): 5.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees Finite Road Fresnel Barrier Atten Berm Atten Medium Trucks: 77.72 -30.30 1.98 -1.20 -4.61 0.000 0.00 Medium Trucks: 29.9 -25.56 1.98 -1.20 -4.61 0.000 0.00 Medium Trucks: 28.2.99 -25.56 1.98 -1.20 -4.61 0.000	Peak H	lour Volume:	35 vehicles		He	avy Truck	:s (3+ A	xles):	15		
Near/Far Lane Distance: 50 feet Vehicle Type Day Evening Night Daily Site Data Autos: 77.5% 12.9% 9.6% 85.60% 85.6% 85.6% 85.6% 85.6% 85.6% 85.6% 85.6% 85.6% 35.7% 10.8% 85.6% 85.6% 35.7% 10.8% 85.6% 35.7% 10.8% 85.6% 35.7% 10.8% 10.63 35.7% 10.8% 10.63 35.7% 10.8% 10.63 35.7% 10.8% 10.63 35.7% 10.8% 10.63 35.7% 10.8% 10.63 35.7% 10.8% 10.63	Ve	ehicle Speed:	40 mph	ŀ	Vehicle	Mix					
Site Data Autos: 77.5% 12.9% 9.6% 85.80 Barrier Height: 0.0 64 66.80 10.3% 3.57 Barrier Type (0-Wall, 1-Berm): 0.0 75.9% 12.9% 9.6% 85.80 Centerline Dist. to Barrier: 44.0 feet 10.8% 10.3% 3.57 Diserver Height (Above Pad): 5.0 feet 10.8% 10	Near/Far La	ane Distance:	50 feet	F	Veh	icleType	1	Day	Evening	Night	Daily
Barrier Height: 0.0 feet Medium Trucks: 84.8% 4.9% 10.3% 3.57' Barrier Type (0-Wall, 1-Berm): 0.0 10.3% 3.57' Heavy Trucks: 86.5% 2.7% 10.8% 10.3% 3.57' Centerline Dist. to Dserver: 44.0 feet Autos: 0.000 Moise Source Elevations (in feet) Autos: 0.000 Medium Trucks: 2.297 Moise Source Elevations (in feet) Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0 Pad Elevation: 0.0 feet Road Grade: 0.0% Autos: 0.6651 -16.49 Autos: 36.308 Heavy Trucks: 36.308 VehicleType REMEL Traffic Flow Distance Finite Road Fresnel Barrier Atten Berm Atten Autos: 66.51 -16.49 1.94 -1.20 -4.67 0.000 0.00 Medium Trucks: 82.99 -25.56 1.98 -1.20 -4.67 0.000 0.00 0.00 Medium Tr	Site Data					AL	itos: T	7.5%	12.9%	9.6%	85.80%
Barrier Type (0-Wall, f-Berm): 0.0 Heavy Trucks: 86.5% 2.7% 10.8% 10.83 Centerline Dist. to Desriver: 44.0 feet Autos: 0.00 Moise Source Elevations (in feet) Autos: 0.00 Barrier Distance to Observer: 0.0 feet Autos: 0.000 Medium Trucks: 2.297 Observer Height (Above Pad): 5.0 feet Autos: 0.006 Medium Trucks: 2.297 Road Elevation: 0.0 feet Autos: 36.551 Medium Trucks: 36.308 VehicleType REMEL Traffic Flow Distance Finite Road Fresnel Barrier Atten Berr Atten Medium Trucks: 77.72 -30.30 1.98 -1.20 -4.61 0.000 0.00 Heavy Trucks: 82.99 -25.56 1.98 -1.20 -4.61 0.000 0.00 Heavy Trucks: 82.99 -25.56 1.98 -1.20 -5.50 0.000 0.00 Heavy Trucks: 50.8 48.8 47.0 41.0 49.6	Ba	rrier Height	0.0 feet		M	edium Tru	cks: 8	34.8%	4.9%	10.3%	3.57%
Centerline Dist. to Barrier: 44.0 feet Centerline Dist. to Observer: 44.0 feet Autos: 0.000 Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Grade: 0.0% Left View: 90.0 degrees Right View: 90.0 degrees Wehicle Type REMEL Vehicle Type Leg Pask Hour Leg Day Leg Vening Leg Night Ldn Autos: 50.8 Medium Trucks: 50.8	Barrier Type (0-V	Vall, 1-Berm):	0.0		1	Heavy Tru	cks: 8	36.5%	2.7%	10.8%	10.63%
Centerline Dist. to Observer: 44.0 feet Autos: 0.000 Barrier Distance to Observer: 0.0 feet Autos: 0.000 Observer Height (Above Pad): 5.0 feet Medium Trucks: 2.297 Pad Elevation: 0.0 feet Lane Equivalent Distance (in feet) Road Grade: 0.0% Lane Equivalent Distance (in feet) Road Grade: 0.0% Autos: 36.551 Left View: -90.0 degrees Medium Trucks: 36.308 Right View: 90.0 degrees Heavy Trucks: 36.308 VehicleType REMEL Traffic Flow Distance Finite Road Fresnel Barrier Atten Berm Atten Autos: 66.51 -16.49 1.94 -1.20 -4.67 0.000 0.00 Medium Trucks: 77.72 -30.30 1.98 -1.20 -5.50 0.000 0.00 Unnitigated Noise Levels (without Topo and barrier attenuation) Vehice/Pyee Leg Day Leg Day Leg Reving Leg Right Ldn CNEL Autos: 50.8 <td>Centerline Di</td> <td>ist. to Barrier:</td> <td>44.0 feet</td> <td>-</td> <td>Noise Sc</td> <td>ource Elev</td> <td>vations</td> <td>(in fe</td> <td>ef)</td> <td></td> <td></td>	Centerline Di	ist. to Barrier:	44.0 feet	-	Noise Sc	ource Elev	vations	(in fe	ef)		
Barrier Distance to Observer. 0.0 feet Medium Trucks: 2.97 Observer Height (Above Pad): 5.0 feet Medium Trucks: 2.97 Pad Elevation: 0.0 feet Heavy Trucks: 8.004 Grade Adjustment: 0.0 Road Grade: 0.0% Left View: -90.0 degrees Autos: 36.531 WeiloeType REMEL Traffic Flow Distance Finite Road Fresnel Barrier Atten Bern Atten Autos: 66.51 -16.49 1.94 -1.20 -4.61 0.000 0.00 Medium Trucks: 77.72 -30.30 1.98 -1.20 -4.67 0.000 0.00 Medium Trucks: 77.72 -30.30 1.98 -1.20 -5.50 0.000 0.00 Medium Trucks: 77.72 -30.30 1.98 -1.20 -5.50 0.000 0.00 VehicleType Leq Peak Hour Leq Day Leq Regrees Eeg Evening Leq Night Ldn CNEL VehicleType Leq Day Leq Day	Centerline Dist.	to Observer:	44.0 feet	ŀ		Autos:	0.0	00			
Observer Height (Above Pad): 5.0 feet Inclusion Float Color Pad Elevation: 0.0 feet Heavy Trucks: 8.00 Grade Adjustment: 0.0 Road Elevation: 0.0 feet Left View: 90.0 degrees Autos: 36.551 Left View: 90.0 degrees Heavy Trucks: 36.551 VehicleType REMEL Traffic Flow Distance Finite Road Fresnel Barrier Atten Berm Atten Autos: 66.51 -16.49 1.94 -1.20 -4.61 0.000 0.00 Heavy Trucks: 77.72 -30.30 1.98 -1.20 -4.67 0.000 0.00 Medium Trucks: 77.72 -30.30 1.98 -1.20 -4.67 0.000 0.00 Heavy Trucks: 82.99 -25.56 1.98 -1.20 -4.67 0.000 0.00 Ummitigated Noise Levels (without Topo and barrier attenuation) VehicleType Leg Paak Hour Leg Day Leg Vening Leg Night Ldn CNEL Autos: 50.8	Barrier Distance	to Observer:	0.0 feet		Mediu	m Trucks:	2.2	97			
Pad Elevation: 0.0 feet Lane Equivalent Distance (in feet) Road Glevation: 0.0 feet Lane Equivalent Distance (in feet) Road Grade: 0.0% Autos: 36.551 Left View: -90.0 degrees Medium Trucks: 36.308 Right View: 90.0 degrees Heavy Trucks: 36.308 VehicleType REMEL Traffic Flow Distance Finite Road Fresnel Barrier Atten Berner Atten Autos: 66.51 -16.49 1.94 -1.20 -4.61 0.000 0.00 Medium Trucks: 77.72 -30.30 1.98 -1.20 -5.50 0.000 0.00 Unnitigated Noise Levels (without Topo and barrier attenuation) VehiceType Leg Day Leg Evening Leg Night Ldn CNEL Autos: 50.8 48.8 47.0 41.0 49.6 50 Medium Trucks: 58.2 56.7 47.7 49.9 58.3 58 Medium Trucks: 59.3 57.7 50.8 49.9 <	Observer Height	(Above Pad):	5.0 feet		Heat	n Trucks:	8.0	04	Grade Ad	iustment	0.0
Road Elevation: 0.0 feet Lane Equivalent Distance (in feet) Road Grade: 0.0 % Autos: 36.551 Left View: -90.0 degrees Medium Trucks: 36.308 Right View: 90.0 degrees Heavy Trucks: 36.308 VehicleType REMEL Traffic Flow Distance Finite Road Fresnel Barrier Atten Bern Atten Autos: 77.72 -30.30 1.98 -1.20 -4.67 0.000 0.00 Medium Trucks: 77.72 -30.30 1.98 -1.20 -5.50 0.000 0.00 Medium Trucks: 77.72 -30.30 1.98 -1.20 -5.50 0.000 0.00 Medium Trucks: 50.8 48.8 47.0 4.87 0.000 0.00 Unmitigated Noise Levels (without Topo and barrier attenuation) Leq Right Ldn CNEL Vehicle Noise: 50.3 57.7 50.8 49.9 58.3 58 Centerline Distance to Noise Contour (in feet) To dBA 65 dBA	P	ad Elevation:	0.0 feet		near	ly mucho.	0.0	04			
Road Grade: 0.0% Autos: 36.551 Left View: 90.0 degrees Medium Trucks: 36.301 FHWA Noise Model Calculations Heavy Trucks: 36.332 VehicleType REMEL Traffic Flow Distance Finite Road Fresnel Barrier Atten Berm Atten Autos: 66.51 -16.49 1.94 -1.20 -4.61 0.000 0.00 Medium Trucks: 77.72 -30.30 1.98 -1.20 -4.87 0.000 0.00 Medium Trucks: 77.72 -30.30 1.98 -1.20 -5.50 0.000 0.00 Ummitigated Noise Levels (without Topo and barrier attenuation) Use Reveing Leq Night Ldn CNEL Autos: 50.8 48.8 47.0 41.0 49.6 50 Medium Trucks: 58.2 56.7 47.7 48.9 57.3 57 Vehicle Noise: 59.3 57.7 50.8 49.9 58.3 58 Centerline Distance to Noise Contour (in feet)	Ro	ad Elevation:	0.0 feet		Lane Eq	uivalent E	Distanc	e (in f	feet)		
Left View: -90.0 degrees Medium Trucks: 36.308 Right View: 90.0 degrees Heavy Trucks: 36.308 FHWA Noise Model Calculations Fease Barrier Atten Bernier Atten VehicleType REMEL Traffic Flow Distance Finite Road Fresnel Barrier Atten Bernier Atten Autos: 66.51 -16.49 1.94 -1.20 -4.61 0.000 0.00 Medium Trucks: 77.72 -30.30 1.98 -1.20 -4.67 0.000 0.00 Unmitigated Noise Levels (without Topo and barrier attenuation) -5.50 0.000 0.00 VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 50.8 48.8 47.0 41.0 49.6 50 Medium Trucks: 58.2 56.7 47.7 48.9 57.3 57 Vehicle Noise: 59.3 57.7 50.8 49.9 58.3 58 Centerline Distance to Noise Contour (in f		Road Grade:	0.0%			Autos:	36.5	51			
Right View: 90.0 degrees Heavy Trucks: 36.332 FHWA Noise Model Calculations Environmentation Distance Finite Road Fresnel Barrier Atten Bern Atten Autos: 66.51 -16.49 1.94 -1.20 -4.61 0.000 0.00 Medium Trucks: 77.72 -30.30 1.98 -1.20 -4.67 0.000 0.00 Medium Trucks: 77.72 -30.30 1.98 -1.20 -4.67 0.000 0.00 Unnitigated Noise Levels (without Topo and barrier attenuation) -5.50 0.000 0.00 Vehicle Type Leq Peak Hour Leq Day Leq Regression 41.0 49.6 50 Medium Trucks: 50.8 48.8 47.0 41.0 49.6 50 Medium Trucks: 58.2 56.7 47.7 48.9 57.3 57 Vehicle Noise: 59.3 57.7 50.8 49.9 58.3 58 Centerline Distance to Noise Contour (in feet) 70 dBA 65 dBA 60		Left View:	-90.0 degrees		Mediu	m Trucks:	36.3	08			
FHWA Noise Model Calculations VehicleType REMEL Traffic Flow Distance Finite Road Fresnel Barrier Atten Berm Atten Autos: 66.51 -16.49 1.94 -1.20 -4.61 0.000 0.00 Medium Trucks: 77.72 -30.30 1.98 -1.20 -4.67 0.000 0.00 Heavy Trucks: 82.99 -25.56 1.98 -1.20 -5.50 0.000 0.00 Unmitigated Noise Levels (without Topo and barrier attenuation) -5.50 0.000 0.00 VehicleType Leg Peak Hour Leg Day Leg Vening Leg Night Ldn CNEL Autos: 50.8 48.8 47.0 41.0 49.6 50 Medium Trucks: 58.2 56.7 47.7 48.9 57.3 57 Vehicle Noise: 59.3 57.7 50.8 49.9 58.3 58 Centerline Distance to Noise Contour (in feet) - 70 dBA 65 dBA 60 dBA 55 dBA		Right View:	90.0 degrees		Heav	vy Trucks:	36.3	32			
VehicleType REMEL Traffic Flow Distance Finite Road Fresnel Barrier Atten Berm Atten Autos: 66.51 -16.49 1.94 -1.20 -4.61 0.000 0.00 Medium Trucks: 77.72 -30.30 1.98 -1.20 -4.87 0.000 0.00 Heavy Trucks: 82.99 -25.56 1.98 -1.20 -5.50 0.000 0.00 Ummitigated Noise Levels (without Topo and barrier attenuation) Leq Reak Hour Leq Q vening Leq Night Ldn CNEL Autos: 50.8 48.8 47.0 41.0 49.6 50 Medium Trucks: 48.2 46.6 40.3 38.7 47.2 47 Heavy Trucks: 59.3 57.7 50.8 49.9 57.3 57 Vehicle Noise: 59.3 57.7 50.8 49.9 58.3 58 Centerline Distance to Noise Contour (in feet) 70 dBA 65 dBA 60 dBA 55 dBA Ldr: 7	FHWA Noise Mod	el Calculation	s								
Autos: 66.51 -16.49 1.94 -1.20 -4.67 0.000 0.00 Medium Trucks: 77.72 -30.30 1.98 -1.20 -4.67 0.000 0.00 Heavy Trucks: 82.99 -25.56 1.98 -1.20 -4.87 0.000 0.00 Unitigated Noise Levels (without Topo and barrier attenuation) Leq Name Leq Name CNEL Autos: 50.8 48.8 47.0 41.0 49.6 500 Medium Trucks: 58.2 56.7 47.7 48.9 57.3 57 Vehicle Noise: 59.3 57.7 50.8 49.9 58.3 58 Centerline Distance to Noise Contour (In feet) 70 dBA 65 dBA 60 dBA 55 dBA Lan: 7 16 34 7 CNEL: 8 16 35 7	VehicleType	REMEL	Traffic Flow	Distance	Finite	Road	Fresne	e/	Barrier Att	en Ber	rm Atten
Medium Trucks: 77.72 -30.30 1.98 -1.20 -4.87 0.000 0.00 Heavy Trucks: 82.99 -25.56 1.98 -1.20 -5.50 0.000 0.00 Unmitigated Noise Levels (without Topo and barrier attenuation) VehicleType Leq Dev Leq Evening Leq Night Ldn CNEL Autos: 50.8 48.8 47.0 41.0 49.6 50 Medium Trucks: 48.2 46.6 40.3 38.7 47.2 47 Heavy Trucks: 59.3 57.7 50.8 49.9 58.3 58 Centerline Distance to Noise Contour (in feet) Contour (in feet) Lag Peak Mour Contour (in 64 do db	Autos:	66.51	-16.49	1.9	14	-1.20	-	4.61	0.0	000	0.000
Heavy Trucks: 82.99 -25.56 1.98 -1.20 -5.50 0.000 0.000 Unmitigated Noise Levels (without Topo and barrier attenuation) Use Constraints Use Constraints Use Constraints CNEL Vehicle Type Leg Peak Hour Leg Day Leg Vening Leg Night Ldn CNEL Autos: 50.8 48.8 47.0 41.0 49.6 50 Medium Trucks: 48.2 46.6 40.3 38.7 47.2 47 Heavy Trucks: 59.3 57.7 50.8 49.9 58.3 58 Centerline Distance to Noise Contour (in feet) Image: Contour (in feet) Image: Contour (in 6et) 55 dBA Ldn: 7 16 34 7 CNEL: 8 16 35 7	Medium Trucks:	77.72	-30.30	1.9	8	-1.20	-	4.87	0.0)00	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation) Leq Night Ldn CNEL VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 50.8 48.8 47.0 41.0 49.6 50 Medium Trucks: 58.2 56.7 47.7 48.9 57.3 57 Vehicle Noise: 59.3 57.7 50.8 49.9 58.3 58 Centerline Distance to Noise Contour (in feet)	Heavy Trucks:	82.99	-25.56	1.9	18	-1.20	-	5.50	0.0)00	0.000
VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 50.8 48.8 47.0 41.0 49.6 50.0 Medium Trucks: 48.2 46.6 40.3 38.7 47.2 47.7 Heavy Trucks: 58.2 56.7 47.7 48.9 57.3 57.7 Vehicle Noise: 59.3 57.7 50.8 49.9 58.3 58 Centerline Distance to Noise Contour (In feet)	Unmitigated Nois	e Levels (with	out Topo and bai	rrier atter	nuation)						
Autos: 50.8 48.8 47.0 41.0 49.6 50.0 Medium Trucks: 48.2 46.6 40.3 38.7 47.2 47.7 49.9 57.3 57 Vehicle Noise: 59.3 57.7 50.8 49.9 58.3 58 Centerline Distance to Noise Contour (In feet) Lan: 7 16 60 dBA 55 dBA CNEL: 8 16 35 7	VehicleType	Leq Peak Hou	ır Leq Day	Leq E	vening	Leq N	ight		Ldn	C	NEL
Medium Trucks: 48.2 46.6 40.3 38.7 47.2 47.7 Heavy Trucks: 58.2 56.7 47.7 48.9 57.3 57 Vehicle Noise: 59.3 57.7 50.8 49.9 58.3 58 Centerline Distance to Noise Contour (in feet) Image: Contour (in feet) 70 dBA 65 dBA 60 dBA 55 dBA CNEL: 7 16 34 7	Autos:	50	.8 48.	8	47.0		41.0		49.6	ò	50.2
Heavy Trucks: 58.2 56.7 47.7 48.9 57.3 57 Vehicle Noise: 59.3 57.7 50.8 49.9 58.3 58 Centerline Distance to Noise Contour (in feet) 70 dBA 65 dBA 60 dBA 55 dBA Ldn: 7 16 34 7 CNEL: 8 16 35 7	Medium Trucks:	48	.2 46.	6	40.3		38.7		47.2	2	47.4
Vehicle Noise: 59.3 57.7 50.8 49.9 58.3 58 Centerline Distance to Noise Contour (in feet) 70 dBA 65 dBA 60 dBA 55 dBA Lan: 7 16 34 7 CNEL: 8 16 35 7	Heavy Trucks:	58	.2 56.	7	47.7		48.9		57.3	3	57.4
Centerline Distance to Noise Contour (in feet) 70 dBA 65 dBA 60 dBA 55 dBA Ldn: 7 16 34 7 CNEL: 8 16 35 7	Vehicle Noise:	59	.3 57.	7	50.8		49.9		58.3	3	58.5
70 dBA 65 dBA 60 dBA 55 dBA Ldn: 7 16 34 7 CNEL: 8 16 35 7	Centerline Distan	ce to Noise Co	ontour (in feet)	1							
Lán: 7 16 34 7 CNEL: 8 16 35 7				70	dBA	65 dE	BA	6	i0 dBA	55	dBA
CNEL: 8 16 35 7			Ldr	n:	7		16		34		73
			CNEL	L:	8		16		35		76

	FH\	NA-RD-77-108	B HIGH	HWAY N	NOISE PI	REDICTIO		DEL			
Scenai Road Nan Road Segme	rio: OYC 2022 ne: 4th St. ent: e/o I-15 NE	8 Ramps				Project I Job Nu	Name: E Imber: 1	Bridge 13349	Point		
SITE	SPECIFIC IN	IPUT DATA				N	OISE N	IODE	L INPUTS	3	
Highway Data				÷	Site Con	ditions (Hard =	10, S	oft = 15)		
Average Daily	Traffic (Adt):	19,899 vehicl	es				,	Autos	15		
Peak Hour	Percentage:	10.14%			Me	dium Tru	cks (2 A	(xles	15		
Peak H	Hour Volume:	2,018 vehicle	s		He	avy Truc	ks (3+ A	(xles	15		
Ve	ehicle Speed:	55 mph		1	Vehicle I	Mix					
Near/Far La	ane Distance:	73 feet		F	Veh	icleType		Day	Evening	Night	Daily
Site Data						A	utos:	77.5%	6 12.9%	9.6%	6 85.80%
Ba	rrier Height:	0.0 feet			M	edium Tru	ucks:	84.8%	6 4.9%	10.3%	5.57%
Barrier Type (0-V	Vall, 1-Berm):	0.0			I	Heavy Tru	ucks:	86.5%	6 2.7%	10.8%	6 10.63%
Centerline D	ist. to Barrier:	60.0 feet		7	Noise So	ource Ele	vations	s (in f	eet)		
Centerline Dist.	to Observer:	60.0 feet				Autos	: 0.0	000			
Barrier Distance	to Observer:	0.0 feet			Mediu	m Trucks	: 2.2	297			
Observer Height	Observer Height (Above Pad): 5.0 feet						: 8.0	004	Grade Adj	ustmen	t: 0.0
P	Pad Elevation: 0.0 feet										
Ro	ad Elevation:	0.0 feet		1	Lane Eq	uivalent	Distanc	ce (in	feet)		
	Road Grade:	0.0%				Autos	: 47.8	883			
	Left View:	-90.0 degre	es		Mediu	m Trucks	: 47.6	698			
	Right View:	90.0 degre	es		Heav	ry Trucks	: 47.1	716			
FHWA Noise Mod	el Calculation	s									
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fresn	el	Barrier Atte	en Be	rm Atten
Autos:	71.78	-0.33		0.1	8	-1.20		-4.69	0.0	00	0.000
Medium Trucks:	82.40	-14.13		0.2	0	-1.20		-4.88	0.0	00	0.000
Heavy Trucks:	86.40	-9.39		0.2	0	-1.20		-5.34	0.0	00	0.000
Unmitigated Nois	e Levels (with	out Topo and	barri	er atten	uation)						
VehicleType	Leq Peak Hou	ur Leq Da	y	Leq E	vening	Leq N	Vight		Ldn	C	NEL
Autos:	70).4	68.5		66.7		60.7	,	69.3	5	69.9
Medium Trucks:	67	'.3	65.7		59.3		57.8	3	66.3		66.5
Heavy Trucks:	76	6.0	74.5		65.5		66.7	·	75.1		75.2
Vehicle Noise:	77	.5	75.9		69.6		68.1		76.5	j	76.8
Centerline Distan	ce to Noise Co	ontour (in fee	t)								
			L	70 0	dBA	65 d	IBA		60 dBA	55	ō dBA
			Ldn:		163		352		759		1,635
	CNEL:						365		786		1,694

Scenaria: OVCP 2022 Road Name: Project Name: BridgePoint Job Number: Job Number: 13349 Road Segment: slo Foothill BL: Job Number: 13349 Job Number: 13349 SITE SPECIFIC INPUT DATA NOISE MODEL INPUTS Interview Job Number: 13349 Average Daily Traffic (Ad): 16,643 vehicles Site Conditions (Hard = 10, Soft = 15) Autos: 15 Peak Hour Parcentage: 10.14% Medium Trucks (2 Axles): 15 Vehicle Speed: 50 mph Near/Far Lane Distance: 50 feet Vehicle Mix Vehicle Mix 9.6% 85 Barrier Height: 0.0 feet Autos: 77.5% 12.9% 9.6% 85 Barrier Distance to Doserver: 50.0 feet Medium Trucks: 8.8% 4.9% 10.3% 3 Centerline Dist. to Doserver: 50.0 feet Medium Trucks: 2.297 Noise Source Elevations (in feet) Autos: 0.00 Road Grade: 0.0% Elevation: 0.0 feet Autos: 43.305 FHWA Noise Model Calculations 90.0 degrees Right View:		FHV	VA-RD-77-108	HIGH	WAY N	IOISE PI	REDICTI		DEL			
NOISE MODEL INPUTS Highway Data Site Conditions (Hard = 10, Soft = 15) Average Daily Traffic (Adt): 16,643 vehicles Autos: 15 Peak Hour Percentage: 10,14% Medium Trucks (2 Axles): 15 Peak Hour Volume: 1,888 vehicles Medium Trucks (2 Axles): 15 Vehicle Speed: 50 mph Medium Trucks (2 Axles): 15 Near/Far Lane Distance: 50 feet Vehicle Mix Vehicle Mix 10,3% 3 Barrier Height: 0.0 feet Medium Trucks: 84,8% 4,9% 10,3% 3 10,3% 3 Barrier Jiste to Barrier: 50.0 feet Medium Trucks: 84,8% 4,9% 10,3% 3 10 Centerline Dist. to Barrier: 50.0 feet Noise Source Elevations (in feet) Noise Source Elevations (in feet) Observer Height (Above Pad): 5.0 feet Autos: 7.20 4.365 7.43,405 FHWA Noise Model Calculations Verice Type Left View: 90.0 degrees Medium Trucks: 4.3365 Right View: 90.0 degrees Finite Road Fresnet Barrier Atten Berm A	Scenari Road Nam Road Seamer	o: OYCP 2022 e: Etiwanda A at: s/o Foothill	2 v. Bl.				Project Job Nu	Name: E umber: 1	Bridge 3349	Point		
Highway Data Site Conditions (Hard = 10, Soft = 15) Average Daily Traffic (Adl): 16,643 vehicles Peak Hour Percentage: 10,14% Peak Hour Volume: 1,688 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 50 feet Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 feet Centerline Dist. to Deserver: 50.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 feet Barrier Distance to Observer: 50.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 feet Barrier Distance to Observer: 0.0 feet Road Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: 90.0 degrees Right View: 90.0 degrees Right View: 90.0 degrees Right View: 90.70 Heavy Trucks: 43.365 Heavy Trucks: 45.3 VehicleType REMEL Traffic Flow	SITE						N	OISE N	IODE		s	
Average Daily Traffic (Ad): 16,643 vehicles Autos: 15 Peak Hour Percentage: 10.14% Medium Trucks (2 Axles): 15 Peak Hour Volume: 16.88 vehicles Heavy Trucks (3+ Axles): 15 Vehicle Speed: 50 mph Vehicle Type Day Evening Night Distance Site Data Autos: 77.5% 12.9% 9.6% 65 Medium Trucks: 48.4% 4.9% 10.3% 3 Barrier Height: 0.0 feet Medium Trucks: 84.8% 4.9% 10.3% 3 Heavy Trucks: 86.5% 2.7% 10.8% 10 Centerline Dist. to Doserver: 50.0 feet Medium Trucks: 84.9% 4.9% 10.3% 3 Heavy Trucks: 80.04 Grade Adjustment: 0.0 Centerline Dist. to Doserver: 0.0 feet Autos: 0.00 Medium Trucks: 8.04 Grade Adjustment: 0.0 Road Elevation: 0.0 feet Autos: 7.20 -4.65 0.000 0 WehicleType REMEL Trd	Highway Data					Site Con	ditions (Hard =	10, Sc	oft = 15)	-	
Peak Hour Percentage: 10.14% Medium Trucks (2 Axles): 15 Peak Hour Volume: 16.88 vehicles Heavy Trucks (3+ Axles): 15 Vehicle Speed: 50 mph Vehicle Speed: 50 mph Near/Far Lane Distance: 50 feet Vehicle Speed: 50 mph Site Data Autos: 77.5% 12.9% 9.6% 85 Barrier Type (Ovwalt, 1-Berm): 0.0 10.8% 10.3% 3 10.8% 10.8% 10.3% 3 Barrier Type (Ovwalt, 1-Berm): 0.0 feet Medium Trucks: 84.8% 4.9% 10.3% 3 Barrier Type (Ovwalt, 1-Berm): 0.0 feet Noise Source Elevations (in feet) 10.8% 10.8% 10.8% 10.8% 10.8% 10.8% 10.8% 10.8% 10.8% 10.18% 10.18% 10.18% 10.8% 10.8% 10.8% 10.8% 10.8% 10.8% 10.8% 10.8% 10.8% 10.8% 10.8% 12.9% 10.8% 10.8% 12.9% 10.8% 10.8% 10.8% 10.8% 10.8% 10.8% 10.8% 10.8%<	Average Daily	Traffic (Adt):	16.643 vehicle	es					Autos:	15		
Peak Hour Volume: 1,688 vehicles Vehicle Speed: Heavy Trucks (3+ Axles): 15 Vehicle Speed: 50 mph Vehicle Mix Vehicle Mix Vehicle Mix Site Data Vehicle Mix Vehicle Mix Vehicle Mix Vehicle Mix Barrier Height: 0.0 feet Medium Trucks: 84.8% 4.9% 10.3% 3 Barrier Type (0-Wail, 1-Berm): 0.0 feet Medium Trucks: 85.9% 2.7% 10.8% 10 Centerline Dist. to Dserver: 50.0 feet Moise Source Elevations (in feet) Noise Source Elevations (in feet) Noise Source Elevations (in feet) Noise Source Elevation: 0.0 Barrier Jbist. to Dbserver: 0.0 feet Medium Trucks: 8.004 Grade Adjustment: 0.0 Barrier Jbist. to Observer: 0.0 feet Mutos: 0.0 feet Mutos: 0.0 feet Medium Trucks: 8.004 Grade Adjustment: 0.0 Road Grade: 0.0% Left View: 90.0 degrees Medium Trucks: 43.386 Heavy Trucks: 43.405 FHWA Noise Model Calculations Fresnet	Peak Hour	Percentage:	10.14%			Me	dium Tru	cks (2 A	xles):	15		
Vehicle Speed: 50 mph 50 feet Vehicle Mix Site Data Autos: 77.5% 12.9% 9.6% 50 Barrier Height: 0.0 feet Medium Trucks: 84.8% 4.9% 10.3% 3 Barrier Type (0-Wall, 1-Berm): 0.0 Note Medium Trucks: 84.8% 2.7% 10.8% 10 Centerline Dist. to Deserver: 50.0 feet Noise Source Elevations (in feet) Noise Source Elevation 0.00 Noise Source 0.00	Peak H	our Volume:	1,688 vehicle	s		He	avy Truc	ks (3+ A	xles):	15		
Near/Far Lane Distance: 50 feet Vehicle/Type Day Evening Night D. Site Data Autos: 77.5% 12.9% 9.6% 65 Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Doserver: 50.0 feet Medium Trucks: 84.8% 4.9% 10.3% 31 Barrier Type (0-Wall, 1-Berm): 0.0 Noise Source Elevations (in feet) Noise Source Elevation: 0.00 Medium Trucks: 8.004 Grade Adjustment: 0.0 Road Clevation: 0.0 feet Autos: 0.000 Medium Trucks: 8.004 Grade Adjustment: 0.0 Road Clevation: 0.0 feet Left View: 90.0 degrees Heavy Trucks: 8.004 Grade Adjustment: 0.00 0 FHWA Noise Model Calculations VehicleType REMEL Traffic Flow Distance Finite Road Fresnel Barrier Atlen Berm A Autos: 70.20 -0.69 0.52 -1.20 -4.65	Vel	hicle Speed:	50 mph		-	Vahicla	Mix					
Site Data Login Loging Login Loging <td>Near/Far Lar</td> <td>ne Distance:</td> <td>50 feet</td> <td></td> <td></td> <td>Venicie i Veh</td> <td>icleTyne</td> <td></td> <td>Dav</td> <td>Evenina</td> <td>Night</td> <td>Daily</td>	Near/Far Lar	ne Distance:	50 feet			Venicie i Veh	icleTyne		Dav	Evenina	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 50.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Observer: 50.0 feet Barrier Tito Cobserver: 50.0 feet Barrier Tito Cobserver: 50.0 feet Barrier Distance to Observer: 50.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: 90.0 degrees Right View: 90.0 degrees Right View: 90.0 degrees Heavy Trucks: 43.366 Heavy Trucks: 43.306 Heavy Trucks: 43.405 FHWA Noise Model Calculations Distance Vehicle Type REMEL Traffic Flow Vehicle Type Left View: 90.0 degrees Heavy Trucks: 81.00 -14.50 Medium Trucks: 81.00 -14.50 Unnitigated Noise Levels (without Topo and barrier attenuation) Unitigated Noise Levels (without Topo and barrier attenuation) Vehicle Type Leq Day<	Site Data					1011	A	utos:	77.5%	12.9%	9.6%	85.82
Barrier Type (0-Wall, 1-Berm): 0.0 Heavy Trucks: 86.5% 2.7% 10.8% 10 Centerline Dist. to Diserver: 50.0 feet Noise Source Elevations (in feet) Noise Source Elevations (in feet) Diserver Height (Above Pad): 5.0 feet Autos: 0.00 Medium Trucks: 8.04 Grade Adjustment: 0.0 Road Elevation: 0.0 feet Autos: 3.589 Medium Trucks: 4.3589 Left View: 90.0 degrees Medium Trucks: 4.33.68 Heavy Trucks: 4.3.405 FHWA Noise Model Calculations 0.0 feet Autos: 70.20 -4.65 0.000 0 Heavy Trucks: 81.00 -14.50 0.82 -1.20 -4.67 0.000 0 Medium Trucks: 81.00 -14.50 0.82 -1.20 -5.43 0.000 0 Unnitigated Noise Levels (without Topo and barrier attenuation) Vehicle Type Leq Newing Leq Newing Leq Newing Leq Newing Leq Newing Cincle Cincle Heavy Trucks: 85.38 -9.77	Bar	rior Hoight:	0.0 foot			M	edium Tr	ucks:	84.8%	4.9%	10.3%	3.57
Centerline Dist. to Barrier: 50.0 feet Noise Source Elevations (in feet) Centerline Dist. to Desriver: 50.0 feet Autos: 0.000 Barrier Distance to Observer: 50.0 feet Autos: 0.000 Barrier Distance to Observer: 50.0 feet Autos: 0.000 Barrier Distance to Observer: 50.0 feet Medium Trucks: 2.297 Observer Height (Above Pad): 5.0 feet Heavy Trucks: 8.004 Grade Adjustment: 0.0 Road Elevation: 0.0 feet Lane Equivalent Distance (in feet) Autos: 43.386 Right View: 90.0 degrees Medium Trucks: 43.306 Heavy Trucks: 43.405 FHWA Noise Model Calculations Vehicle Type REMEL Traffic Flow Distance Finite Road Fresnet Barrier Atten Berm A Vehicle Type REMEL Traffic Flow Distance Finite Road Fresnet Barrier Atten Berm A Medium Trucks: 81.00 -14.50 0.82 -1.20 -4.65 0.000 0 Medium Trucks:<	Barrier Type /0_1//	all 1-Berm)	0.0 1001			1	Heavy Tr	ucks:	86.5%	2.7%	10.8%	10.61
Noise Source Elevations (in feet) Noise Source Elevations (in feet) Autos: 0.000 Barrier Distance to Observer: 0.0 feet Barrier Distance to Noise 0.0 feet Road Elevation: 0.0 feet Road Elevation: 0.0 feet Road Elevation: 0.0 feet Road Glevation: 0.0 feet Road Glevation: 0.0 feet Road Glevation: 0.0 feet Road Glevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees VehicleType REMEL Traffic Flow Distance Finite Road Fresnel Barrier Atten Bern Medium Trucks: 81.00 -14.50 0.82 -1.20 -4.65 0.000 0 Medium Trucks: 85.38 -9.77 0.82 -1.20 -4.65 0.000 0 Unnitigated Noise Levels (without Topo and barrier attenuation) VehicleType Leq Day Leq Evening Leq Neing Cone <	Centerline Dis	t to Barrier:	50.0 feet		-					0		
Barrier Distance to Observer: 0.0 feet Autos: 0.000 Observer Height (Above Pad): 5.0 feet Medium Trucks: 2.937 Pad Elevation: 0.0 feet Heavy Trucks: 8.004 Grade Adjustment: 0.0 Road Elevation: 0.0 feet Lane Equivalent Distance (in feet) Autos: 43.589 Left View: 90.0 degrees Medium Trucks: 43.589 Medium Trucks: 43.405 FHWA Noise Model Calculations VenicleType REMEL Traffic Flow Distance Finite Road Fresnel Barrier Atten Berm Autos: VehicleType REMEL Traffic Flow Distance -1.20 -4.65 0.000 0 Medium Trucks: 81.00 -14.50 0.82 -1.20 -4.65 0.000 0 Unmitigated Noise Levels (without Topo and barrier attenuation) VehicleType Leq Newing Leq Newing Leq Newing Leq Newing Led Newing CNEL VehicleType Leq Day Leq Ash 68.0 65.1 Eduos: 66.1 CNEL	Centerline Dist.	to Observer:	50.0 feet		4	Noise So	ource Ele	evations	s (in fe	eet)		
Observer Height (Above Pad): 5.0 feet Indexinit //Locks: 2.231 Pad Elevation: 0.0 feet Heavy Trucks: 8.004 Grade Adjustment: 0.0 Road Elevation: 0.0 feet Lane Equivalent Distance (in feet) Lane Equivalent Distance (in feet) Road Grade: 0.0% Autos: 43.589 Medium Trucks: 43.386 EHWA Noise Model Calculations Vehicle Type Remet Traffic Flow Distance Finite Road Fresnel Barrier Atten Berm A Vehicle Type REMEL Traffic Flow Distance Finite Road Fresnel Barrier Atten Berm A Medium Trucks: 81.00 -14.50 0.82 -1.20 -4.65 0.000 0 Medium Trucks: 85.38 -9.77 0.82 -1.20 -5.43 0.000 0 Unmitigated Noise Levels (without Topo and barrier attenuation) Vehicle Type Leq Paek Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 69.1 67.1 65.4 59.3 68.0	Barrier Distance	o Observer:	0.0 feet				Autos	. 0.0	000			
Pad Elevation: 0.0 feet Interv frucks. 0.00 4 Other Mussiminit. 0.00 4 Road Elevation: 0.0 feet Lane Equivalent Distance (in feet) Lane Equivalent Distance (in feet) Road Grade: 0.0% Latter View: -90.0 degrees Medium Trucks: 43.386 Right View: 90.0 degrees Medium Trucks: 43.386 Heavy Trucks: 43.405 Vehicle Type REMEL Traffic Flow Distance Finite Road Fresnet Barrier Atten Bern A Autos: 70.20 -0.69 0.79 -1.20 -4.65 0.000 0 Medium Trucks: 81.00 -14.50 0.82 -1.20 -5.43 0.000 0 Unmitigated Noise Levels (without Topo and barrier attenuation) VehicleType Leq Day Leq Evening Leq Night Ldn CNEL Autos: 66.1 64.6 58.2 56.6 65.1 Heavy Trucks: 75.2 73.7 64.7 66.0 74.3 Vehicle Noise: 76.6 <	Observer Height (J	bserver Height (Above Pad): 5.0 feet					m Trucks	. 2.4	297	Grade Ad	iuctmont	
Road Elevation: 0.0 feet Lane Equivalent Distance (in feet) Road Grade: 0.0 % Autos: 43.589 Left View: -90.0 degrees Medium Trucks: 43.386 Right View: 90.0 degrees Heavy Trucks: 43.405 FHWA Noise Model Calculations France Finite Road Fresnel Barrier Atten VehicleType REMEL Traffic Flow Distance Finite Road Fresnel Barrier Atten Berm A Autos: 70.0 -0.69 0.79 -1.20 -4.65 0.000 0 Medium Trucks: 81.00 -14.50 0.82 -1.20 -4.65 0.000 0 Unnitigated Noise Levels (without Topo and barrier attenuation) Vehicle Noise 69.1 67.1 65.4 59.3 68.0 Medium Trucks: 66.1 64.6 58.2 56.6 65.1 Heavy Trucks: 75.2 73.7 64.7 66.0 74.3 Vehicle Noise: 76.6 75.0 68.5 67.2 75.6 <td>Pa</td> <td colspan="6">Pad Elevation: 0.0 feet</td> <td>. 0.0</td> <td>104</td> <td>Graue Auj</td> <td>usuneni</td> <td>0.0</td>	Pa	Pad Elevation: 0.0 feet						. 0.0	104	Graue Auj	usuneni	0.0
Road Grade: 0.0% Autos: 43.589 Left View: -90.0 degrees Medium Trucks: 43.386 Right View: 90.0 degrees Medium Trucks: 43.386 FHWA Noise Model Calculations Presnel Barrier Atten Bern A VehicleType REMEL Traffic Flow Distance Finite Road Fresnel Barrier Atten Bern A Autos: 70.20 -0.69 0.79 -1.20 -4.65 0.000 0 Medium Trucks: 81.00 -14.50 0.82 -1.20 -4.65 0.000 0 Heavy Trucks: 85.38 -9.77 0.82 -1.20 -5.43 0.000 0 Unmitigated Noise Levels (without Topo and barrier attenuation) Vehicle Type Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 69.1 67.1 65.4 59.3 68.0 Medium Trucks: 75.2 73.7 64.7 66.0 74.3 Vehicle Noise: 76.6	Roa	d Elevation:	1	Lane Eq	uivalent	Distanc	e (in i	feet)				
Left View: -90.0 degrees Medium Trucks: 43.386 Heavy Trucks: 43.386 Heavy Trucks: FHWA Noise Model Calculations Heavy Trucks: 43.405 Vehicle Type REMEL Traffic Flow Distance Finite Road Fresnet Barrier Atten Berm A Vehicle Type REMEL Traffic Flow Distance Finite Road Fresnet Barrier Atten Berm A Medium Trucks: 81.00 -14.50 0.82 -1.20 -4.65 0.000 0 Medium Trucks: 85.38 -9.77 0.82 -1.20 -5.43 0.000 0 Unmitigated Noise Levels (without Topo and barrier attenuation) Vehicle Type Leq Pay Leq Evening Leq Night Ldn CNEL Autos: 69.1 67.1 65.4 59.3 68.0 Medium Trucks: 75.2 73.7 64.7 66.0 74.3 Vehicle Noise: 76.6 75.0 68.5 67.2 75.6	F	Road Grade:	0.0%				Autos	: 43.5	589			
Right View: 90.0 degrees Heavy Trucks: 43.405 FHWA Noise Model Calculations Formation of the provided formation of the provid		Left View:	-90.0 degre	es		Mediu	m Trucks	: 43.3	386			
FHWA Noise Model Calculations VehicleType REMEL Traffic Flow Distance Finite Road Fresnel Barrier Atten Berm A Autos: 70.20 -0.69 0.79 -1.20 -4.65 0.000 0 Medium Trucks: 81.00 -14.50 0.82 -1.20 -4.67 0.000 0 Unmitigated Noise Levels (without Topo and barrier attenuation) VehicleType Leq Deak Hour Leq Day Leq Reining Leq Night Ldn CNEL Autos: 69.1 67.1 65.4 59.3 68.0 68.1 Heavy Trucks: 66.1 64.6 58.2 56.6 65.1 Heavy Trucks: 75.2 73.7 64.7 66.0 74.3 Vehicle Noise: 76.6 75.0 68.5 67.2 75.6 Centerline Distance to Noise Contour (in feet) 70.420 65.420 60.420 55.420 55.420 55.420 55.420 55.420 55.420 55.420 55.420 55.420 55.420 55.420 55.420 55.420		Right View:	90.0 degre	es		Heav	y Trucks	: 43.4	105			
VehicleType REMEL Traffic Flow Distance Finite Road Fresnel Barrier Atten Berrn A Autos: 70.20 -0.69 0.79 -1.20 -4.65 0.000 0 Medium Trucks: 81.00 -14.50 0.82 -1.20 -4.67 0.000 0 Heavy Trucks: 85.38 -9.77 0.82 -1.20 -5.43 0.000 0 Unmitigated Noise Levels (without Topo and barrier attenuation)	FHWA Noise Mode	l Calculation:	s									
Autos: 70.20 -0.69 0.79 -1.20 -4.65 0.000 0 Medium Trucks: 81.00 -14.50 0.82 -1.20 -4.87 0.000 0 Heavy Trucks: 85.38 -9.77 0.82 -1.20 -5.43 0.000 0 Unmitigated Noise Levels (without Topo and barrier attenuation) Leq Revening Leq Night Ldn CNEL Autos: 69.1 67.1 65.4 59.3 68.0 Medium Trucks: 66.1 64.6 58.2 56.6 65.1 Heavy Trucks: 75.2 73.7 64.7 66.0 74.3 Vehicle Noise: 76.6 75.0 68.5 67.2 75.6 Centerline Distance to Noise Contour (in feet) 70.420 65.420 60.420 65.420	VehicleType	REMEL	Traffic Flow	Dis	tance	Finite	Road	Fresn	el	Barrier Atte	en Ber	m Atten
Medium Trucks: 81.00 -14.50 0.82 -1.20 -4.87 0.000 0 Heavy Trucks: 85.38 -9.77 0.82 -1.20 -5.43 0.000 0 Unmitigated Noise Levels (without Topo and barrier attenuation) VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 69.1 67.1 65.4 59.3 68.0 Medium Trucks: 66.1 64.6 58.2 56.6 65.1 Heavy Trucks: 75.2 73.7 64.7 66.0 74.3 Vehicle Noise: 76.6 75.0 68.5 67.2 75.6	Autos:	70.20	-0.69		0.7	9	-1.20		-4.65	0.0	000	0.00
Heavy Trucks: 85.38 -9.77 0.82 -1.20 -5.43 0.000 0 Unmitigated Noise Levels (without Topo and barrier attenuation)	Medium Trucks:	81.00	-14.50		0.8	2	-1.20		-4.87	0.0)00	0.00
Unmitigated Noise Levels (without Topo and barrier attenuation) VehicleType Leq Peak Hour Leq Qay Leq Vening Leq Night Ldn CNEL Autos: 69.1 67.1 65.4 59.3 68.0 Medium Trucks: 66.1 64.6 58.2 56.6 65.1 Heavy Trucks: 75.2 73.7 64.7 66.0 74.3 Vehicle Noise: 76.6 75.0 68.5 67.2 75.6	Heavy Trucks:	85.38	-9.77		0.8	2	-1.20		-5.43	0.0	000	0.00
VehicleType Leq Peak Hour Leq Day Leq Vening Leq Night Ldn CNEL Autos: 69.1 67.1 65.4 59.3 68.0 Medium Trucks: 66.1 64.6 58.2 56.6 65.1 Heavy Trucks: 75.2 73.7 64.7 66.0 74.3 Vehicle Noise: 76.6 75.0 68.5 67.2 75.6	Unmitigated Noise	Levels (with	out Topo and	barrie	er atten	uation)						
Autos: 69.1 67.1 65.4 59.3 68.0 Medium Trucks: 66.1 64.6 58.2 56.6 65.1 Heavy Trucks: 75.2 73.7 64.7 66.0 74.3 Vehicle Noise: 76.6 75.0 68.5 67.2 75.6 Centerline Distance to Noise Contour (in feet) 70.400 65.400 65.400 56.400	VehicleType	Leq Peak Hou	ir Leq Day	/	Leq E	vening	Leq I	Vight		Ldn	C	NEL
Medium Trucks: 66.1 64.6 58.2 56.6 65.1 Heavy Trucks: 75.2 73.7 64.7 66.0 74.3 Vehicle Noise: 76.6 75.0 68.5 67.2 75.6 Centerline Distance to Noise Contour (in feet) 27 dBA 65 dBA 60 dBA 65 dBA 65 dBA	Autos:	69	.1	67.1		65.4		59.3		68.0)	68
Heavy Trucks: 75.2 73.7 64.7 66.0 74.3 Vehicle Noise: 76.6 75.0 68.5 67.2 75.6 Centerline Distance to Noise Contour (in feet) 27.4/24 65.4/24 60.4/24 65.4/24	Medium Trucks:	66	.1	64.6		58.2		56.6		65.1	1	65
Venicle Noise: / 6.6 / 5.0 08.5 67.2 / 5.6 Centerline Distance to Noise Contour (in feet) 70.40A 65.40A 60.40A 55.40A	Heavy Trucks:	75	.2	73.7		64.7		66.0		74.3	3	74
Centerline Distance to Noise Contour (in feet)	Venicie Noise:	76	.6	75.0		68.5		67.2		75.6	5	75
	Centerline Distanc	e to Noise Co	ontour (in feet)	70 /		65.0	ID A	6	O dBA	55	dRA
/do: 110 255 550 1				I dn'	700	110	051	255		550	55	1 10
CNEL: 119 255 550 1			0	NEL ·		122		200		560		1,10

Thursday, January 21, 2021

Scenario: OYC 2022 Road Name: 4th St. Road Segment: wio Etiwanda Av. SITE SPECIFIC INPUT DATA Highway Data Average Daily Traffic (Adt): 20,471 vehicles Peak Hour Percentage: 10,14%	Site Col M H	Project Name: Bridgef Job Number: 13349 NOISE MODE ditions (Hard = 10, So Autos: edium Trucks (2 Axles): eavy Trucks (3+ Axles):	Point L INPUTS ft = 15) 15 15 15 15	
SITE SPECIFIC INPUT DATA Highway Data Average Daily Traffic (Adt): 20,471 vehicles Peak Hour Percentage: 10,14%	Site Con M H	NOISE MODE ditions (Hard = 10, So Autos: edium Trucks (2 Axles): eavy Trucks (3+ Axles):	L INPUTS ft = 15) 15 15	
Highway Data Average Daily Traffic (Adt): 20,471 vehicles Peak Hour Percentage: 10,14%	Site Col	ditions (Hard = 10, So Autos: edium Trucks (2 Axles): eavy Trucks (3+ Axles):	ft = 15) 15 15	
Average Daily Traffic (Adt): 20,471 vehicles Peak Hour Percentage: 10,14%	M H	Autos: edium Trucks (2 Axles): eavy Trucks (3+ Axles):	15 15	
Peak Hour Percentage: 10.14%	M H	edium Trucks (2 Axies): eavy Trucks (3+ Axies):	15	
	Vehicle	eavy Trucks (3+ Axles):	16	
Peak Hour Volume: 2,076 vehicles	Vehicle		15	
Vehicle Speed: 55 mph	- cilicie	Mix		
Near/Far Lane Distance: 73 feet	Vel	icleType Day	Evening Ni	ght Daily
Site Data		Autos: 77.5%	12.9%	9.6% 85.80%
Barrier Height: 0.0 feet	٨	edium Trucks: 84.8%	4.9% 1	0.3% 3.57%
Barrier Type (0-Wall, 1-Berm): 0.0		Heavy Trucks: 86.5%	2.7% 1	0.8% 10.63%
Centerline Dist. to Barrier: 60.0 feet	Noise S	ource Elevations (in fe	et)	
Centerline Dist. to Observer: 60.0 feet		Autos: 0.000	- 7	
Barrier Distance to Observer: 0.0 feet	Medii	m Trucks: 2,297		
Observer Height (Above Pad): 5.0 feet	Hea	vy Trucks: 8 004	Grade Adiust	ment: 0.0
Pad Elevation: 0.0 feet		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		
Road Elevation: 0.0 feet	Lane Ec	uivalent Distance (in f	eet)	
Road Grade: 0.0%		Autos: 47.883		
Left View: -90.0 degrees	Mediu	m Trucks: 47.698		
Right View: 90.0 degrees	Hea	vy Trucks: 47.716		
FHWA Noise Model Calculations				
VehicleType REMEL Traffic Flow Dista	nce Finite	Road Fresnel	Barrier Atten	Berm Atten
Autos: 71.78 -0.20	0.18	-1.20 -4.69	0.000	0.00
Medium Trucks: 82.40 -14.01	0.20	-1.20 -4.88	0.000	0.00
Heavy Trucks: 86.40 -9.27	0.20	-1.20 -5.34	0.000	0.00
Unmitigated Noise Levels (without Topo and barrier	attenuation)			
VehicleType Leq Peak Hour Leq Day L	.eq Evening	Leq Night	Ldn	CNEL
Autos: 70.6 68.6	66.8	60.8	69.4	70.0
Medium Trucks: 67.4 65.8	59.5	57.9	66.4	66.
Heavy Trucks: 76.1 74.6	65.6	66.9	75.2	75.3
Vehicle Noise: 77.6 76.0	69.7	68.2	76.7	76.9
Centerline Distance to Noise Contour (in feet)				
	/0 dBA	65 dBA 6	u aBA	55 dBA
Ldn:	167	359	773	1,666
CNEL:	173	372	801	1,726

	FHV	VA-RD-77-108	HIGHWA	AY NO	JISE PI	REDICI		DEL				
Scenai	rio: OYCP 2022	2				Project	Name: E	Bridge	Point			
Road Nan	ne: Etiwanda A	v.				Job N	umber: *	13349	1			
Road Segme	ent: s/o Whittra	m Av.										
SITE	SPECIFIC IN	IPUT DATA				N		IODE	L INPUTS	3		
Highway Data				S	ite Con	ditions	(Hard =	10, S	oft = 15)			-
Average Daily	Traffic (Adt):	22,001 vehicle	s				,	Autos	: 15			
Peak Hour	Percentage:	10.14%			Me	dium Tri	ucks (2 A	(xles	: 15			
Peak I	Hour Volume:	2,231 vehicles			He	avy Tru	cks (3+ A	(xles)	: 15			
Ve	ehicle Speed:	50 mph		V	ohiclo I	Mix						
Near/Far La	ane Distance:	50 feet		-	Veh	icleType		Dav	Evenina	Nia	ht	Daily
Site Data							Autos:	77.5%	6 12.9%	9	6%	85.84%
ono puta		0.0.6		_	M	edium Ti	nucks:	84.89	6 4.9%	10	.3%	3.56%
Barrier Type (0.1	Vall 1 Borm):	0.0 feet			ŀ	Heavy T	rucks:	86.5%	6 2.7%	10.	.8%	10.60%
Centerline D	ist to Barrier	50.0 feet										
Centerline Dist	to Observer:	50.0 feet		N	oise Sc	ource El	evations	s (in f	eet)			
Barrier Distance	to Observer:	0.0 feet				Auto	s: 0.0	000				
Observer Height	(Above Pad):	5.0 feet			Mediu	m Truck	s: 2.2	297	~			
P	ad Elevation:	0.0 feet			Heav	y Truck	s: 8.0	004	Grade Adj	ustm	ient: (J.0
Ro	ad Elevation:	0.0 feet		Li	ane Eq	uivalent	Distanc	e (in	feet)			-
	Road Grade:	0.0%				Auto	s: 43.	589				
	Left View:	-90.0 degree	s		Mediu	m Truck	s: 43.	386				
	Right View:	90.0 degree	s		Heav	y Truck	s: 43.4	405				
FHWA Noise Mod	lel Calculation	s										
VehicleType	REMEL	Traffic Flow	Distan	се	Finite	Road	Fresn	el	Barrier Atte	en	Berm	Atten
Autos:	70.20	0.53		0.79		-1.20		-4.65	0.0	000		0.000
Medium Trucks:	81.00	-13.29		0.82		-1.20		-4.87	0.0	00		0.000
Heavy Trucks:	85.38	-8.56		0.82		-1.20		-5.43	0.0	100		0.000
Unmitigated Nois	e Levels (with	out Topo and L	oarrier a	ttenu	ation)							
VehicleType	Leq Peak Hou	Ir Leq Day	Le	eq Eve	ening	Leq	Night		Ldn		CN	EL
Autos:	70	.3 6	68.4		66.6		60.5	;	69.2	!		69.8
Medium Trucks:	67	.3 6	65.8		59.4		57.9)	66.3	5		66.5
Heavy Trucks:	76	.4 7	'5.0		65.9		67.2	2	75.5	<i>;</i>		75.7
Vehicle Noise:	77	.8 7	6.2		69.7		68.4		76.8	\$		77.1
Centerline Distan	ce to Noise Co	ontour (in feet)										-
				70 dł	BA	65	dBA		60 dBA		55 d	BA
		L	.dn:	143 307 662					1,427			
		CN	IEL:		148		318		685			1,476

	FH\	NA-RD-77-108	HIGHW	AY NO	DISE PF	REDICTIC	ON MO	DEL			
Scenar Road Nam Road Segme	io: OYCP 202 ne: Etiwanda A nt: s/o San Be	2 .v. rnardino Av.				Project N Job Nu	lame: mber:	Bridge 13349	Point		
SITE	SPECIFIC IN	IPUT DATA				N	DISE	NODE	L INPUT	s	
Highway Data				S	ite Con	ditions (I	Hard =	10, S	oft = 15)		
Average Daily Peak Hour	Traffic (Adt): Percentage:	24,195 vehicle 10.14%	es		Me	dium Truc	cks (2)	Autos Axles)	15 15		
Ve	hicle Sneed	50 mph	3			<i>ary 1100.</i>	10 10	0.000)	10		
Near/Far La	ne Distance:	73 feet		V	ehicle I	Mix		_	1 1		
					Veh	icleType		Day	Evening	Night	Daily
Site Data				Autos: 11.5% 12.9% 9.6% C							
Bai	rrier Height:	0.0 feet			IVIE	deput Tru	icks.	84.87 96 E	0 4.9%	10.3	% 3.01%
Barrier Type (0-W	(all, 1-Berm):	0.0			'	icavy ina	icks.	00.37	0 2.770	10.0	/0 10.7070
Centerline Di	st. to Barrier:	60.0 feet		N	oise So	ource Ele	vation	s (in f	eet)		
Centenine Dist.	to Observer:				Autos:	0.	000				
Observer Height	bserver Height (Above Pad): 5.0 feet						2.	297			
Observer Height (Observer Height (Above Pad): 5.0 feet						8.	004	Grade Ad	ljustme	nt: 0.0
Po	ad Elevation:	0.0 feet			ane Fai	uivalent l	Distan	ce (in	feet)		
NO	Road Grade:	0.0 1001			ano Eq	Autos	47	883	1000		
	Left View	-90.0 deares	29		Mediu	m Trucks:	47	698			
	Right View:	90.0 degree	es		Heav	y Trucks:	47.	716			
FHWA Noise Mode	el Calculation	s									
VehicleType	REMEL	Traffic Flow	Distan	се	Finite	Road	Fresr	nel	Barrier Att	en B	erm Atten
Autos:	70.20	0.93		0.18		-1.20		-4.69	0.	000	0.000
Medium Trucks:	81.00	-12.83		0.20		-1.20		-4.88	0.	000	0.000
Heavy Trucks:	85.38	-8.10		0.20		-1.20		-5.34	0.	000	0.000
Unmitigated Noise	e Levels (with	out Topo and	barrier a	ttenu	ation)						
VehicleType	Leq Peak Hou	ur Leq Day	/ Le	q Eve	ening	Leq N	light		Ldn		CNEL
Autos:	70).1	68.2		66.4		60.3	3	69.	0	69.6
Medium Trucks:	67	.2	65.6		59.2		57.3	7	66.	2	66.4
Heavy Trucks:	76	5.3	74.8		65.8		67.0)	75.	4	75.5
Vehicle Noise:	77	.6	76.1		69.5		68.3	3	76.	7	76.9
Centerline Distant	ce to Noise Co	ontour (in feet)								
				70 dE	BA	65 d	BA		60 dBA	1	55 dBA
			Ldn:	167 359 775			1,669				
	CNEL:						372		801		1,726

	FHV	VA-RD-77-108	HIGH	WAY NO		REDICTI		DEL _			
Scenari	6: OYCP 2022			Project	Name: E	ridgel	Point				
Road Nam	e: 6th St.					Job Ni	umber: 1	3349			
Road Segmer	nt: w/o Etiwano	la Av.									
SITE	SPECIFIC IN	PUT DATA				N	OISE M	ODE	L INPUT	S	
Highway Data				S	ite Con	ditions (Hard =	10, So	ft = 15)		
Average Daily	Traffic (Adt):	605 vehicle	es				A	utos:	15		
Peak Hour	Percentage:	10.14%			Me	dium Tru	icks (2 A	xles):	15		
Peak H	our Volume:	61 vehicle	s		Hei	avy Truc	ks (3+ A	xles):	15		
Ve	hicle Speed:	40 mph		v	ehicle N	<i>lix</i>					
Near/Far La	ne Distance:	50 feet			Vehi	cleType	1	Day	Evening	Night	Daily
Site Data						A	utos:	7.5%	12.9%	9.6%	81.19%
Bar	rier Height:	0.0 feet			Me	edium Tr	ucks: {	34.8%	4.9%	10.3%	5.21%
Barrier Type (0-W	all. 1-Berm):	0.0			F	leavy Tr	ucks: {	36.5%	2.7%	10.8%	13.60%
Centerline Dis	st. to Barrier:	44.0 feet			laisa Sa	urco Ek	wations	(in fo	of)		
Centerline Dist.	to Observer:	44.0 feet		~	0136 30	Autor		00	eij		
Barrier Distance	to Observer:		Medium Trucks: 2.297								
Observer Height (bserver Height (Above Pad): 5.0 feet						. 2.2	04	Grade Ad	iustment	0.0
Pa	Pad Elevation: 0.0 feet						. 0.0	•••	,		
Roa	ad Elevation:	0.0 feet		L	ane Equ	iivalent	Distanc	e (in f	ieet)		
F	Road Grade:	0.0%				Autos	36.5	51			
	Left View:	-90.0 degree	es		Mediur	n Trucks	:: 36.3	08			
	Right View:	90.0 degre	es		Heav	y Trucks	36.3	32			
FHWA Noise Mode	el Calculations	5									
VehicleType	REMEL	Traffic Flow	Dis	tance	Finite	Road	Fresne	e/ .	Barrier Atte	en Ber	m Atten
Autos:	66.51	-14.36		1.94		-1.20	-	4.61	0.0	000	0.00
Medium Trucks:	77.72	-26.28		1.98		-1.20	-	4.87	0.0	000	0.00
Heavy Trucks:	82.99	-22.12		1.98		-1.20		5.50	0.0	000	0.00
Unmitigated Noise	e Levels (with	out Topo and	barrie	er attenu	ation)						
VehicleType	Leq Peak Hou	r Leq Day	/	Leq Ev	ening	Leq I	Vight		Ldn	CI	VEL
Autos:	52	.9	50.9		49.2		43.1		51.7	7	52.
Medium Trucks:	52	.2	50.6		44.3		42.7		51.2	2	51.
Heavy Trucks:	61	.7	60.2		51.1		52.4		60.7	7	60.
Vehicle Noise:	62	.6	61.1		53.8		53.3		61.7	7	61.
Centerline Distanc	e to Noise Co	ntour (in feet)							1	
			L	70 di	BA	65 0	1BA	6	0 dBA	55	dBA
			I dia:		4.0		26		57		122
		-	LUN.		12		20		01		

Thursday, January 21, 2021

	FH\	NA-RD-77-108	HIGHW	AY N	OISE PI	REDICT		DEL				
Scena Road Nar Road Segme	rio: OYCP 2023 ne: Foothill Bl. ent: w/o Etiwan	2 da Av.				Project Job N	Name: E umber: 1	Bridge 13349	Point			
SITE	SPECIFIC IN	IPUT DATA				N	IOISE N	IODE	L INPUT	rs		
Highway Data				S	ite Con	ditions	(Hard =	10, Sc	oft = 15)			
Average Daily	Traffic (Adt):	33,033 vehicle	es				,	Autos:	15			
Peak Hou	Percentage:	10.14%			Me	dium Tri	ucks (2 A	(xles):	15			
Peak I	Hour Volume:	3,350 vehicles	6		He	avy Tru	cks (3+ A	(xles):	15			
Ve	ehicle Speed:	50 mph		L.	(ohiclo l	Aiv						
Near/Far La	ane Distance:	73 feet			Veh	icleType		Dav	Evening	Nic	aht	Daily
Site Data					ven	cie i ype	Autos:	77 5%	12.9%	TVIS	16%	85 79%
		0.0.6			м	edium Ti	rucks:	84.8%	4.9%	10).3%	3.57%
Barrier Turne (0.1	Voll 1 Borm)	0.0 feet				leavy Ti	rucks:	86.5%	2.7%	10	.8%	10.63%
Contorlino D	ist to Parrier	0.0 60.0 foot				,						
Centerline Dist	to Observer:	60.0 feet		۸	loise Sc	ource El	evations	s (in fe	eet)			
Barrier Distance	to Observer:	0.0 feet				Auto	s: 0.0	000				
Observer Height	(Above Pad):			Mediu	n Truck	s: 2.2	297					
E CD3CIVCI TICIGIN	ad Elevation:	0.0 feet			Heav	y Truck	s: 8.0	004	Grade A	djustr	nent:	0.0
Ro	ad Elevation:	0.0 feet		L	ane Eq	uivalent	Distanc	e (in i	feet)			
, 10	Road Grade:	0.0 1001				Auto	s: 47.8	383	,			
	Left View:	-90 0 degree	e e		Mediu	n Truck	s: 47 f	398				
	Right View:	90.0 degree	es		Heav	y Truck	s: 47.	716				
FHWA Noise Mod	el Calculation	s										
VehicleType	REMEL	Traffic Flow	Distar	nce	Finite	Road	Fresn	el	Barrier A	tten	Bern	n Atten
Autos:	70.20	2.29		0.18	3	-1.20		-4.69	0	.000	-	0.000
Medium Trucks:	81.00	-11.51		0.20)	-1.20		-4.88	0	.000		0.000
Heavy Trucks:	85.38	-6.78		0.20)	-1.20		-5.34	0	.000		0.000
Unmitigated Nois	e Levels (with	out Topo and	barrier a	ittenu	uation)							
VehicleType	Leq Peak Hou	ur Leq Day	Le	eq Ev	ening	Leq	Night		Ldn		CN	IEL
Autos:	71	.5	69.5		67.7		61.7		70	.3		70.9
Medium Trucks:	68	3.5	66.9		60.6		59.0		67	.5		67.3
Heavy Trucks:	77	.6	76.1		67.1		68.3		76	.7		76.8
Vehicle Noise:	79	0.0	77.4		70.9		69.6		78	.0		78.
Centerline Distan	ce to Noise Co	ontour (in feet)		70 4	0.4		-10.4					-10.4
				70 a	DA	05	UBA		DU OBA		550	16A
			Lun:		205		441		95	0 0		2,046
		CI	VEL:		212		406		98	3		2,117

	FH	WA-RD-77-108	HIGH	HWAY	NOISE PI	REDICTI		DEL				
Scenai	io: OYCP 202	2				Project	Name: I	Bridge	Point			
Road Nan	ne: 4th St.					Job Ni	umber:	13349				
Road Segme	nt: e/o I-15 NB	Ramps										
SITE	SPECIFIC IN	IPUT DATA				N	OISE N	NODE	L INPUT	s		
Highway Data					Site Con	ditions (Hard =	10, Se	oft = 15)			
Average Daily	Traffic (Adt):	20,458 vehicl	es					Autos:	15			
Peak Hour	Percentage:	10.14%			Me	dium Tru	icks (2 A	Axles):	15			
Peak H	lour Volume:	2,074 vehicle	s		He	avy Truc	ks (3+ A	Axles):	15			
Ve	hicle Speed:	55 mph		-	Vehicle	Mix						
Near/Far La	ne Distance:	73 feet		-	Veh	icleType		Dav	Evenina	Nio	ht	Daily
Site Data						A	utos:	77.5%	12.9%		6%	85.50%
Ba	rrier Height	0.0 feet			M	edium Tr	ucks:	84.8%	4.9%	10	.3%	3.68%
Barrier Type (0-V	/all_1_Berm)	0.0 1001			1	Heavy Tr	ucks:	86.5%	2.7%	10	.8%	10.82%
Centerline D	ist. to Barrier:	60.0 feet		-	N 0			- (*	41			
Centerline Dist.	to Observer:	60.0 feet		-	Noise So	ource Ele	evation	s (in f	eet)			
Barrier Distance	to Observer:	0.0 feet			Autos: 0.000							
Observer Height	(Above Pad):	5.0 feet			Mediu	m Trucks	:: Z	297	Grade Ad	iucto	nont.	0.0
P	ad Elevation:	0.0 feet			Heav	y Trucks	. 8.	004	Grade Au	Jusui	ient.	0.0
Ro	ad Elevation:	0.0 feet			Lane Eq	uivalent	Distand	ce (in	feet)			
	Road Grade:	0.0%				Autos	: 47.	883				
	Left View:	-90.0 degre	es		Mediu	m Trucks	: 47.	698				
	Right View:	90.0 degre	es		Heav	y Trucks	47.	716				
FHWA Noise Mod	el Calculation	s										
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fresn	nel	Barrier Att	en	Berr	n Atten
Autos:	71.78	-0.22		0.1	8	-1.20		-4.69	0.0	000	-	0.000
Medium Trucks:	82.40	-13.88		0.2	20	-1.20		-4.88	0.0	000		0.000
Heavy Trucks:	86.40	-9.20		0.2	20	-1.20		-5.34	0.0	000		0.000
Unmitigated Nois	e Levels (with	out Topo and	barri	er atter	nuation)							
VehicleType	Leq Peak Hou	ır Leq Da	V	Leq E	vening	Leq I	Vight		Ldn		C٨	IEL
Autos:	70	0.5	68.6		66.8		60.8	3	69.4	4		70.0
Medium Trucks:	67	.5	66.0		59.6		58.0)	66.	5		66.7
Heavy Trucks:	76	5.2	74.7		65.7		66.9	9	75.	3		75.4
Vehicle Noise:	77	.7	76.1		69.7		68.3	3	76.	7		76.9
Centerline Distan	ce to Noise Co	ontour (in feet	9								-	
				70	dBA	65 0	1BA	(50 dBA		55 0	JBA
			Ldn:		168		362		781			1,682
		С	NEL:		174 375 809 1,						1,742	

	FH\	WA-RD-77-108	HIGHW	AY NO	DISE PF	REDICTIC	ON MO	DEL			
Scenar Road Nam Road Segme	io: OYCP 202 ne: 4th St. nt: w/o Etiwan	2 da Av.				Project N Job Nu	lame: mber:	Bridge 13349	Point		
SITE	SPECIFIC IN	NPUT DATA				N	DISE I	IODE	L INPUT	s	
Highway Data				S	ite Con	ditions (F	Hard =	10, S	oft = 15)		
Average Daily	Traffic (Adt):	20,635 vehicle	es					Autos:	15		
Peak Hour	Percentage:	10.14%			Me	dium Truc	cks (2 /	Axles).	15		
Peak H	lour Volume:	2,092 vehicle	5		He	avy Truck	(3+ A	Axles).	15		
Ve	hicle Speed:	55 mph		V	ehicle I	Nix					
Near/Far La	ne Distance:	73 feet		-	Vehi	cleType		Day	Evening	Night	Daily
Site Data						AL	utos:	77.5%	6 12.9%	9.6	% 85.86%
Ba	rrier Heiaht:	0.0 feet			Me	edium Tru	icks:	84.8%	6 4.9%	10.3	% 3.56%
Barrier Type (0-W	/all, 1-Berm):	0.0			ŀ	leavy Tru	icks:	86.5%	6 2.7%	10.8	% 10.59%
Centerline Di	st. to Barrier:	60.0 feet		N	oise So	urce Ele	vation	s (in f	eet)		
Centerline Dist.	to Observer:	60.0 feet				Autos:	0.	000	,		
Barrier Distance	to Observer:			Mediur	n Trucks:	2.	297				
Observer Height	Observer Height (Above Pad): 5.0 feet						8.	004	Grade Ad	justme	nt: 0.0
P	Pad Elevation: 0.0 feet										
Ro	ad Elevation:	0.0 feet		L	ane Equ	iivalent l	Distan	e (in	feet)		
	Road Grade:	0.0%				Autos:	47.	883			
	Left View:	-90.0 degree	es		Mediur	n Trucks:	47.	698			
	Right View:	90.0 degree	es		Heav	y Trucks:	47.	716			
FHWA Noise Mod	el Calculation	s									
VehicleType	REMEL	Traffic Flow	Distan	се	Finite	Road	Fresr	el	Barrier Att	en B	erm Atten
Autos:	71.78	-0.16		0.18		-1.20		-4.69	0.0	000	0.000
Medium Trucks:	82.40	-13.99		0.20		-1.20		-4.88	0.0	000	0.000
Heavy Trucks:	86.40	-9.26		0.20		-1.20		-5.34	0.0	000	0.000
Unmitigated Noise	e Levels (with	out Topo and	barrier a	ttenu	ation)						
VehicleType	Leq Peak Hou	ur Leq Day	' Le	eq Eve	ening	Leq N	light		Ldn		CNEL
Autos:	70	0.6	68.6		66.9		60.8	3	69.4	4	70.0
Medium Trucks:	67	7.4	65.8		59.5		57.9)	66.4	4	66.6
Heavy Trucks:	76	6.1	74.7		65.6		66.9)	75.2	2	75.4
Vehicle Noise:	77	7.6	76.1		69.7		68.3	3	76.	7	76.9
Centerline Distant	ce to Noise Co	ontour (in feet)								
				70 dl	BA	65 d	BA	1	60 dBA	5	55 dBA
			Ldn:	167 360 776				1,671			
		NEL:		173		373		804		1,731	

	FHV	VA-RD-77-108	HIGH	WAY N	OISE PF	REDICTI		DEL							
Scenari	Scenario: OYC 2022 w/ ext.						Project Name: BridgePoint								
Road Nam Road Segmer	e: Etiwanda Av nt: s/o Foothill I	v. Bl.				Job N	umber: 1	3349							
SITE	SPECIFIC IN	PUT DATA				N	OISE M	ODE		s					
Highway Data				S	Site Con	ditions	(Hard = :	10, Sc	oft = 15)						
Average Daily	Traffic (Adt):	16,469 vehicle	es				A	utos:	15						
Peak Hour	Percentage:	10.14%			Me	dium Tru	icks (2 A	xles):	15						
Peak H	our Volume:	1,670 vehicle	s		He	avy Truc	:ks (3+ A	xles):	15						
Vel	hicle Speed:	50 mph		V	/ehicle I	Nix									
Near/Far Lar	ne Distance:	50 feet			Vehi	cleType	1	Day	Evening	Night	Daily				
Site Data						A	utos:	77.5%	12.9%	9.6%	85.80%				
Bar	rier Heiaht:	0.0 feet			Me	edium Ti	ucks: {	34.8%	4.9%	10.3%	3.57%				
Barrier Type (0-W	all, 1-Berm):	0.0			ŀ	leavy Ti	ucks: {	36.5%	2.7%	10.8%	10.63%				
Centerline Dis	st. to Barrier:	50.0 feet			loise Sc	urco El	ovations	(in fe	oof)						
Centerline Dist.	to Observer:	50.0 feet		E F	Autos: 0.000										
Barrier Distance	to Observer:	0.0 feet			Medium Trucks: 2,297										
Observer Height (Above Pad):	5.0 feet		Heav	v Truck	s. 2.2 s: 8.0	04	Grade Ad	iustment	0.0					
Pa	ad Elevation:	0.0 feet			neav	y mack.	5. 0.0		0/000 / 10	aounom	0.0				
Roa	ad Elevation:	0.0 feet		L	ane Equ	uivalent	Distanc	e (in i	feet)						
F	Road Grade:	0.0%				Autos	s: 43.5	89							
	Left View:	-90.0 degree	es		Mediur	n Truck:	s: 43.3	86							
	Right View:	90.0 degre	es		Heav	y Truck:	s: 43.4	05							
FHWA Noise Mode	el Calculations	5													
VehicleType	REMEL	Traffic Flow	Dis	tance	Finite	Road	Fresne	e/	Barrier Att	en Ber	m Atten				
Autos:	70.20	-0.73		0.79)	-1.20	-	4.65	0.0	000	0.00				
Medium Trucks:	81.00	-14.54		0.82	2	-1.20	-	4.87	0.0	000	0.00				
Heavy Trucks:	85.38	-9.80		0.82	2	-1.20		5.43	0.0	000	0.00				
Unmitigated Noise	Levels (with	out Topo and	barrie	er attenu	uation)										
VehicleType	Leq Peak Hou	r Leq Day	/	Leq Ev	rening	Leq	Night		Ldn	CI	VEL				
Autos:	69.	.1	67.1		65.3		59.3		67.9	9	68.				
Medium Trucks:	66.	.1	64.5		58.1		56.6		65.1	1	65.				
Heavy Trucks:	75.	.2	73.7		64.7		65.9		74.3	3	74.4				
Vehicle Noise:	76.	.5	75.0		68.5		67.2		75.6	3	75.				
Centerline Distanc	e to Noise Co	ntour (in feet)												
			L	70 d	BA	65	звА	6	U dBA	55	aBA				
	Ldn:				118 254 547				1,178						
	CNEL:						122 263 566 1,2								

Thursday, January 21, 2021

	FHW	VA-RD-77-108	HIGH	WAY N	NOISE PF	REDICT	ION MO	DEL				
Scenar Road Nam Road Segmei	io: OYCP 2022 ie: Street A nt: s/o Dwy. 8	2				Project Job N	Name: lumber:	Bridge 13349	Point			
SITE	SPECIFIC IN	PUT DATA					IOISE I	NODE	L INPUT	S		
Highway Data					Site Con	ditions	(Hard =	10, So	oft = 15)			
Average Daily	Traffic (Adt):	370 vehicle	s					Autos:	15			
Peak Hour	Percentage:	10.14%			Me	dium Tr	ucks (2 /	Axles):	15			
Peak H	lour Volume:	37 vehicles			He	avy Tru	cks (3+)	Axles):	15			
Ve	hicle Speed:	40 mph		-	Vehicle I	Niv						
Near/Far La	ne Distance:	11 feet		-	Vehicle	cleType		Dav	Evening	Nie	aht	Daily
Site Data				-	VCIII	, cic i ypc	Autos:	77.5%	6 12.9%	14/5	9.6%	82.65%
Ba	rrier Height:	0.0 feet			Me	edium T	rucks:	84.8%	6 4.9%	10	0.3%	5.15%
Barrier Tyne (0-M	(all 1-Berm)	0.0 1001			ŀ	leavy T	rucks:	86.5%	6 2.7%	10	0.8%	12.20%
Centerline Di	st. to Barrier:	30.0 feet		-	N-1 0-			- (in f	41			
Centerline Dist.	to Observer:	30.0 feet		-	Noise Sc	urce E	evation	s (IN TO	eet)			
Barrier Distance	to Observer:	0.0 feet			Madin	Auto	s: 0.	207				
Observer Height (Above Pad):	5.0 feet			Mediui	n Truck	S: 2.	297	Grade A	divet	mont	0.0
Pa	ad Elevation:	0.0 feet			Heav	у ттиск	S: 8.	004	Grade At	ijusu	nem.	0.0
Roa	ad Elevation:	0.0 feet			Lane Equ	ivalen	t Distand	ce (in	feet)			
1	Road Grade:	0.0%				Auto	s: 29.	912				
	Left View:	-90.0 degree	s		Mediur	n Truck	s: 29.	615				
	Right View:	90.0 degree	S		Heav	y Truck	s: 29.	644				
FHWA Noise Mode	el Calculations	5										
VehicleType	REMEL	Traffic Flow	Dist	ance	Finite	Road	Fresr	nel	Barrier At	ten	Berr	n Atten
Autos:	66.51	-16.41		3.2	24	-1.20		-4.49	0.	.000		0.000
Medium Trucks:	77.72	-28.47		3.3	31	-1.20		-4.86	0.	000		0.000
Heavy Trucks:	82.99	-24.72		3.3	80	-1.20		-5.77	0.	.000		0.000
Unmitigated Noise	e Levels (witho	out Topo and I	oarriei	r atter	nuation)							
VehicleType	Leq Peak Hou	r Leq Day		Leq E	vening	Leq	Night		Ldn		CN	IEL
Autos:	52.	.1 5	60.2		48.4		42.4	1	51	.0		51.6
Medium Trucks:	51.	.4 4	9.8		43.4		41.9	9	50	.3		50.6
Heavy Trucks:	60.	.4 5	8.9		49.9		51.1	1	59	.5		59.6
Vehicle Noise:	61.	.4 5	9.9		52.7		52.1		60	.5		60.7
Centerline Distand	ce to Noise Co	ntour (in feet)	1							1		
				70	dBA	65	dBA		60 dBA		55	dBA
		1	.dn:		7		15		3	2		70
		CN	EL:		7		15		3	3		72

	FH'	WA-RD-77-108	HIGHW	AY NO	OISE PF	REDICTIC	ON MOI	DEL			
Scenar	io: OYC 2022				Project N	<i>lame:</i> E	Bridge	Point			
Road Nan	ne: Etiwanda A	AV.				Job Nu	mber: 1	3349			
Road Segme	nt: s/o Whittra	m Av.									
SITE	SPECIFIC II	NPUT DATA				NC	DISE N	IODE		5	
Highway Data				S	ite Con	ditions (H	lard =	10, Sc	oft = 15)		
Average Daily	Traffic (Adt):	21,789 vehicl	es				A	Autos:	15		
Peak Hour	Percentage:	10.14%			Me	dium Truc	:ks (2 A	xles):	15		
Peak H	lour Volume:	2,209 vehicle	s		He	avy Truck	is (3+ A	xles):	15		
Ve	hicle Speed:	50 mph		V	ehicle I	Mix					
Near/Far La	ne Distance:	50 feet		Ē	Vehi	icleTvpe		Dav	Evenina	Niaht	Dailv
Site Data						AL	itos:	77.5%	12.9%	9.6%	85.80%
Ba	rrier Height	0.0 feet			Me	edium Tru	cks:	84.8%	4.9%	10.3%	3.57%
Barrier Type (0-V	/all. 1-Berm):	0.0			ŀ	leavy Tru	cks:	86.5%	2.7%	10.8%	10.63%
Centerline Di	st. to Barrier:	50.0 feet		N	loise Sc	urce Fle	vations	in fa	oof)		
Centerline Dist.	to Observer:	50.0 feet			0136 00	Autos	0.0	000			
Barrier Distance	errier Distance to Observer: 0.0 feet					m Trucks:	2.2	900			
Observer Height	bserver Height (Above Pad): 5.0 feet					v Trucks:	8.0	04	Grade Ad	iustment.	0.0
P	ad Elevation:			mour	,	0.0					
Ro	ad Elevation:	0.0 feet		L	ane Equ	uivalent I	Distanc	e (in i	feet)		
	Road Grade:	0.0%				Autos:	43.5	589			
	Left View:	-90.0 degre	es		Mediur	m Trucks:	43.3	386			
	Right View:	90.0 degre	es		Heav	y Trucks:	43.4	105			
FHWA Noise Mod	el Calculation	s									
VehicleType	REMEL	Traffic Flow	Distar	псе	Finite	Road	Fresn	el	Barrier Atte	en Ber	m Atten
Autos:	70.20	0.48		0.79		-1.20		-4.65	0.0	000	0.000
Medium Trucks:	81.00	-13.33		0.82		-1.20		-4.87	0.0	000	0.000
Heavy Trucks:	85.38	-8.59		0.82		-1.20		-5.43	0.0	100	0.000
Unmitigated Nois	e Levels (with	out Topo and	barrier a	attenu	ation)						
VehicleType	Leq Peak Ho	ur Leq Day	/ L	eq Ev	ening	Leq N	ight		Ldn	CI	VEL
Autos:	70	0.3	68.3		66.6		60.5		69.1	í	69.7
Medium Trucks:	67	7.3	65.7		59.4		57.8		66.3	3	66.5
Heavy Trucks:	76	5.4	74.9		65.9		67.1		75.5	j	75.6
Vehicle Noise:	71	7.8	76.2		69.7		68.4		76.8	J	77.0
Centerline Distan	ce to Noise C	ontour (in feet)								
				70 di	BA	65 dl	ВА	6	60 dBA	55	dBA
			Ldn:	142 306 659			1,420				
		С	NEL:		147 317 682 1,469						

	FH\	NA-RD-77-108	HIGHW	AY NO	DISE PF	REDICTIC	ON MOI	DEL			
Scenari Road Nam Road Segmer	io: OYC 2022 e: Etiwanda A nt: s/o San Be	w/ ext. .v. rnardino Av.				Project N Job Nu	Vame: E mber: 1	Bridge 13349	Point		
SITE	SPECIFIC IN	IPUT DATA				N	DISE N	IODE	EL INPUT	5	
Highway Data				S	ite Con	ditions (I	Hard =	10, S	oft = 15)		
Average Daily	Traffic (Adt):	30,447 vehicle	es					Autos	15		
Peak Hour	Percentage:	10.14%			Me	dium Truc	cks (2 A	(xles)	: 15		
Peak H	our Volume:	3,087 vehicles	5		He	avy Truck	(S (3+ A	(xles)	: 15		
Ve	hicle Speed:	50 mph		V	ehicle I	Mix					
Near/Far La	ne Distance:	73 feet			Veh	icleType		Day	Evening	Night	Daily
Site Data						AL	utos:	77.5%	6 12.9%	9.6%	6 85.80%
Bai	rier Height:	0.0 feet			Me	edium Tru	icks:	84.8%	6 4.9%	10.3%	6 3.57%
Barrier Type (0-W	'all, 1-Berm):	0.0			ŀ	Heavy Tru	icks:	86.5%	6 2.7%	10.8%	6 10.63%
Centerline Dis	st. to Barrier:	60.0 feet		N	oise So	ource Ele	vations	s (in f	eet)		
Centerline Dist.	to Observer:	60.0 feet				Autos:	0.0	000			
Barrier Distance	Barrier Distance to Observer: 0.0 feet						2.2	297			
Observer Height (Observer Height (Above Pad): 5.0 feet					y Trucks:	8.0	004	Grade Adj	ustmer	nt: 0.0
Pa	ad Elevation:	0.0 feet			_						
Roa	ad Elevation:	0.0 feet		Li	ane Equ	uivalent L	Distanc	e (In	teet)		
	Road Grade:	0.0%				Autos:	47.8	383			
	Left View:	-90.0 degree	es		Mediui	m Trucks:	47.6	598			
	Right View:	90.0 degree	es		Heav	y Trucks:	47.1	/16			
FHWA Noise Mode	el Calculation	s									
VehicleType	REMEL	Traffic Flow	Distan	се	Finite	Road	Fresn	el	Barrier Atte	en Be	erm Atten
Autos:	70.20	1.94		0.18		-1.20		-4.69	0.0	000	0.000
Medium Trucks:	81.00	-11.87		0.20		-1.20		-4.88	0.0	000	0.000
Heavy Trucks:	85.38	-7.13		0.20		-1.20		-5.34	0.0	000	0.000
Unmitigated Noise	e Levels (with	out Topo and	barrier a	ttenu	ation)						
VehicleType	Leq Peak Hou	ur Leq Day	' Le	eq Eve	ening	Leq N	light		Ldn	0	ONEL
Autos:	71	.1	69.2		67.4		61.3		70.0)	70.6
Medium Trucks:	68	3.1	66.6		60.2		58.7		67.1		67.3
Heavy Trucks:	77	.2	75.8		66.7		68.0		76.3	}	76.5
Vehicle Noise:	78	3.6	77.0		70.5		69.2		77.6	6	77.9
Centerline Distance	e to Noise Co	ontour (in feet))								
				70 dBA 65 dBA 60 dBA		5	5 dBA				
			Ldn:	194 417 899				1,938			
	CNEL:				200		432		930		2,005

Scenario	o: OYC 2022	w/ ext				Proiec	t Name	Bridge	Point		
Road Name	e: 6th St.					Job I	Vumber	13349			
Road Segmen	t: w/o Etiwan	da Av.									
SITE S	SPECIFIC IN	IPUT DATA					NOISE	MODE	L INPUT	s	
Highway Data					Site Con	ditions	(Hard	= 10, S	oft = 15)		
Average Daily	Traffic (Adt):	350 vehicl	es					Autos.	15		
Peak Hour I	Percentage:	10.14%			Me	dium T	rucks (2	Axles).	15		
Peak He	our Volume:	35 vehicle	s		Hea	avy Tru	ıcks (3+	Axles).	15		
Vel	hicle Speed:	40 mph			Vehicle N	lix					
Near/Far Lar	ne Distance:	50 feet			Vehi	cleTyp	е	Day	Evening	Night	Daily
Site Data							Autos:	77.5%	6 12.9%	9.6%	85.80
Bar	rier Height:	0.0 feet			Me	edium 1	rucks:	84.8%	6 4.9%	10.3%	3.57
Barrier Type (0-Wa	all, 1-Berm):	0.0			F	leavy 1	Frucks:	86.5%	6 2.7%	10.8%	10.63
Centerline Dis	t. to Barrier:	44.0 feet			Noise So	urce E	levatio	ns (in f	eet)		
Centerline Dist. t	to Observer:	44.0 feet				Auto	os: 0	.000	,		
Barrier Distance t	o Observer:	0.0 feet			Mediur	n Trucl	ks: 2	.297			
Observer Height (/	Above Pad):	5.0 feet			Heav	y Trucl	ks: E	.004	Grade Ad	justment	: 0.0
Pa	d Elevation:	0.0 feet			Long Equ	uive le r		noo (in	faat		
Roa	d Elevation:	0.0 feet			Lane Equ	Auto		ICE (III	ieelj		
r	Road Grade:	0.0%	~~		Modiur	Auto n Truci	JS. 30	200			
	Right View:	-90.0 degre	es 00		Heav	v Truci	ks: 36	332			
	rught view.	50.0 degre	0.5		mour	,					
FHWA Noise Mode	l Calculation	s									
VehicleType	REMEL	Traffic Flow	Di	stance	Finite	Road	Fres	nel	Barrier Att	en Ber	m Atten
Autos:	66.51	-16.49		1.9	94	-1.20		-4.61	0.0	000	0.00
Medium Trucks:	77.72	-30.30		1.9	98	-1.20		-4.87	0.0	000	0.00
Heavy Trucks:	82.99	-25.56		1.8	98	-1.20		-5.50	0.0	000	0.00
Unmitigated Noise	Levels (with	out Topo and	barri	ier attei	nuation)			_			
VehicleType	Leq Peak Hou	Ir Leq Day	/	Leq E	vening	Leq	Night	_	Ldn	CI	NEL
Autos:	50	0.8	48.8		47.0		41	.0	49.0	6	50
Medium Trucks:	48	1.2	46.6		40.3		38	./	47.3	2	47
Heavy Trucks:	58	0.2	57.7		47.7		48	.9	57.	3	57
venicie Noise.	55		57.7		50.6		49	.9	50.	3	00
Centerline Distanc	e to Noise Co	ontour (in feet)	70	dBA	65	dBA		60 dBA	55	dBA
			Ldn:		7	50	1	6	34		7
		С	NEL		, Я		1	6	35		7
		-			0			-	00		

Thursday, January 21, 2021

	FHW	VA-RD-77-108 HI	GHWAY	NOISE PI	REDICTIC	N MODE	L			
Scenario: Road Name: Road Segment:	OYC 2022 v Foothill Bl. w/o Etiwand	v/ ext. la Av.			Project N Job Nur	lame: Bri nber: 133	dgePoint 349			
SITE SP	ECIFIC IN	PUT DATA			NC	ISE MO	DEL INPU	JTS		
Highway Data				Site Con	ditions (H	lard = 10	, Soft = 15)			
Average Daily Tra	affic (Adt):	32,898 vehicles				Au	tos: 15			
Peak Hour Pe	ercentage:	10.14%		Me	dium Truc	ks (2 Axle	es): 15			
Peak Hou	r Volume:	3,336 vehicles		He	avy Truck	s (3+ Axle	es): 15			
Vehic	le Speed:	50 mph		Vehicle I	Mix					
Near/Far Lane	Distance:	73 feet		Veh	icleTvpe	Da	v Evenin	a Nie	aht	Dailv
Site Data					Au	tos: 77	.5% 12.9	% 9	9.6% 8	35.80%
Barrie	er Heiaht:	0.0 feet		M	edium Tru	cks: 84	.8% 4.9	% 10	0.3%	3.57%
Barrier Type (0-Wall	1-Berm):	0.0		1	Heavy Tru	cks: 86	.5% 2.7	% 10).8% 1	0.63%
Centerline Dist.	to Barrier:	60.0 feet		Noise Or			- f 41			
Centerline Dist. to	Observer:	60.0 feet		Noise Sc	ource Elev	ations (i	n reet)			
Barrier Distance to	Observer:	0.0 feet			Autos:	0.000	,			
Observer Height (Ab	ove Pad):	5.0 feet		Mediu	m Trucks:	2.291	Grada	Adjust	nont (0
Pad	Elevation:	0.0 feet		Heav	y Trucks:	8.004	i Graue	mujusu	nem. u	.0
Road	Elevation:	0.0 feet		Lane Eq	uivalent E	Distance	(in feet)			
Ro	ad Grade:	0.0%			Autos:	47.883	3			
	Left View:	-90.0 degrees		Mediu	m Trucks:	47.698	3			
R	light View:	90.0 degrees		Heav	ry Trucks:	47.716	3			
FHWA Noise Model	Calculations	5								
VehicleType	REMEL	Traffic Flow	Distance	Finite	Road	Fresnel	Barrier	Atten	Berm	Atten
Autos:	70.20	2.27	0.	18	-1.20	-4.	69	0.000		0.000
Medium Trucks:	81.00	-11.54	0.3	20	-1.20	-4.	88	0.000		0.000
Heavy Trucks:	85.38	-6.80	0.:	20	-1.20	-5.	34	0.000		0.000
Unmitigated Noise L	evels (witho	out Topo and ba	rrier atte	nuation)						
VehicleType Le	eq Peak Hou	r Leq Day	Leq E	Evening	Leq N	ight	Ldn		CNE	EL.
Autos:	71.	.5 69	.5	67.7		61.7	7	0.3		70.9
Medium Trucks:	68.	.5 66	.9	60.5		59.0	6	7.5		67.7
Heavy Trucks:	77.	.6 76	.1	67.1		68.3	7	6.7		76.8
Vehicle Noise:	78.	.9 77	.4	70.8		69.6	7	8.0		78.2
Centerline Distance	to Noise Co	ntour (in feet)								
			70	dBA	65 dE	BA	60 dBA		55 dE	3A
		Ld	n:	204		440	ç	47		2,040
	CNEL:					455	ę	80		2,111

	FH\	WA-RD-77-108	HIGH	IWAY I	NOISE PF	REDICTIO	ом ис	DEL			
Scenar	io: OYC 2022	w/ ext.				Project I	Vame:	Bridge	Point		
Road Nam	e: 4th St.					Job Nu	mber:	13349			
Road Segme	nt: e/o I-15 NB	8 Ramps									
SITE	SPECIFIC IN	IPUT DATA				N	DISE I	NODE	L INPUT	S	
Highway Data					Site Con	ditions (l	Hard =	10, So	oft = 15)		
Average Daily	Traffic (Adt):	19,899 vehicle	es					Autos:	15		
Peak Hour	Percentage:	10.14%			Me	dium Tru	cks (2 /	Axles):	15		
Peak H	lour Volume:	2,018 vehicle	s		He	avy Truck	ks (3+ /	Axles):	15		
Ve	hicle Speed:	55 mph		ł	Vehicle I	Nix					
Near/Far La	ne Distance:	73 feet		ŀ	Vehi	cleType		Day	Evening	Night	Daily
Site Data						A	utos:	77.5%	12.9%	9.6%	6 85.80%
Ba	rrier Heiaht [.]	0.0 feet			Me	edium Tru	icks:	84.8%	4.9%	10.3%	6 3.57%
Barrier Type (0-W	/all, 1-Berm):	0.0			ŀ	leavy Tru	icks:	86.5%	2.7%	10.8%	6 10.63%
Centerline Di	st. to Barrier:	60.0 feet		-	Noise Sc	urco Elo	vation	e (in fi	oof)		
Centerline Dist.	to Observer:	60.0 feet		ŀ	10130 00	Autos	· 0	000			
Barrier Distance	to Observer:	0.0 feet			Mediu	n Trucks	. 2	297			
Observer Height	Observer Height (Above Pad): 5.0 feet						. 8	004	Grade Ad	liustmen	t: 0.0
P	ad Elevation:	0.0 feet		-		,				•	
Ro	ad Elevation:	0.0 feet		-	Lane Equ	uivalent l	Distan	ce (in i	feet)		
	Road Grade:	0.0%				Autos.	: 47.	883			
	Left View:	-90.0 degree	es		Mediur	n Trucks.	: 47.	698			
	Right View:	90.0 degre	es		Heav	y Trucks.	47.	716			
FHWA Noise Mod	el Calculation	s									
VehicleType	REMEL	Traffic Flow	Dis	tance	Finite	Road	Fresr	nel	Barrier At	ten Be	erm Atten
Autos:	71.78	-0.33		0.1	8	-1.20		-4.69	0.	000	0.000
Medium Trucks:	82.40	-14.13		0.2	20	-1.20		-4.88	0.	000	0.000
Heavy Trucks:	86.40	-9.39		0.2	20	-1.20		-5.34	0.	000	0.000
Unmitigated Noise	e Levels (with	out Topo and	barrie	er atter	nuation)						
VehicleType	Leq Peak Hou	ur Leq Day	/	Leq E	evening	Leq N	light		Ldn	0	ONEL
Autos:	70).4	68.5		66.7		60.7	7	69.	3	69.9
Medium Trucks:	67	7.3	65.7		59.3		57.8	3	66.	3	66.5
Heavy Trucks:	76	3.0	74.5		65.5		66.7	7	75.	1	75.2
Vehicle Noise:	77	7.5	75.9		69.6		68.1	1	76.	5	76.8
Centerline Distant	ce to Noise Co	ontour (in feet)								
				70	dBA	65 d	BA	6	60 dBA	5	5 dBA
			Ldn:		163		352		759	9	1,635
		C	NEL:		169		365		786	3	1,694

	FH\	NA-RD-77-108	HIGHV	VAY NO	DISE PF	REDICTIC	ON MOE	EL			
Scenar Road Nam Road Segme	io: OYC 2022 ne: 4th St. nt: w/o Etiwan	w/ ext. da Av.				Project N Job Nu	lame: B mber: 1	ridgeF 3349	Point		
SITE	SPECIFIC IN	IPUT DATA				NO	DISE M	ODE	L INPUT	S	
Highway Data				S	ite Con	ditions (F	Hard = 1	10, So	ft = 15)		
Average Daily	Traffic (Adt):	26,219 vehicl	es				A	utos:	15		
Peak Hour	Percentage:	10.14%			Me	dium Truc	cks (2 A.	xles):	15		
Peak H	lour Volume:	2,659 vehicle	s		He	avy Truck	(S (3+ A	xles):	15		
Ve	hicle Speed:	55 mph		V	ehicle I	Aix					
Near/Far La	ne Distance:	73 feet			Vehi	cleTvpe	[Dav	Evenina	Niaht	Dailv
Site Data						AL	itos: ī	7.5%	12.9%	9.69	6 85.80%
Ba	rrier Heiaht:	0.0 feet			Me	edium Tru	icks: 8	34.8%	4.9%	10.39	% 3.57%
Barrier Type (0-W	/all, 1-Berm):	0.0			ŀ	leavy Tru	icks: 8	86.5%	2.7%	10.89	% 10.63%
Centerline Di	st. to Barrier:	60.0 feet		N	oise So	urce Ele	vations	(in fe	et)		
Centerline Dist.	to Observer:	60.0 feet				Autos	0.0	00	- 1/		
Barrier Distance	to Observer:	0.0 feet			Mediur	n Trucks:	2.2	97			
Observer Height	Observer Height (Above Pad): 5.0 feet						8.0	04	Grade Ad	iustmer	nt: 0.0
P	ad Elevation:	0.0 feet				,					
Ro	ad Elevation:	0.0 feet		La	ane Equ	ivalent l	Distanc	e (in f	eet)		
	Road Grade:	0.0%				Autos:	47.8	83			
	Left View:	-90.0 degre	es		Mediur	n Trucks:	47.6	98			
	Right View:	90.0 degre	es		Heav	y Trucks:	47.7	16			
FHWA Noise Mod	el Calculation	s									
VehicleType	REMEL	Traffic Flow	Dista	ance	Finite	Road	Fresne	e/ 1	Barrier Att	en Be	erm Atten
Autos:	71.78	0.87		0.18		-1.20	-	4.69	0.0	000	0.000
Medium Trucks:	82.40	-12.94		0.20		-1.20	-	4.88	0.0	000	0.000
Heavy Trucks:	86.40	-8.20		0.20		-1.20	-	5.34	0.0	000	0.000
Unmitigated Noise	e Levels (with	out Topo and	barrier	attenu	ation)						
VehicleType	Leq Peak Hou	ur Leq Day	/	Leq Eve	ening	Leq N	light		Ldn	(CNEL
Autos:	71	.6	69.7		67.9		61.9		70.8	5	71.1
Medium Trucks:	68	3.5	66.9		60.5		59.0		67.5	5	67.7
Heavy Trucks:	77	.2	75.7		66.7		67.9		76.3	3	76.4
Vehicle Noise:	78	3.7	77.1		70.8		69.3		77.7	7	78.0
Centerline Distant	ce to Noise Co	ontour (in feet)								
				70 dE	BA	65 d	BA	6	0 dBA	5	5 dBA
			Ldn:		196		423		912		1,965
	Lan: CNEL:					204 439 945 2,					2,036

	FHW	VA-RD-77-108	HIGH	IWAY NO	DISE PR	EDICI		DEL						
Scenario Road Name Road Segment	OYCP 2022 Etiwanda Av s/o Whittran	w/ ext. /. n Av.				Project Job N	Name: E umber: 1	sridge 3349	Point					
SITE S	PECIFIC IN	PUT DATA				N	IOISE M	ODE		5				
Highway Data				S	ite Cond	ditions	(Hard =	10, So	oft = 15)					
Average Daily Ti Peak Hour P Peak Ho Vebi	raffic (Adt): ercentage: ur Volume: icle Speed:	21,963 vehicle 10.14% 2,227 vehicle	es s		Meo Hea	dium Tr avy Tru	A ucks (2 A cks (3+ A	lutos: xles): xles):	15 15 15					
Near/Far I and	Distance:	50 feet		v	ehicle N	lix								
Nearr ar Land	Distance.	00 1001			Vehi	cleType	1	Day	Evening	Night	Daily			
Site Data							Autos:	77.5%	12.9%	9.6%	85.82			
Barri Barrier Type (0-Wa	i er Height: II, 1-Berm):	0.0 feet 0.0			ме	leavy T	rucks: { rucks: {	34.8% 36.5%	4.9% 2.7%	10.3% 10.8%	3.579			
Centerline Dist.	to Barrier:	50.0 feet		N	loise So	urce El	evations	(in f	eet)					
Centerline Dist. to Barrier Distance to Observer Height (A Pao	Centerline Dist. to Observer: 50.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet						Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0							
Road	Elevation:	0.0 feet		L	ane Equ	iivalen	Distanc	e (in	feet)					
R	oad Grade:	0.0%				Auto	s: 43.5	89	,					
i	Left View: Right View:	-90.0 degree 90.0 degree	es es		Mediur Heav	n Truck y Truck	s: 43.3 s: 43.4	86 05						
FHWA Noise Model	Calculations	;												
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fresne	e/	Barrier Atte	en Ber	m Atter			
Autos:	70.20	0.52		0.79		-1.20	-	4.65	0.0	000	0.00			
Medium Trucks:	81.00	-13.29		0.82		-1.20	-	4.87	0.0	000	0.00			
Heavy Trucks:	85.38	-8.56		0.82		-1.20	-	5.43	0.0	000	0.00			
Unmitigated Noise	Levels (witho	out Topo and	barri	er attenu	ation)									
VehicleType L	eq Peak Hou	r Leq Day	/	Leq Eve	ening	Leq	Night		Ldn	CI	VEL			
Autos:	70.	.3	68.4		66.6		60.5		69.2	2	69			
Medium Trucks:	67.	.3	65.8		59.4		57.9		66.3	3	66			
Heavy Trucks:	76.	4	75.0		65.9		67.2		75.5	5	75.			
Vehicle Noise:	77.	.8	76.2		69.7		68.4		76.8	3	77.			
Centerline Distance	to Noise Co	ntour (in feet)											
			L	70 di	BA	65	dBA		60 dBA	55	dBA			
			Ldn:		143		307		662		1,426			
	CNEL:					148 318 685 1				1 470				

Thursday, January 21, 2021

	FHW	/A-RD-77-108 I	IIGHW	AY N	NOISE PE	REDICTIO		DEL					
Scenario: Road Name: Road Segment:	OYCP 2022 Etiwanda Av s/o Foothill I	w/ ext. /. BI.				Project I Job Nu	Name: E Imber: 1	Bridge 13349	Point				
SITE SP	ECIFIC IN	PUT DATA				N	OISE N	IODE	L INPUT	5			
Highway Data				4	Site Con	ditions (Hard =	10, S	oft = 15)				
Average Daily Tra	ffic (Adt):	16,643 vehicles	6					Autos:	15				
Peak Hour Pe	rcentage:	10.14%			Me	dium Tru	cks (2 A	xles).	15				
Peak Hour	Volume:	1,688 vehicles			He	avy Truc	ks (3+ A	xles).	15				
Vehicl	e Speed:	50 mph		-	Vohiclo	Niv							
Near/Far Lane	Distance:	50 feet		-	Veh	icleTyne		Dav	Evening	Night	Daily		
Site Data				-	VCIII	A	utos:	77.5%	12.9%	9.6%	85.82%		
Barria	r Hoiabtı	0.0 feet			Me	edium Tri	ucks:	84.8%	6 4.9%	10.3%	3.57%		
Barrier Type (0-W/all	1_Berm)	0.0 1001			ŀ	leavy Tru	ucks:	86.5%	6 2.7%	10.8%	10.61%		
Centerline Dist. t	o Barrier:	50.0 feet		H									
Centerline Dist. to (Observer:	50.0 feet		-	Noise Sc	ource Ele	evations	s (in t	eet)				
Barrier Distance to (Observer:	0.0 feet				Autos	: 0.0	000					
Observer Height (Ab	bserver Height (Above Pad): 5.0 feet					Medium Trucks: 2.297							
Pad I	Pad Elevation: 0.0 feet						: 8.0	004	Grade Adj	ustment	: 0.0		
Road I	Elevation:	0.0 feet		1	Lane Equ	uivalent	Distand	e (in	feet)				
Roa	d Grade:	0.0%				Autos	: 43.	589	,				
1	eft View:	-90.0 dearees			Mediur	n Trucks	: 43.3	386					
Ri	ght View:	90.0 degrees	5		Heav	y Trucks	43.4	405					
FHWA Noise Model C	alculations	1											
VehicleType	REMEL	Traffic Flow	Distar	nce	Finite	Road	Fresn	el	Barrier Atte	en Bei	rm Atten		
Autos:	70.20	-0.69		0.7	9	-1.20		-4.65	0.0	000	0.000		
Medium Trucks:	81.00	-14.50		0.8	2	-1.20		-4.87	0.0	000	0.000		
Heavy Trucks:	85.38	-9.77		0.8	2	-1.20		-5.43	0.0	000	0.000		
Unmitigated Noise Le	evels (witho	out Topo and b	arrier a	atten	uation)								
VehicleType Le	q Peak Hou	r Leq Day	L	eq E	vening	Leq N	Vight		Ldn	C	NEL		
Autos:	69.	1 6	7.1		65.4		59.3		68.0)	68.6		
Medium Trucks:	66.	1 6	4.6		58.2		56.6	i	65.1	I	65.3		
Heavy Trucks:	75.	2 7	3.7		64.7		66.0	1	74.3	3	74.4		
Vehicle Noise:	76.	6 7	5.0		68.5		67.2		75.6	6	75.8		
Centerline Distance t	o Noise Co	ntour (in feet)											
				70 0	dBA	65 d	IBA	1	60 dBA	55	dBA		
		L	dn:	119 255 550			1,185						
		CN	EL:	123 264 569 1,22					1,226				

	FH\	NA-RD-77-108	HIGHW	AY NO	DISE PF	REDICTIC	ON MOI	DEL			
Scenar	io: OYCP 202	2 w/ ext.				Project N	<i>lame:</i> E	Bridge	Point		
Road Nan	ne: Etiwanda A	.v.				Job Nu	mber: 1	3349			
Road Segme	nt: s/o San Be	rnardino Av.									
SITE	SPECIFIC IN	IPUT DATA				NC	DISE N	IODE		s	
Highway Data				Si	te Con	ditions (H	lard =	10, Se	oft = 15)		
Average Daily	Traffic (Adt):	30,566 vehicle	s				A	Autos:	15		
Peak Hour	Percentage:	10.14%			Me	dium Truc	:ks (2 A	xles):	15		
Peak H	lour Volume:	3,099 vehicles			He	avy Truck	is (3+ A	xles):	15		
Ve	hicle Speed:	50 mph		V	hicle I	Mix					
Near/Far La	ne Distance:	73 feet		-	Vehi	icleType		Dav	Evenina	Niaht	Daily
Site Data						AL	itos:	77.5%	12.9%	9.6%	85.71%
Ba	rrier Height	0.0 feet			Me	edium Tru	cks:	84.8%	4.9%	10.3%	3.60%
Barrier Type (0-V	Vall_1-Berm):	0.0			ŀ	leavy Tru	cks:	86.5%	2.7%	10.8%	10.69%
Centerline Di	st. to Barrier:	60.0 feet			oioo Co	uree Ele	votions	lint	n of l		
Centerline Dist.	to Observer:	60.0 feet		/14	oise su	Autoo	valions	000	eel)		
Barrier Distance	to Observer:	0.0 feet				Autos.	0.0	007			
Observer Height	Observer Height (Above Pad): 5.0 feet					TT Trucks:	2.2	.97	Grade Adi	iustmon	+ 0.0
P	ad Elevation:	0.0 feet			Heav	y Trucks:	8.0	104	Graue Auj	usunen	1. 0.0
Ro	ad Elevation:	0.0 feet		La	ane Equ	uivalent L	Distanc	e (in	feet)		
	Road Grade:	0.0%				Autos:	47.8	383			
	Left View:	-90.0 degree	s		Mediur	m Trucks:	47.6	698			
	Right View:	90.0 degree	s		Heav	y Trucks:	47.7	16			
FHWA Noise Mod	el Calculation	s									
VehicleType	REMEL	Traffic Flow	Distan	се	Finite	Road	Fresn	e/	Barrier Atte	en Be	rm Atten
Autos:	70.20	1.95		0.18		-1.20		4.69	0.0	00	0.000
Medium Trucks:	81.00	-11.82		0.20		-1.20		4.88	0.0	000	0.000
Heavy Trucks:	85.38	-7.09		0.20		-1.20		-5.34	0.0	000	0.000
Unmitigated Nois	e Levels (with	out Topo and	barrier a	ttenu	ation)						
VehicleType	Leq Peak Hou	ır Leq Day	Le	eq Eve	ening	Leq N	ïght		Ldn	C	NEL
Autos:	71	.1 (59.2		67.4		61.4		70.0)	70.6
Medium Trucks:	68	.2	6.6		60.3		58.7		67.2	2	67.4
Heavy Trucks:	77	.3	75.8		66.8		68.0		76.4	ļ	76.5
Vehicle Noise:	78	1.6	77.1		70.5		69.3		77.7	,	77.9
Centerline Distan	ce to Noise Co	ontour (in feet)									
				70 dE	BA	65 dl	BA		60 dBA	55	5 dBA
			Ldn:	195 420 904				1,948			
		CI	IEL:		202		434		936		2,016

	FH\	WA-RD-77-108	HIGH	WAY NO	DISE PF	REDICTIC		EL			
Scenar Road Nam Road Segme	io: OYCP 202 ne: Foothill Bl. nt: w/o Etiwan	2 w/ ext. da Av.				Project N Job Nu	lame: Br mber: 13	idgePoir 349	nt		
SITE	SPECIFIC IN	NPUT DATA				NC	DISE MO	ODEL I	NPUTS	6	
Highway Data				S	ite Con	ditions (F	Hard = 1	0, Soft =	: 15)		
Average Daily	Traffic (Adt):	32,995 vehicl	es				AL	utos:	15		
Peak Hour	Percentage:	10.14%			Me	dium Truc	cks (2 Ax	les):	15		
Peak H	lour Volume:	3,346 vehicle	s		He	avy Truck	(3+ Ax	les):	15		
Ve	hicle Speed:	50 mph		V	ehicle I	Aix					
Near/Far La	ne Distance:	73 feet		Ē	Vehi	cleType	D	ay Ev	ening	Night	Daily
Site Data						AL	itos: 7	7.5%	12.9%	9.6%	85.78%
Ba	rrier Heiaht:	0.0 feet			Me	edium Tru	cks: 8	4.8%	4.9%	10.3%	3.58%
Barrier Type (0-W	/all, 1-Berm):	0.0			ŀ	leavy Tru	icks: 8	6.5%	2.7%	10.8%	10.64%
Centerline Di	st. to Barrier:	60.0 feet		N	oise So	urce Ele	vations	(in feet)			
Centerline Dist.	to Observer:	60.0 feet				Autos:	0.00	00			
Barrier Distance	to Observer:	0.0 feet			Mediur	n Trucks:	2.29	97			
Observer Height	Observer Height (Above Pad): 5.0 feet						8.00)4 Gr	ade Adj	ustment	0.0
P	ad Elevation:	0.0 feet				,					
Ro	ad Elevation:	0.0 feet		L	ane Equ	ivalent l	Distance	(in feet)		
	Road Grade:	0.0%				Autos:	47.88	33			
	Left View:	-90.0 degre	es		Mediur	n Trucks:	47.69	98			
	Right View:	90.0 degre	es		Heav	y Trucks:	47.71	16			
FHWA Noise Mod	el Calculation	S									
VehicleType	REMEL	Traffic Flow	Dist	ance	Finite	Road	Fresnel	l Bar	rier Atte	en Ber	m Atten
Autos:	70.20	2.28		0.18		-1.20	-4	1.69	0.0	00	0.000
Medium Trucks:	81.00	-11.51		0.20		-1.20	-4	1.88	0.0	00	0.000
Heavy Trucks:	85.38	-6.78		0.20		-1.20	-5	5.34	0.0	00	0.000
Unmitigated Noise	e Levels (with	out Topo and	barrier	r attenu	ation)						
VehicleType	Leq Peak Hou	ur Leq Day	1	Leq Eve	ening	Leq N	light	Ld	n	CI	NEL
Autos:	71	1.5	69.5		67.7		61.7		70.3		70.9
Medium Trucks:	68	3.5	66.9		60.6		59.0		67.5		67.7
Heavy Trucks:	77	7.6	76.1		67.1		68.3		76.7		76.8
Vehicle Noise:	79	9.0	77.4		70.9		69.6		78.0		78.2
Centerline Distant	ce to Noise Co	ontour (in feet)								
				70 dl	BA	65 di	BA	60 d	BA	55	dBA
			Ldn:		205		441		950		2,046
		C	NEL:		212 456 982					2,117	

	FHV	VA-RD-77-108	HIGH	IWAY N	OISE PE	REDICT	ION MO	DDEL			
Scenario Road Namo Road Segmen	o: OYCP 2022 e: 4th St. tt: e/o I-15 NB	2 w/ ext.				Project Job N	Name: lumber:	Bridge 13349	Point		
SITE	SPECIFIC IN						IOISE	MODE		s	
Highway Data				5	Site Con	ditions	(Hard =	= 10, S	oft = 15)	•	
Average Daily	Traffic (Adt):	20.420 vehicle	es					Autos.	15		
Peak Hour	Percentage:	10.14%			Me	dium Tr	ucks (2	Axles).	15		
Peak He	our Volume:	2,071 vehicle	s		He	avy Tru	cks (3+	, Axles).	15		
Vel	nicle Speed:	55 mph			lohiclo I	Mix	-				
Near/Far Lar	ne Distance:	73 feet			Veh	icleTvne		Dav	Evening	Night	Daily
Site Data					10/1	0.01.900	Autos:	77.5%	6 12.9%	9.6%	85.48
Bar	rior Hoight:	0.0 foot			M	edium T	rucks:	84.8%	6 4.9%	10.3%	3.689
Barrier Type (0-W	all 1-Rerm)	0.0 1001			F	leavy T	rucks:	86.5%	6 2.7%	10.8%	10.849
Centerline Dis	t. to Barrier:	60.0 feet			1-1 0-			(in f	41		
Centerline Dist. t	o Observer:	60.0 feet		'	voise sc	ource E	evation	15 (IN T	eet)		
Barrier Distance t	o Observer:	0.0 feet			Madiu	AUIO m Truck	s: 0	.000			
Observer Height (/	Observer Height (Above Pad): 5.0 feet					n muck w Truck	з. 2 я	.297	Grade An	liustmen	r 0.0
Pa	Pad Elevation: 0.0 feet						3. 0	.004	0/000 / 10	Juounon	0.0
Roa	d Elevation:	0.0 feet		L	ane Eq	uivalen	t Distar	ice (in	feet)		
F	Road Grade:	0.0%				Auto	s: 47	.883			
	Left View:	-90.0 degree	es		Mediui	m Truck	's: 47	.698			
	Right View:	90.0 degre	es		Heav	y Truck	's: 47	.716			
FHWA Noise Mode	I Calculation:	s									
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fres	nel	Barrier Att	en Be	rm Atten
Autos:	71.78	-0.23		0.18	3	-1.20		-4.69	0.	000	0.00
Medium Trucks:	82.40	-13.88		0.20)	-1.20		-4.88	0.	000	0.00
Heavy Trucks:	86.40	-9.20		0.20)	-1.20		-5.34	0.	000	0.00
Unmitigated Noise	Levels (with	out Topo and	barrie	er atten	uation)						
VehicleType	Leq Peak Hou	ir Leq Day	/	Leq Ev	rening	Leq	Night		Ldn	C	NEL
Autos:	70	.5	68.6		66.8		60.	.7	69.	4	70.
Medium Trucks:	67	.5	66.0		59.6		58.	.0	66.	5	66.
Heavy Trucks:	76	.2	74.7		65.7		66.	.9	75.	3	75.
venicie ivoise:	11	.1	76.1		69.7		68.	.3	76.	/	76.
Centerline Distanc	e to Noise Co	ontour (in feet)	70 4	IRΔ	65	dBA	1	60 dBA	55	dBA
			I dn	700	168	05	36'	2	780) 00	1 68
		C	NEL:		174		37	5	808	, 1	1,00
		0.			174		07		000		1,74

Thursday, January 21, 2021

	FHV	VA-RD-77-108	HIGH	NAY NO	DISE PF	REDICTI		DEL			
Scenari Road Nam Road Segmer	e: 6th St. ht: w/o Etiwand	2 w/ ext. da Av.				Project Job Nu	Name: E Imber: 1	Bridge I 3349	Point		
SITE	SPECIFIC IN	PUT DATA				N	OISE N	IODE	L INPUT	5	
Highway Data				S	ite Con	ditions (Hard =	10, S	oft = 15)		
Average Daily	Traffic (Adt):	566 vehicle	es					Autos:	15		
Peak Hour	Percentage:	10.14%			Me	dium Tru	cks (2 A	xles).	15		
Peak H	our Volume:	57 vehicle	s		He	avy Truc	ks (3+ A	xles).	15		
Ve	hicle Speed:	40 mph		V	ehicle I	Mix					
Near/Far La	ne Distance:	50 feet		-	Veh	icleType		Day	Evening	Night	Daily
Site Data						A	utos:	77.5%	6 12.9%	9.6%	79.93%
Bai	rier Height:	0.0 feet			Me	edium Tri	ucks:	84.8%	6 4.9%	10.3%	5.56%
Barrier Type (0-W	all, 1-Berm):	0.0			ŀ	leavy Tr	ucks:	86.5%	6 2.7%	10.8%	14.51%
Centerline Dis	st. to Barrier:	44.0 feet		N	oise Sc	urce Fle	vation	: (in f	eet)		
Centerline Dist.	to Observer:	44.0 feet			0.00 00	Autos	. 0.0	000			
Barrier Distance	to Observer:	0.0 feet			Mediu	n Trucks	. 21	297			
Observer Height (Above Pad):	5.0 feet			Heav	v Trucks		104	Grade Ad	iustment	: 0.0
Pa	ad Elevation:	0.0 feet		_	mour	,	. 0				
Roa	ad Elevation:	0.0 feet		La	ane Equ	uivalent	Distanc	e (in	feet)		
1	Road Grade:	0.0%				Autos	36.	551			
	Left View:	-90.0 degre	es		Mediur	m Trucks	36.0	308			
	Right View:	90.0 degre	es		Heav	y Trucks	36.3	332			
FHWA Noise Mode	el Calculation:	5									
VehicleType	REMEL	Traffic Flow	Dist	ance	Finite	Road	Fresn	el	Barrier Att	en Ber	m Atten
Autos:	66.51	-14.71		1.94		-1.20		-4.61	0.0	000	0.000
Medium Trucks:	77.72	-26.28		1.98		-1.20		-4.87	0.0	000	0.000
Heavy Trucks:	82.99	-22.12		1.98		-1.20		-5.50	0.0	000	0.000
Unmitigated Noise	e Levels (with	out Topo and	barrier	r attenu	ation)						
VehicleType	Leq Peak Hou	r Leq Day	/	Leq Eve	ening	Leq I	Vight		Ldn	CI	VEL
Autos:	52	.5	50.6		48.8		42.8		51.4	1	52.0
Medium Trucks:	52	.2	50.6		44.3		42.7		51.2	2	51.4
Heavy Trucks:	61	.7	60.2		51.1		52.4		60.7	7	60.9
Vehicle Noise:	62	.6	61.0		53.7		53.2		61.6	5	61.8
Centerline Distance	e to Noise Co	ntour (in feet)					_			
			L	70 dł	BA	65 c	IBA	1	50 dBA	55	dBA
		0	Ldn:		12		26		57		122
		C	NEL:		13		27		58		125

		-100-11-100				LEDIOTI		JULL			
Scenar	io: OYCP 2022	2 w/ ext.				Project	Name:	Bridge	Point		
Road Nam	e: 4th St.					Job Ni	umber:	13349			
Road Segme	<i>nt:</i> w/o Etiwano	da Av.									
SITE	SPECIFIC IN	IPUT DATA				N	OISE	MODE		S	
Highway Data					Site Con	ditions (Hard =	= 10, So	oft = 15)		
Average Daily	Traffic (Adt):	26,382 vehicl	es					Autos:	15		
Peak Hour	Percentage:	10.14%			Me	dium Tru	icks (2	Axles):	15		
Peak H	lour Volume:	2,675 vehicle	s		Hea	avy Truc	ks (3+	Axles):	15		
Ve	hicle Speed:	55 mph		1	Vehicle N	<i>lix</i>					
Near/Far La	ne Distance:	73 feet			Vehi	cleType		Day	Evening	Night	Daily
Site Data						A	utos:	77.5%	6 12.9%	9.69	6 85.85%
Ba	rrier Height	0.0 feet			Me	edium Tr	ucks:	84.8%	6 4.9%	10.39	% 3.56%
Barrier Type (0-W	/all, 1-Berm):	0.0			F	leavy Tr	ucks:	86.5%	6 2.7%	10.89	% 10.59%
Centerline Di	st. to Barrier:	60.0 feet		7	Noise So	urce Ele	evatior	ns (in f	eet)		
Centerline Dist.	to Observer:	60.0 feet		-		Autos	. 0	000	,		
Barrier Distance	to Observer:	0.0 feet			Mediur	n Trucks	. 2	297			
Observer Height ((Above Pad):			Heavy Trucks: 8.004 Grade Adjustment: 0.0							
Pa	ad Elevation:	0.0 feet		-		,					
Roa	ad Elevation:	0.0 feet		1	Lane Equ	iivalent	Distar	ice (in	feet)		
	Road Grade:	0.0%				Autos	s: 47	.883			
	Left View:	-90.0 degre	es		Mediur	n Trucks	: 47	.698			
	Right View:	90.0 degre	es		Heav	y Trucks	5. 47	.716			
FHWA Noise Mode	el Calculation	s									
VehicleType	REMEL	Traffic Flow	Dis	tance	Finite	Road	Fres	nel	Barrier At	ten Be	erm Atten
Autos:	71.78	0.90		0.1	8	-1.20		-4.69	0.	000	0.000
Medium Trucks:	82.40	-12.92		0.20	0	-1.20		-4.88	0.	000	0.000
Heavy Trucks:	86.40	-8.18		0.20	0	-1.20		-5.34	0.	000	0.000
Unmitigated Noise	e Levels (with	out Topo and	barrie	er atten	uation)						
VehicleType	Leq Peak Hou	ir Leq Day	/	Leg Ev	vening	Leq I	Vight		Ldn	(CNEL
Autos:	71	.7	69.7		67.9		61.	.9	70.	5	71.1
Medium Trucks:	68	1.5	66.9		60.6		59.	.0	67.	5	67.7
Heavy Trucks:	77	.2	75.7		66.7		67.	.9	76.	3	76.4
Vehicle Noise:	78	3.7	77.1		70.8		69.	.3	77.	7	78.0
Centerline Distant	ce to Noise Co	ontour (in feet)								
				70 c	1BA	65 0	1BA		60 dBA	5	5 dBA
			Ldn:		197		424	4	914	ļ	1,969
		С	NEL:		204 440 947					2,041	

	FH\	WA-RD-77-108	HIGHW	VAY N	OISE PF	EDICTIC	N MODEL			
Scenar Road Narr Road Segme	io: OYCP 202 ne: Street A nt: s/o Dwy. 8	2 w/ ext.				Project N Job Nu	lame: Brido mber: 1334	gePoint I9		
SITE	SPECIFIC IN	NPUT DATA				NC	DISE MOD	EL INPUT	S	
Highway Data				S	Site Con	ditions (H	lard = 10,	Soft = 15)		
Average Daily	Traffic (Adt):	332 vehicl	es				Auto	s: 15		
Peak Hour	Percentage:	10.14%			Med	dium Truc	ks (2 Axles	s): 15		
Peak H	lour Volume:	34 vehicle	s		Hea	avy Truck	s (3+ Axles	s): 15		
Ve	hicle Speed:	40 mph		1	(ohiclo I	liv				
Near/Far La	ne Distance:	11 feet		-	Vehi	cleTvne	Dav	Evenina	Niaht	Daily
Site Data						AL	itos: 77.5	5% 12.9%	9.6%	80.66%
Ba	rrier Heiaht:	0.0 feet			Me	dium Tru	cks: 84.8	3% 4.9%	10.3%	5.74%
Barrier Type (0-W	/all. 1-Berm):	0.0			F	leavy Tru	cks: 86.5	5% 2.7%	10.8%	13.60%
Centerline Di	st. to Barrier:	30.0 feet			laisa Sa	urco Elo	untions (in	foot)		
Centerline Dist.	to Observer:	30.0 feet		-	10136 30	Autos	0.000	leel)		
Barrier Distance	to Observer:	0.0 feet			Modiur	Autos.	2 207			
Observer Height	Observer Height (Above Pad): 5.0 feet				Heav	Trucks:	8 004	Grade Ac	liustmen	+ 0 0
P	Pad Elevation: 0.0 feet				near	y mucho.	0.004	0/000/10	juounom	0.0
Ro	ad Elevation:	0.0 feet		L	ane Equ	ivalent L	Distance (i	n feet)		
	Road Grade:	0.0%				Autos:	29.912			
	Left View:	-90.0 degre	es		Mediur	n Trucks:	29.615			
	Right View:	90.0 degre	es		Heav	y Trucks:	29.644			
FHWA Noise Mod	el Calculation	s								
VehicleType	REMEL	Traffic Flow	Dista	ance	Finite	Road	Fresnel	Barrier At	ten Be	rm Atten
Autos:	66.51	-16.99		3.24	1	-1.20	-4.4	9 0.	000	0.000
Medium Trucks:	77.72	-28.47		3.31	1	-1.20	-4.8	6 0.	000	0.000
Heavy Trucks:	82.99	-24.72		3.30)	-1.20	-5.7	7 0.	000	0.000
Unmitigated Noise	e Levels (with	out Topo and	barrier	atten	uation)					
VehicleType	Leq Peak Hou	ur Leq Daj	V L	Leq Ev	rening	Leq N	ight	Ldn	С	NEL
Autos:	51	1.6	49.6		47.8		41.8	50.	4	51.0
Medium Trucks:	51	1.4	49.8		43.4		41.9	50.	3	50.6
Heavy Trucks:	60).4	58.9		49.9		51.1	59.	5	59.6
Vehicle Noise:	61	1.4	59.8		52.5		52.0	60.	4	60.6
Centerline Distant	ce to Noise Co	ontour (in feet)							
				70 d	IBA	65 dl	BA	60 dBA	55	dBA
			Ldn:	7 15 32			2	69		
	CNEL:					7 15 33				

	FHV	VA-RD-77-108	HIG	HWAY N	OISE PI	REDICTI		DEL			
Scenar Road Narr Road Segme	Scenario: HY 2040 Road Name: Etiwanda Av. Road Segment: s/o Whittram Av.						Name: E Imber: 1	Bridge 3349	Point		
SITE	SPECIFIC IN					N				9	
Highway Data	or con to he	FOI DAIA		5	Site Con	ditions (Hard =	10, Sc	oft = 15)	0	
Average Daily	Traffic (Adt):	37.211 vehicle	es				F	Autos:	15		
Peak Hour	Percentage:	10.14%			Me	dium Tru	cks (2 A	xles):	15		
Peak H	our Volume:	3,773 vehicle	s		He	avy Truc	ks (3+ A	xles):	15		
Ve	hicle Speed:	50 mph			/ohiclo	Mix					
Near/Far La	ne Distance:	50 feet		F	Veh	icleTvne		Dav	Evenina	Niaht	Daily
Site Data						A	utos:	77.5%	12.9%	9.6%	85.80%
Ba	rrier Height	0.0 feet			М	edium Tri	ucks: 8	84.8%	4.9%	10.3%	3.579
Barrier Type (0-W	/all. 1-Berm):	0.0			I	leavy Tri	ucks: {	86.5%	2.7%	10.8%	10.63%
Centerline Di	st. to Barrier:	50.0 feet		H	laiaa Cr	uree Ele	vetiene	lin &	ati		
Centerline Dist.	to Observer:	50.0 feet		<i>'</i>	voise st	Autoo	valions		el)		
Barrier Distance	to Observer:	0.0 feet			Madiu	Autos m Trucko	. 0.0	007			
Observer Height	bserver Height (Above Pad): 5.0 feet					n Trucks	. 2.2 · 80	104	Grade Ad	iustment	0.0
P	Pad Elevation: 0.0 feet						. 0.0	/04	onduc Auj	usunent	0.0
Ro	ad Elevation:	0.0 feet		L	ane Eq	uivalent	Distanc	e (in i	feet)		
	Road Grade:	0.0%				Autos	: 43.5	589			
	Left View:	-90.0 degree	es		Mediu	m Trucks	: 43.3	886			
	Right View:	90.0 degre	es		Heav	y Trucks	: 43.4	105			
FHWA Noise Mod	el Calculations	5									
VehicleType	REMEL	Traffic Flow	Di	stance	Finite	Road	Fresne	e/	Barrier Atte	en Ber	m Atten
Autos:	70.20	2.81		0.79	9	-1.20	-	-4.65	0.0	000	0.00
Medium Trucks:	81.00	-11.00		0.82	2	-1.20	-	-4.87	0.0	000	0.00
Heavy Trucks:	85.38	-6.26		0.82	2	-1.20	-	-5.43	0.0	000	0.00
Unmitigated Nois	e Levels (with	out Topo and	barri	er atten	uation)						
VehicleType	Leq Peak Hou	r Leq Day	/	Leq Ev	rening	Leq N	light		Ldn	CI	VEL
Autos:	72	.6	70.6		68.9		62.8		71.4	1	72.
Medium Trucks:	69	.6	68.1		61.7		60.1		68.6	j	68.
Heavy Trucks:	/8	./	77.5		68.2		69.5		77.8	3	70
venicie Noise:	80	.1	78.5		72.0		70.7		79.	I	79.
Centerline Distan	ce to Noise Co	ntour (in feet)	70 0	ID A	65.0	IDΛ	6	Oden	55	dBA
			I dn	100	203	03 0	437		040		2 020
		C	NEI ·		203 437 942			2,028			
		0.			210		402		314		2,000

Thursday, January 21, 2021

	FHV	VA-RD-77-108 F	IIGHW	AY NO	DISE PF	REDICT	ION MO	DEL				
Scenar	io: HY 2040				Proiect	Name:	Bridae	Point				
Road Nam	e: Etiwanda A	v.				Job N	umber:	13349				
Road Segme	nt: s/o Foothill	BI.										
SITE	SPECIFIC IN	PUT DATA				N	IOISE	MODE		s	-	
Highway Data				Si	ite Con	ditions	(Hard =	= 10, So	oft = 15)			
Average Daily	Traffic (Adt):	27,232 vehicles						Autos:	15			
Peak Hour	Percentage:	10.14%			Me	dium Tri	ucks (2	Axles):	15			
Peak H	lour Volume:	2,761 vehicles			He	avy Truc	cks (3+	Axles):	15			
Ve	hicle Speed:	50 mph		V	ehicle I	<i>lix</i>						
Near/Far La	ne Distance:	50 feet			Veh	cleTvpe		Dav	Evenina	Nic	tht	Dailv
Site Data				Autos: 77.5% 12.9% 9.6% 85.								
Ba	rrier Height:	0.0 feet		Medium Trucks: 84.8% 4.9% 10.3% 3.5								3.57%
Barrier Type (0-W	all, 1-Berm):	0.0			ŀ	leavy Ti	rucks:	86.5%	5 2.7%	10	.8%	10.63%
Centerline Di	st. to Barrier:	50.0 feet		N	nisa Sr	urco Fl	ovation	e (in fi	oot)			
Centerline Dist.	to Observer:	50.0 feet			0136 00	Auto	e • anoi	000				
Barrier Distance	to Observer:	0.0 feet			Modiu	n Truck	5. U	207				
Observer Height (bserver Height (Above Pad): 5.0 feet						5. 4 c' 9	004	Grade Ar	diustr	nent [.]	0.0
Pa	ad Elevation:	0.0 feet			near	y mack	3. 0	.004		,		
Roa	ad Elevation:	0.0 feet		Lá	ane Equ	ivalent	Distar	ce (in	feet)			
1	Road Grade:	0.0%				Auto	s: 43	.589				
	Left View:	-90.0 degrees			Mediui	n Truck	s: 43	.386				
	Right View:	90.0 degrees			Heav	y Truck	s: 43	.405				
FHWA Noise Mode	el Calculations	6										
VehicleType	REMEL	Traffic Flow	Distan	се	Finite	Road	Fres	nel	Barrier At	ten	Berr	n Atten
Autos:	70.20	1.45		0.79		-1.20		-4.65	0.	.000		0.000
Medium Trucks:	81.00	-12.36		0.82		-1.20		-4.87	0.	.000		0.000
Heavy Trucks:	85.38	-7.62		0.82		-1.20		-5.43	0.	.000		0.000
Unmitigated Noise	e Levels (with	out Topo and b	arrier a	ttenu	ation)							
VehicleType	Leq Peak Hou	r Leq Day	Le	eq Eve	ening	Leq	Night		Ldn		CN	IEL
Autos:	71	.2 6	9.3		67.5		61.	5	70.	.1		70.7
Medium Trucks:	68	.3 6	6.7		60.3		58.	8	67.	.2		67.5
Heavy Trucks: 77.4 75.9			66.9 68.1			76.	.5		76.6			
Vehicle Noise:	78	.7 7	7.2		70.6		69.	4	77.	8		78.0
Centerline Distand	ce to Noise Co	ntour (in feet)										
				70 dE	BA	65	dBA	(60 dBA		55 0	dBA
		L	dn:		165		35	5	76	5		1,648
		CNI	EL:		170		36	7	79	1		1,705

	FH\	WA-RD-77-108	HIGHW	AY N	OISE PR	EDICTI	ON MO						
Scenari	io: HY 2040					Project	Name: I	Bridge	Point				
Road Nam	e: Etiwanda A	w.				Job Ni	umber:	13349					
Road Segmer	nt: s/o San Be	rnardino Av.											
SITE	SPECIFIC IN	IPUT DATA				N	OISE N	IODE	L INPUT	S			
Highway Data				S	Site Cond	ditions (Hard =	10, So	oft = 15)				
Average Daily	Traffic (Adt):	25,271 vehicl	es					Autos:	15				
Peak Hour	Percentage:	10.14%			Med	dium Tru	icks (2 A	Axles):	15				
Peak H	our Volume:	2,562 vehicle	s		Hea	avy Truc	:ks (3+ A	Axles):	15				
Ve	hicle Speed:	50 mph		v	/ehicle N	lix							
Near/Far La	ne Distance:	73 feet		F	Vehi	cleType		Day	Evening	Night	Daily		
Site Data						A	utos:	77.5%	12.9%	9.6%	85.80%		
Bar	rier Heiaht:	0.0 feet			Me	dium Tr	ucks:	84.8%	4.9%	10.3%	3.57%		
Barrier Type (0-W	all, 1-Berm):	0.0			н	leavy Tr	ucks:	86.5%	2.7%	10.8%	5 10.63%		
Centerline Dis	st. to Barrier:	60.0 feet			laise Sa	urco El	vation	s (in fi	oof)				
Centerline Dist.	to Observer:	60.0 feet		~	0130 00	Autos	. 01	000					
Barrier Distance	to Observer:	0.0 feet			Modium	n Trucke	. 0.	207					
Observer Height (Observer Height (Above Pad): 5.0 feet					v Trucka	. 2.	004	Grade Ad	liustmen	t: 0.0		
Pa	Pad Elevation: 0.0 feet						. 0.	004	0,000,10	Juounon	0.0		
Roa	ad Elevation:	0.0 feet		L	ane Equ	iivalent	Distand	ce (in i	feet)				
F	Road Grade:	0.0%				Autos	: 47.	883					
	Left View:	-90.0 degre	es		Mediun	n Trucks	: 47.	698					
	Right View:	90.0 degre	es		Heav	y Trucks	47.	716					
FHWA Noise Mode	el Calculation	s											
VehicleType	REMEL	Traffic Flow	Distar	nce	Finite I	Road	Fresn	el	Barrier Att	ten Be	rm Atten		
Autos:	70.20	1.13		0.18	3	-1.20		-4.69	0.	000	0.000		
Medium Trucks:	81.00	-12.68		0.20)	-1.20		-4.88	0.	000	0.000		
Heavy Trucks:	85.38	-7.94		0.20)	-1.20		-5.34	0.	000	0.000		
Unmitigated Noise	e Levels (with	out Topo and	barrier a	attenu	uation)								
VehicleType	Leq Peak Hou	ur Leq Day	/ L	eq Ev	ening	Leq I	Vight		Ldn	C	NEL		
Autos:	70).3	68.3		66.6		60.5	5	69.	2	69.8		
Medium Trucks:	67	7.3	65.8		59.4		57.8	3	66.	3	66.5		
Heavy Trucks:	76	3.4	75.0		65.9		67.2	2	75.	5	75.6		
Vehicle Noise:	77	7.8	76.2		69.7		68.4	Ļ	76.	8	77.0		
Centerline Distance	e to Noise Co	ontour (in feet)										
				70 d	BA	65 0	1BA	6	60 dBA	55	5 dBA		
			Ldn:	171 369 794			1,711						
	CNEL:						177 381 822 1,771						

	FH	WA-RD-77-108	B HIGH	WAY N	OISE PI	REDICTI	ON MO	DEL			
Scenar Road Nan Road Segme	rio: HY 2040 ne: Foothill Bl. nt: w/o Etiwan	da Av.				Project Job Nu	Name: I umber:	Bridge 13349	Point		
SITE	SPECIFIC IN	PUT DATA				N		IODE		3	
Highway Data				S	ite Con	ditions (Hard =	10, S	oft = 15)		
Average Daily	Traffic (Adt):	51,539 vehicl	es					Autos:	15		
Peak Hour	Percentage:	10.14%			Me	dium Tru	icks (2 A	Axles).	15		
Peak H	lour Volume:	5,226 vehicle	s		He	avy Truc	ks (3+ A	(xles)	15		
Ve	ehicle Speed:	50 mph		v	ehicle l	Mix					
Near/Far La	ne Distance:	73 feet		-	Veh	icleType		Day	Evening	Night	Daily
Site Data						A	utos:	77.5%	6 12.9%	9.6%	85.80%
Ba	rrier Height:	0.0 feet			M	edium Tr	ucks:	84.8%	6 4.9%	10.3%	3.57%
Barrier Type (0-V	Vall, 1-Berm):	0.0			1	Heavy Tr	ucks:	86.5%	6 2.7%	10.8%	10.63%
Centerline D	ist. to Barrier:	60.0 feet		N	loise So	ource Ele	evation	s (in f	eet)		
Centerline Dist.	to Observer:	60.0 feet				Autos	.: 0.0	000			
Barrier Distance	Barrier Distance to Observer: 0.0 feet					m Trucks	2.1	297			
Observer Height	Observer Height (Above Pad): 5.0 feet				Heav	v Trucks	: 8.0	004	Grade Adj	ustmen	t: 0.0
P	Pad Elevation: 0.0 feet										
Ro	ad Elevation:	0.0 feet		L	ane Eq	uivalent	Distanc	e (in	feet)		
	Road Grade:	0.0%				Autos	: 47.	883			
	Left View:	-90.0 degre	es		Mediu	m Trucks	: 47.0	698			
	Right View:	90.0 degre	es		Heav	ry Trucks	: 47.	716			
FHWA Noise Mod	el Calculation	s									
VehicleType	REMEL	Traffic Flow	Dist	tance	Finite	Road	Fresn	el	Barrier Atte	en Be	rm Atten
Autos:	70.20	4.22		0.18		-1.20		-4.69	0.0	00	0.000
Medium Trucks:	81.00	-9.59		0.20)	-1.20		-4.88	0.0	00	0.000
Heavy Trucks:	85.38	-4.85		0.20		-1.20		-5.34	0.0	00	0.000
Unmitigated Nois	e Levels (with	out Topo and	barrie	r attenu	uation)						
VehicleType	Leq Peak Ho	ur Leq Da	y	Leq Ev	ening	Leq I	Vight		Ldn	C	NEL
Autos:	73	3.4	71.4		69.7		63.6	6	72.2	2	72.9
Medium Trucks:	70).4	68.8		62.5		60.9)	69.4		69.6
Heavy Trucks:	79	9.5	78.0		69.0		70.3	3	78.6	i	78.7
Vehicle Noise:	80).9	79.3		72.8		71.5	5	79.9)	80.1
Centerline Distan	ce to Noise C	ontour (in fee	t)								
			L	70 d	BA	65 a	1BA		50 dBA	55	ō dBA
		_	Ldn:	275 593 1,277				2,752			
	CNEL:					285 613 1,322 2,84					

	FHV	VA-RD-77-108	HIGH		NOISE PR	EDICT	ON MO	DEL					
Scenario Road Name	2 HY 2040 2 4th St.			Project Job N	Name: I umber:	Bridge 13349	Point						
Road Segmen	t: e/o I-15 NB	Ramps											
SITE S	PECIFIC IN	PUT DATA				N	OISE N	NODE	L INPUT	s			
Highway Data					Site Cond	ditions	(Hard =	10, So	oft = 15)				
Average Daily T	raffic (Adt):	22,189 vehicle	es					Autos:	15				
Peak Hour F	Percentage:	10.14%			Med	dium Tru	ucks (2 A	Axles):	15				
Peak Ho	ur Volume:	2,250 vehicles	5		Hea	avy Truc	cks (3+ A	(xles)	15				
Veh	icle Speed:	55 mph			Vehicle N	lix							
Near/Far Lan	e Distance:	73 feet		Ē	Vehi	cleType		Day	Evening	Night	Daily		
Site Data						A	Autos:	77.5%	12.9%	9.6%	85.80%		
Barr	ier Height:	0.0 feet			Me	dium Ti	ucks:	84.8%	4.9%	10.3%	3.57%		
Barrier Type (0-Wa	ll, 1-Berm):	0.0			H	leavy Ti	ucks:	86.5%	2.7%	10.8%	10.63%		
Centerline Dist	to Barrier:	60.0 feet		-	Noise So	urce Fl	evation	s (in fi	pet)				
Centerline Dist. to	o Observer:	60.0 feet		F		Auto	s' 01	000	,				
Barrier Distance to	Barrier Distance to Observer: 0.0 feet						Medium Trucks: 2.297						
Observer Height (A	bserver Height (Above Pad): 5.0 feet						s: 8.0	004	Grade Ad	justment	: 0.0		
Pa	Pad Elevation: 0.0 feet												
Road	d Elevation:	0.0 feet		4	Lane Equ	iivalent	Distant	ce (in i	feet)				
R	oad Grade:	0.0%				Autos	s: 47.	883					
	Left View:	-90.0 degree	es		Mediun	n Truck	S: 47.	598					
	Right View:	90.0 degree	es		Heav	y Truck	5: 47.	/10					
FHWA Noise Model	Calculations	5											
VehicleType	REMEL	Traffic Flow	Dis	tance	Finite	Road	Fresh	el	Barrier Att	en Ber	m Atten		
Autos:	71.78	0.15		0.1	8	-1.20		-4.69	0.0	000	0.00		
Medium Trucks:	82.40	-13.66		0.2	0	-1.20		-4.88	0.0	000	0.00		
Heavy Trucks:	86.40	-8.92		0.2	0	-1.20		-5.34	0.0	000	0.00		
Unmitigated Noise	Levels (with	out Topo and	barrie	er atten	uation)								
VehicleType I	.eq Peak Hou	r Leq Day	r	Leq E	vening	Leq	Night		Ldn	C	NEL		
Autos:	70	.9	68.9		67.2		61.1		69.	7	70.		
Medium Trucks:	67	.7	66.2		59.8		58.3	3	66.	7	67.		
Heavy Trucks:	Heavy Trucks: 76.5 75.0				66.0 67.2			75.	6	75.			
Vehicle Noise: 78.0 76.4					70.1		68.6	6	77.	0	77.		
Centerline Distance	e to Noise Co	ntour (in feet,)	70	-10.4		-/0.4		0.404		-10.4		
			L	70 (UBA 170	65	OBA 070	6	DU ABA	55	aBA		
		~	Lan:	176 379 816			1,758						
	CNEL:						392		845		1,821		

Thursday, January 21, 2021

				_							_	
	FHV	VA-RD-77-108 H	IIGHWA	Y NO	DISE PF	REDICTIC	N MO	DEL				
Scenar	io: HY 2040					Project N	ame: I	Bridge	Point			
Road Nam	ne: 6th St.					Job Nu	nber:	13349				
Road Segme	nt: w/o Etiwano	la AV.		-								
SITE	SPECIFIC IN	IPUT DATA				NC	ISE N	AODE		S		
ngnway Data				5	ne con	aitions (F	ara =	10, 50	$5\pi = 15$			
Average Daily	Traffic (Adt):	5,543 vehicles						Autos:	15			
Peak Hour	Percentage:	10.14%			ivie:	aium Truc	KS (2 A	(xies):	15			
Peak F	lour Volume:	562 vehicles			не	avy Truck	s (3+ A	(xies):	15			
Ve Noor/Eor / o	nicle Speed:	40 mpn		V	ehicle N	Aix						
Near/Far La	ne Distance:	50 reet			Vehi	cleType		Day	Evening	Nigl	ht	Daily
Site Data						Au	tos:	77.5%	12.9%	9.	6%	85.80%
Ba	rrier Height:	0.0 feet			Me	edium Tru	cks:	84.8%	4.9%	10.	3%	3.57%
Barrier Type (0-W	/all, 1-Berm):	0.0			F	leavy Tru	cks:	86.5%	2.7%	10.	8%	10.63%
Centerline Di	st. to Barrier:	44.0 feet		N	oise So	urce Elev	vation	s (in fe	et)			
Centerline Dist.	to Observer:	44.0 feet		-		Autos	0.0	100	,			
Barrier Distance	to Observer:	0.0 feet			Mediur	n Trucks	2.5	297				
Observer Height	(Above Pad):	5.0 feet			Heav	v Trucks:	8.0	004	Grade Ad	djustm	ent:	0.0
P	ad Elevation:	0.0 feet		-		,						
Ro	ad Elevation:	0.0 feet		La	ane Equ	iivalent L	listand	e (in i	feet)			
	Road Grade:	0.0%				Autos:	36.	551				
	Left View:	-90.0 degrees			Mediur	n Trucks:	36.	308				
	Right View:	90.0 degrees			Heav	y Trucks:	36.	332				
FHWA Noise Mod	el Calculation	s										
VehicleType	REMEL	Traffic Flow	Distanc	e	Finite	Road	Fresn	el	Barrier At	ten	Bern	n Atten
Autos:	66.51	-4.49		1.94		-1.20		-4.61	0.	.000		0.000
Medium Trucks:	77.72	-18.30		1.98		-1.20		-4.87	0.	.000		0.000
Heavy Trucks:	82.99	-13.56		1.98		-1.20		-5.50	0.	000		0.000
Unmitigated Nois	e Levels (with	out Topo and b	arrier at	tenu	ation)							
VehicleType	Leq Peak Hou	ir Leq Day	Leo	q Eve	ening	Leq N	ght		Ldn		CN	IEL
Autos:	62	.8 6	0.8		59.0		53.0)	61.	.6		62.2
Medium Trucks:	60	.2 5	3.6		52.3		50.7	,	59.	.2		59.4
Heavy Trucks:	70	.2 6	3.7		59.7		60.9)	69.	.3		69.4
Vehicle Noise:	71	.3 6	9.7		62.8		61.9)	70.	3		70.5
Centerline Distan	ce to Noise Co	ontour (in feet)										
			7	70 dE	BA	65 dE	BA	6	60 dBA		55 c	'BA
		L	dn:		46		100		21	5		462
		CN	=L:		48		103		22	1		477

	FH\	WA-RD-77-108 H	IGHWA	Y NOISE P	REDICTIC	ON MODE	iL.			
Scenar Road Narr Road Segme	io: HY 2040 ne: 4th St. nt: w/o Etiwan	da Av.			Project N Job Nu	lame: Bri mber: 13	dgePoint 349			
SITE	SPECIFIC IN	IPUT DATA			NC	DISE MO	DEL INPU	TS		
Highway Data				Site Con	ditions (H	lard = 10	, Soft = 15)			
Average Daily	Traffic (Adt):	22,831 vehicles				Au	tos: 15			
Peak Hour	Percentage:	10.14%		Me	dium Truc	ks (2 Axl	es): 15			
Peak H	lour Volume:	2,315 vehicles		He	avy Truck	s (3+ Axl	es): 15			
Ve	hicle Speed:	55 mph		Vehicle	Mix					
Near/Far La	ne Distance:	73 feet		Veh	icleTvpe	Da	v Evenin	a Ni	aht	Dailv
Site Data					AL	itos: 77	.5% 12.9	% 9	9.6%	85.80%
Ba	rrier Heiaht:	0.0 feet		М	edium Tru	cks: 84	.8% 4.99	% 10	0.3%	3.57%
Barrier Type (0-W	/all, 1-Berm):	0.0			Heavy Tru	cks: 86	.5% 2.79	% 10	J.8%	10.63%
Centerline Di	st. to Barrier:	60.0 feet		Noise Se	ource Ele	vations (in feet)			
Centerline Dist.	to Observer:	60.0 feet			Autos:	0.00)			
Barrier Distance	to Observer:	0.0 feet		Mediu	m Trucks:	2.29	7			
Observer Height	(Above Pad):	5.0 feet		Hear	/v Trucks:	8.00	4 Grade	Adjust	ment:	0.0
P	ad Elevation:	0.0 feet								
Ro	ad Elevation:	0.0 feet		Lane Eq	uivalent L	Distance	(in feet)			
	Road Grade:	0.0%			Autos:	47.88	3			
	Left View:	-90.0 degrees		Mediu	m Trucks:	47.69	8			
	Right View:	90.0 degrees		Heat	/y Trucks:	47.71	b			
FHWA Noise Mod	el Calculation	s								
VehicleType	REMEL	Traffic Flow	Distanc	e Finite	Road	Fresnel	Barrier /	Atten	Berm	1 Atten
Autos:	71.78	0.27	(0.18	-1.20	-4	.69	0.000		0.000
Medium Trucks:	82.40	-13.54	(0.20	-1.20	-4	88	0.000		0.000
Heavy Trucks:	86.40	-8.80	(0.20	-1.20	-5	.34	0.000		0.000
Unmitigated Noise	e Levels (with	out Topo and ba	rrier at	tenuation)						
VehicleType	Leq Peak Ho	ur Leq Day	Leq	Evening	Leq N	ight	Ldn		CN	EL
Autos:	71	1.0 69	0.1	67.3		61.3	6	9.9		70.5
Medium Trucks:	67	7.9 66	.3	59.9		58.4	6	6.9		67.1
Heavy Trucks:	76	6.6 75	.1	66.1		67.3	7	5.7		75.8
Vehicle Noise:	78	3.1 76	.5	70.2		68.7	7	7.1		77.4
Centerline Distant	ce to Noise C	ontour (in feet)								
			7	'0 dBA	65 dl	BA	60 dBA		55 d	!BA
		La	in:	179		386	8	32		1,792
	CNEL:					400	8	62		1,856

	FH	WA-RD-77-108	B HIGF	IWAY N	OISE PI	REDICTI	ON MO	DEL			
Scenar Road Nan Road Segme	rio: HYP 2040 ne: Etiwanda A nt: s/o Foothill	IV. Bl.				Project Job N	Name: I umber:	Bridge 13349	Point		
SITE	SPECIFIC IN	NPUT DATA				N	OISE N	IODE	EL INPUT	5	
Highway Data				5	Site Con	ditions	(Hard =	10, S	oft = 15)		
Average Daily	Traffic (Adt):	27,405 vehicl	es				,	Autos.	15		
Peak Hour	Percentage:	10.14%			Me	dium Tru	icks (2 A	(xles	: 15		
Peak H	lour Volume:	2,779 vehicle	s		He	avy Truc	:ks (3+ A	Axles)	: 15		
Ve	ehicle Speed:	50 mph		1	/ehicle	Mix					
Near/Far La	ne Distance:	50 feet		F	Veh	icleType		Day	Evening	Night	Daily
Site Data						A	utos:	77.5%	6 12.9%	9.6%	6 85.81%
Ba	rrier Heiaht:	0.0 feet			M	edium Tr	ucks:	84.8%	6 4.9%	10.3%	6 3.57%
Barrier Type (0-W	Vall, 1-Berm):	0.0			1	Heavy Tr	ucks:	86.5%	6 2.7%	10.8%	6 10.62%
Centerline Di	ist. to Barrier:	50.0 feet		/	Voise Sc	ource Ele	evation	s (in f	eet)		
Centerline Dist.	to Observer:	50.0 feet				Autos	: 0.0	000	,		
Barrier Distance	Barrier Distance to Observer: 0.0 feet					m Trucks	: 2:	297			
Observer Height	Observer Height (Above Pad): 5.0 feet				Heav	/v Trucks	: 8.0	004	Grade Adi	ustmer	nt: 0.0
P	Pad Elevation: 0.0 feet					,					
Ro	ad Elevation:	0.0 feet		L	ane Eq	uivalent	Distand	e (in	feet)		
	Road Grade:	0.0%				Autos	s: 43.	589			
	Left View:	-90.0 degre	es		Mediu	m Trucks	s: 43.	386			
	Right View:	90.0 degre	es		Heav	y Trucks	s: 43.4	405			
FHWA Noise Mod	el Calculation	s									
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fresn	e/	Barrier Atte	en Be	erm Atten
Autos:	70.20	1.48	1	0.79	9	-1.20		-4.65	0.0	000	0.000
Medium Trucks:	81.00	-12.33		0.82	2	-1.20		-4.87	0.0	000	0.000
Heavy Trucks:	85.38	-7.60		0.82	2	-1.20		-5.43	0.0	000	0.000
Unmitigated Nois	e Levels (with	out Topo and	barrie	er atten	uation)						
VehicleType	Leq Peak Ho	ur Leq Daj	y	Leq Ev	ening/	Leq	Night		Ldn	0	ONEL
Autos:	71	1.3	69.3		67.5		61.5	5	70.1		70.7
Medium Trucks:	68	3.3	66.7		60.4		58.8	3	67.3	3	67.5
Heavy Trucks:	77	7.4	75.9		66.9		68.1		76.5	5	76.6
Vehicle Noise:	78	3.8	77.2		70.7		69.4	Ļ	77.8	3	78.0
Centerline Distan	ce to Noise C	ontour (in feet	t)								
		-		70 a	70 dBA 65 dBA 60 dBA		5	5 dBA			
			Ldn:		165 356 768				1,654		
	CNEL:					171 369 794 1,71 ⁻					

	FH	WA-RD-77-108	- HIGI	HWAT	NOISE PR	EDICTIC		DEL			
Scenario	: HYP 2040					Project I	Vame: B	Bridge	Point		
Road Name	e: Etiwanda A	IV.				Job Nu	mber: *	13349			
Road Segmen	t: s/o San Be	rnardino Av.									
SITE S	PECIFIC IN	IPUT DATA				N	DISE N	IODE	L INPUT	S	
Highway Data					Site Con	ditions (Hard =	10, Sc	oft = 15)		
Average Daily 7	raffic (Adt):	25,390 vehicl	es					Autos:	15		
Peak Hour F	Percentage:	10.14%			Mee	dium Tru	cks (2 A	(xles)	15		
Peak Ho	our Volume:	2,575 vehicle	s		Hei	avy Truci	ks (3+ A	(xles):	15		
Veh	icle Speed:	50 mph			Vehicle N	<i>lix</i>					
Near/Far Lan	e Distance:	73 feet		Ē	Vehi	cleType		Day	Evening	Night	Daily
Site Data						A	utos:	77.5%	12.9%	9.6%	85.70%
Bari	rier Height:	0.0 feet			Me	edium Tru	icks:	84.8%	4.9%	10.3%	3.60%
Barrier Type (0-Wa	all, 1-Berm):	0.0			F	leavy Tru	icks:	86.5%	2.7%	10.8%	10.709
Centerline Dis	t. to Barrier:	60.0 feet		F	Noise So	urce Ele	vations	s (in fe	et)		
Centerline Dist. to	o Observer:	60.0 feet		-		Autos	. 0.0	000	.,		
Barrier Distance to	o Observer:	0.0 feet			Mediur	n Trucks	2.2	297			
Observer Height (A	Observer Height (Above Pad): 5.0 feet						: 8.0	004	Grade Ad	iustment	: 0.0
Pa	Pad Elevation: 0.0 feet										
Roa	d Elevation:	0.0 feet		2	Lane Equ	iivalent	Distanc	e (in i	leet)		
R	oad Grade:	0.0%				Autos	: 47.0	383			
	Left View:	-90.0 degre	es		Mediur	n Trucks	: 47.0	598			
	Right View:	90.0 degre	es		Heav	y Trucks	47.	/16			
FHWA Noise Mode	l Calculation	s									
VehicleType	REMEL	Traffic Flow	Di	stance	Finite	Road	Fresn	el	Barrier Att	en Ber	m Atten
Autos:	70.20	1.14		0.1	8	-1.20		-4.69	0.0	000	0.00
Medium Trucks:	81.00	-12.62		0.2	0	-1.20		-4.88	0.0	000	0.00
Heavy Trucks:	85.38	-7.89		0.2	0	-1.20		-5.34	0.0	000	0.00
Unmitigated Noise	Levels (with	out Topo and	barri	ier atter	uation)						
VehicleType	Leq Peak Hou	ir Leq Day	/	Leq E	vening	Leq N	light		Ldn	C	NEL
Autos:	70	0.3	68.4		66.6		60.5	,	69.3	2	69.
Medium Trucks:	67	.4	65.8		59.5		57.9)	66.4	4	66.
Heavy Trucks:	76	6.5	75.0		66.0		67.2		75.	j.	75.
Vehicle Noise: 77.8 76.3					69.7		68.5	•	76.	9	77.
Centerline Distance	e to Noise Co	ontour (in feet)	70	-10.4	05.4	DA		0 -10 4		-10.4
			1 - 1	70	UBA 170	65 d	BA	6	OU dBA	55	aBA
		~	Lan:		1/2 371 800			1,723			
CNEL:					178		-387		827		1 782

Thursday, January 21, 2021

	FHV	VA-RD-77-108	HIGHW	AY NO	DISE PI	REDICT	ION MC	DEL				
Scena Road Nar Road Segme	rio: HYP 2040 ne: Etiwanda A ent: s/o Whittra	v. n Av.				Project Job N	Name: umber:	Bridge 13349	Point			
SITE	SPECIFIC IN	IPUT DATA				N	OISE	MOD	EL INP	UTS		
Highway Data				S	ite Con	ditions	(Hard =	= 10, S	oft = 1	5)		
Average Daily	Traffic (Adt):	37,384 vehicle	s					Autos	: 15			
Peak Hou	r Percentage:	10.14%			Me	dium Tri	ucks (2	Axles)	: 15			
Peak I	Hour Volume:	3,791 vehicles	5		He	avy Tru	cks (3+	Axles)	: 15			
V	ehicle Speed:	50 mph		V	ohiclo I	Mix						
Near/Far La	ane Distance:	50 feet		-	Veh	icleTvpe		Dav	Even	ina N	liaht	Dailv
Site Data							Autos:	77.5%	6 12.	9%	9.6%	85.81%
Ba	arrier Height	0.0 feet			M	edium Ti	rucks:	84.8%	64.	9% '	10.3%	3.57%
Barrier Type (0-V	Vall, 1-Berm):	0.0			1	leavy Ti	rucks:	86.5%	6 2.	7% '	10.8%	10.62%
Centerline D	ist. to Barrier:	50.0 feet		N	oise So	ource El	evatior	s (in f	eet)			
Centerline Dist	to Observer:	50.0 feet				Auto	s' 0	000	,			
Barrier Distance	to Observer:	0.0 feet			Mediu	n Truck	s. 0 s [.] 2	297				
Observer Height	Observer Height (Above Pad): 5.0 feet				Heav	v Truck	s. – s. 8	004	Grade	e Adius	tment:	0.0
F	Pad Elevation:	0.0 feet			mour	<i>y</i> ao.a	J. U					
Ro	ad Elevation:	0.0 feet		L	ane Eq	uivalent	Distan	ce (in	feet)			
	Road Grade:	0.0%				Auto	s: 43	.589				
	Left View:	-90.0 degree	iS .		Mediu	n Truck	s: 43	.386				
	Right View:	90.0 degree	s		Heav	y Truck	s: 43	.405				
FHWA Noise Mod	lel Calculation	s		- 1-								
VehicleType	REMEL	Traffic Flow	Distan	се	Finite	Road	Fres	nel	Barrie	r Atten	Ben	n Atten
Autos	70.20	2.83		0.79		-1.20		-4.65		0.000)	0.000
Medium Trucks	81.00	-10.98		0.82		-1.20		-4.87		0.000)	0.000
Heavy Trucks.	85.38	-6.25		0.82		-1.20		-5.43		0.000)	0.000
Unmitigated Nois	e Levels (with	out Topo and	barrier a	ttenu	ation)							
VehicleType	Leq Peak Hou	Ir Leq Day	Le	eq Eve	ening	Leq	Night		Ldn		CI	IEL
Autos	72	.6	70.7		68.9		62.	8		71.5		72.1
Medium Trucks.	69	.6	68.1		61.7		60.	2		68.6		68.9
Heavy Trucks.	78	.8	77.3		68.2		69.	5		77.8		78.0
Vehicle Noise.	80	.1	78.5		72.0		70.	7		79.1		79.4
Centerline Distan	ce to Noise Co	ontour (in feet)										
				70 dl	BA	65	dBA		60 dBA		55	dBA
			Ldn:		203		438	3		944		2,034
		CI	IEL:		210		453	3		977		2,105

	FH1	WA-RD-77-108	HIGHW	AY NO	OISE PF	REDICTIC		DEL			
Scenar	Scenario: HYP 2040						Vame: E	Bridge	Point		
Road Nan	ne: Foothill BI.					Job Nu	mber: 1	13349			
Road Segme	<i>nt:</i> w/o Etiwan	da Av.									
SITE	SPECIFIC IN	NPUT DATA				N	DISEN	IODE		s	
Highway Data				S	ite Con	ditions (l	Hard =	10, Se	oft = 15)		
Average Daily	Traffic (Adt):	51,636 vehicl	es					Autos:	15		
Peak Hour	Percentage:	10.14%			Me	dium Truo	cks (2 A	(xles)	15		
Peak H	lour Volume:	5,236 vehicle	s		He	avy Truck	ks (3+ A	(xles)	15		
Ve	hicle Speed:	50 mph		v	ehicle I	Nix					
Near/Far La	ne Distance:	73 feet		-	Vehi	cleType		Day	Evening	Night	Daily
Site Data						AL	utos:	77.5%	12.9%	9.6%	6 85.79%
Ba	rrier Heiaht:	0.0 feet			Me	edium Tru	icks:	84.8%	4.9%	10.3%	6 3.57%
Barrier Type (0-W	Vall, 1-Berm):	0.0			ŀ	leavy Tru	icks:	86.5%	2.7%	10.8%	6 10.64%
Centerline Di	ist. to Barrier:	60.0 feet		N	loise So	urce Ele	vations	s (in f	eet)		
Centerline Dist.	to Observer:	60.0 feet				Autos:	0.0	000		-	
Barrier Distance	to Observer:	0.0 feet			Mediur	n Trucks:	2.2	297			
Observer Height	Observer Height (Above Pad): 5.0 feet				Heav	v Trucks:	8.0	004	Grade Ad	justmen	t: 0.0
P	Pad Elevation: 0.0 feet										
Ro	ad Elevation:	0.0 feet		L	ane Equ	livalent l	Distanc	e (in	feet)		
	Road Grade:	0.0%				Autos:	47.	383			
	Left View:	-90.0 degre	es		Mediur	n Trucks:	47.0	598			
	Right View:	90.0 degre	es		Heav	y Trucks:	47.	716			
FHWA Noise Mod	el Calculation	S									
VehicleType	REMEL	Traffic Flow	Dista	nce	Finite	Road	Fresn	el	Barrier Att	en Be	rm Atten
Autos:	70.20	4.23		0.18	1	-1.20		-4.69	0.0	000	0.000
Medium Trucks:	81.00	-9.57		0.20)	-1.20		-4.88	0.0)00	0.000
Heavy Trucks:	85.38	-4.84		0.20)	-1.20		-5.34	0.0)00	0.000
Unmitigated Nois	e Levels (with	out Topo and	barrier	attenu	uation)						
VehicleType	Leq Peak Ho	ur Leq Da	/ L	.eq Ev	ening	Leq N	light		Ldn	C	NEL
Autos:	73	3.4	71.5		69.7		63.6	;	72.3	3	72.9
Medium Trucks:	70).4	68.9		62.5		61.0)	69.4	4	69.6
Heavy Trucks:	79	9.5	78.1		69.0		70.3	1	78.6	3	78.8
Vehicle Noise:	80).9	79.3		72.8		71.5	5	79.9)	80.2
Centerline Distan	ce to Noise C	ontour (in feel)								
				70 di	BA	65 d	BA	(50 dBA	55	5 dBA
			Ldn:	276 594 1,280				2,757			
	CNEL:				285 615 1,324 2,85					2,852	

	FH\	WA-RD-77-108	HIGHW	AY NO	DISE PF	REDICTIO	ом мо	DEL			
Scenar Road Nan Road Segme	io: HYP 2040 ne: 6th St. nt: w/o Etiwan	da Av.				Project I Job Nu	Name: Imber:	Bridge 13349	Point		
SITE	SPECIFIC IN	NPUT DATA				N	OISE I	NODE	L INPUT	S	
Highway Data				S	ite Con	ditions (Hard =	10, S	oft = 15)		
Average Daily	Traffic (Adt):	5,759 vehicle	es					Autos:	15		
Peak Hour	Percentage:	10.14%			Me	dium Tru	cks (2 /	Axles).	15		
Peak H	lour Volume:	584 vehicle	s		He	avy Truci	ks (3+)	Axles).	15		
Ve	hicle Speed:	40 mph		V	ehicle I	Aix					
Near/Far La	ne Distance:	50 feet		-	Vehi	cleType		Day	Evening	Night	Daily
Site Data						A	utos:	77.5%	6 12.9%	9.6	% 85.22%
Ba	rrier Height:	0.0 feet			Me	edium Tru	ucks:	84.8%	6 4.9%	10.3	% 3.77%
Barrier Type (0-W	/all, 1-Berm):	0.0			ŀ	leavy Tru	ucks:	86.5%	6 2.7%	10.8	% 11.01%
Centerline Di	st. to Barrier:	44.0 feet		N	oise So	urce Ele	vation	s (in f	eet)		
Centerline Dist.	to Observer:				Autos.	: 0.	000	1			
Barrier Distance	to Observer:			Mediur	n Trucks	: 2.	297				
Observer Height	(Above Pad):	5.0 feet			Heav	y Trucks	: 8.	004	Grade Ad	ljustme	nt: 0.0
P	ad Elevation:	0.0 feet									
Ro	ad Elevation:	0.0 feet		L	ane Equ	livalent	Distan	ce (In	feet)		
	Road Grade:	0.0%				Autos.	: 36.	551			
	Left View:	-90.0 degre	es		Mediur	n Trucks.	: 36.	308			
	Right View:	90.0 degre	es		Heav	y Trucks	36.	332			
FHWA Noise Mod	el Calculation	s									
VehicleType	REMEL	Traffic Flow	Distar	nce	Finite	Road	Fresr	nel	Barrier Att	en B	erm Atten
Autos:	66.51	-4.36		1.94		-1.20		-4.61	0.	000	0.000
Medium Trucks:	77.72	-17.90		1.98		-1.20		-4.87	0.	000	0.000
Heavy Trucks:	82.99	-13.24		1.98		-1.20		-5.50	0.	000	0.000
Unmitigated Nois	e Levels (with	out Topo and	barrier a	attenu	ation)						
VehicleType	Leq Peak Hou	ur Leq Day	/ L	eq Eve	ening	Leq N	light		Ldn		CNEL
Autos:	62	2.9	60.9		59.2		53.	1	61.	7	62.3
Medium Trucks:	60	0.6	59.0		52.7		51.1	1	59.	6	59.8
Heavy Trucks:	70).5	69.0		60.0		61.3	3	69.	6	69.7
Vehicle Noise:	71	1.6	70.0		63.0		62.2	2	70.	6	70.8
Centerline Distan	ce to Noise Co	ontour (in feet)					-			
	7				BA	65 d	BA	1	60 dBA	1	55 dBA
			Ldn:		48		104		225	5	484
	CNEL:						108		232	2	499

	FHV	VA-RD-77-108	HIGH	IWAY N		REDICT					
Scenario Road Name Road Segmen	o: HYP 2040 e: 4th St. t: w/o Etiwand	da Av.				Project Job N	Name: E umber: 1	Bridge 13349	Point		
SITE	SPECIFIC IN					N		IODE		s	
Highway Data				s	ite Con	ditions	(Hard =	10, So	oft = 15)	•	
Average Daily	Traffic (Adt):	22.994 vehicl	es					Autos:	15		
Peak Hour I	Percentage:	10.14%			Me	dium Tr	ucks (2 A	xles):	15		
Peak He	our Volume:	2,332 vehicle	s		He	avy Tru	cks (3+ A	xles):	15		
Vel	nicle Speed:	55 mph		V	ahicla I	Mix					
Near/Far Lar	ne Distance:	73 feet			Veh	icleType		Dav	Evenina	Niaht	Daily
Site Data							Autos:	77.5%	12.9%	9.6%	85.85
Bar	rier Height	0.0 feet			M	edium T	rucks:	84.8%	4.9%	10.3%	3.569
Barrier Type (0-W	all. 1-Berm)	0.0			ŀ	leavy T	rucks:	86.5%	2.7%	10.8%	10.599
Centerline Dis	t. to Barrier:	60.0 feet						. (in \$	41		
Centerline Dist. t	o Observer:	60.0 feet		N	oise sc	ource El	evations		eet)		
Barrier Distance t	o Observer:	0.0 feet			Madiu	AUIO Truck	s: 0.0	007			
Observer Height (/	Above Pad):	5.0 feet			Heav	n muck w Truck	5. 2.2 e' 8.0	104	Grade Ad	iustment	· 0.0
Pa	d Elevation:		near	y mach	3. 0.0	704	0/000/10	aounoni	. 0.0		
Roa	d Elevation:	0.0 feet		L	ane Eq	uivalen	Distanc	e (in	feet)		
F	Road Grade:	0.0%				Auto	s: 47.8	383			
	Left View:	-90.0 degre	es		Mediu	m Truck	s: 47.6	598			
	Right View:	90.0 degre	es		Heav	y Truck	s: 47.7	/16			
FHWA Noise Mode	I Calculation:	s									
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fresn	el	Barrier Att	en Ber	m Atten
Autos:	71.78	0.31		0.18		-1.20		-4.69	0.0	000	0.00
Medium Trucks:	82.40	-13.52		0.20		-1.20		-4.88	0.0	000	0.00
Heavy Trucks:	86.40	-8.78		0.20		-1.20		-5.34	0.0	000	0.00
Unmitigated Noise	Levels (with	out Topo and	barrie	er attenu	ation)						
VehicleType	Leq Peak Hou	ir Leq Day	/	Leq Ev	ening	Leq	Night		Ldn	C	NEL
Autos:	71	.1	69.1		67.3		61.3		69.9	9	70.
Medium Trucks:	67	.9	66.3		60.0		58.4		66.9	9	67.
Heavy Trucks:	Heavy Trucks: 76.6 75.1						67.3		75.1	1	75.
venicle Noise:	78	.1	/6.5		70.2		68.7		77.3	1	77.
Centerline Distanc	e to Noise Co	ontour (in feet)	70.0			10.4				10.4
			L	70 d	BA	65	dBA	e	50 dBA	55	dBA
		0	Lan:		180		387		834		1,797
							401		864		7 961

Thursday, January 21, 2021

	FHV	VA-RD-77-108	HIGHW	AY NO	DISE PI	REDICTI	он мс	DEL				
Scena Road Nar Road Segme	rio: HYP 2040 ne: 4th St. ent: e/o I-15 NB	Ramps				Project Job N	Name: umber:	Bridge 13349	Point			
SITE	SPECIFIC IN	IPUT DATA				N	OISE	MOD	EL INPU	TS		
Highway Data				S	ite Con	ditions	(Hard =	: 10, S	oft = 15)			
Average Daily	Traffic (Adt):	22,710 vehicle	s					Autos	: 15			
Peak Hou	r Percentage:	10.14%			Me	dium Tru	icks (2	Axles)	: 15			
Peak I	Hour Volume:	2,303 vehicles			He	avy Truc	:ks (3+	Axles)	: 15			
V	ehicle Speed:	55 mph		V	obiclo I	Mix						
Near/Far La	ane Distance:	73 feet			Veh	icleTvne		Dav	Evening	N	iaht	Daily
Site Data						A	utos:	77.59	6 12.99	6	9.6%	85.51%
D.	prrior Hoight:	0.0 foot			M	edium Tr	ucks:	84.89	6 4.99	6 1	0.3%	3.67%
Barrier Type (0-V	Vall. 1-Berm):	0.0			1	Heavy Tr	ucks:	86.5%	6 2.79	61	0.8%	10.82%
Centerline D	ist. to Barrier:	60.0 feet			laiaa Cr	uree El	ovetien	o (in f	oot)			
Centerline Dist	to Observer:	60.0 feet		14	0136 30		evalion	000	een			
Barrier Distance	to Observer:	0.0 feet			Madiu	Autos	s. U.	207				
Observer Height	(Above Pad):	5.0 feet			Healu	II Trucks	s. 2.	004	Grade	dius	tment	0.0
F	Pad Elevation:	0.0 feet			neav	y mucka	s. 0.	.004	0,000,	lajaot		0.0
Ro	ad Elevation:	0.0 feet		L	ane Eq	uivalent	Distan	ce (in	feet)			
	Road Grade:	0.0%				Autos	s: 47	.883				
	Left View:	-90.0 degree	s		Mediu	m Trucks	s: 47	.698				
	Right View:	90.0 degree	s		Heav	ry Trucks	5: 47	.716				
FHWA Noise Mod	lel Calculation	s										
VehicleType	REMEL	Traffic Flow	Distan	се	Finite	Road	Fres	nel	Barrier A	Atten	Berr	n Atten
Autos.	71.78	0.23		0.18		-1.20		-4.69	(0.000		0.000
Medium Trucks	82.40	-13.44		0.20		-1.20		-4.88		0.000		0.000
Heavy Trucks	86.40	-8.74		0.20		-1.20		-5.34		0.000		0.000
Unmitigated Nois	e Levels (with	out Topo and	barrier a	ttenu	ation)							
VehicleType	Leq Peak Hou	Ir Leq Day	Le	eq Eve	ening	Leq	Night		Ldn		CN	IEL
Autos	71	.0 0	59.0		67.3		61.	2	6	9.8		70.4
Medium Trucks	68	.0 (56.4		60.0		58.	5	6	7.0		67.2
Heavy Trucks.	76	.7	75.2		66.1		67.	4	7	5.7		75.9
Vehicle Noise	78	.1	76.6		70.2		68.	8	7	7.2		77.4
Centerline Distan	ce to Noise Co	ontour (in feet)										
				70 dl	BA	65 0	'BA		60 dBA		55 (dBA
			Ldn:		180		388	3	8	37		1,803
		CI	IEL:		187		402	2	8	57		1,867

	FH	WA-RD-77-108	HIGHV	VAY NO	DISE PF	REDICT	ION MOI	DEL			
Scenar Road Nam Road Segme	io: HYP 2040 ne: Street A nt: s/o Dwy. 8					Project Job N	Name: E umber: 1	Bridge 13349	Point		
SITE	SPECIFIC IN	NPUT DATA				N	IOISE N	IODE		5	
Highway Data				S	ite Con	ditions	(Hard =	10, Sc	oft = 15)		
Average Daily	Traffic (Adt):	332 vehicl	es					Autos:	15		
Peak Hour	Percentage:	10.14%			Mee	dium Tri	ucks (2 A	xles):	15		
Peak H	lour Volume:	34 vehicle	s		Hei	avy Tru	cks (3+ A	xles):	15		
Ve	hicle Speed:	40 mph		V	ehicle A	Nix					
Near/Far La	ne Distance:	11 feet			Vehi	cleTvpe		Dav	Evenina	Niaht	Dailv
Site Data					-		Autos:	77.5%	12.9%	9.6%	80.66%
Ba	rrier Height	0.0 feet			Me	dium T	rucks:	84.8%	4.9%	10.3%	5.74%
Barrier Type (0-W	/all, 1-Berm):	0.0			F	leavy Ti	rucks:	86.5%	2.7%	10.8%	13.60%
Centerline Di	st. to Barrier:	30.0 feet		N	oise So	urce Fl	evations	: (in fe	pet)		
Centerline Dist.	to Observer:	30.0 feet			0.00 00	Auto	e' 0.0	000			
Barrier Distance	to Observer:	0.0 feet			Mediur	n Truck	s. 0.0	900			
Observer Height (Above Pad):			Heav	v Truck	e: 80	104	Grade Adi	iustment	0.0	
Pa	ad Elevation:	0.0 feet			mean	y mach	3. 0.0		,		
Roa	ad Elevation:	0.0 feet		Li	ane Equ	iivalent	Distanc	e (in i	feet)		
	Road Grade:	0.0%				Auto	s: 29.9	912			
	Left View:	-90.0 degre	es		Mediur	n Truck	s: 29.6	515			
	Right View:	90.0 degre	es		Heav	y Truck	s: 29.6	644			
FHWA Noise Mode	el Calculation	s									
VehicleType	REMEL	Traffic Flow	Dista	ance	Finite	Road	Fresn	el	Barrier Atte	en Bei	m Atten
Autos:	66.51	-16.99		3.24		-1.20		-4.49	0.0	000	0.000
Medium Trucks:	77.72	-28.47		3.31		-1.20		-4.86	0.0	000	0.000
Heavy Trucks:	82.99	-24.72		3.30		-1.20		-5.77	0.0	000	0.000
Unmitigated Noise	e Levels (with	out Topo and	barrier	attenu	ation)						
VehicleType	Leq Peak Hou	ur Leq Day	/ 1	Leq Eve	ening	Leq	Night		Ldn	С	NEL
Autos:	51	1.6	49.6		47.8		41.8		50.4	Ļ	51.0
Medium Trucks:	51	1.4	49.8		43.4		41.9		50.3	3	50.6
Heavy Trucks:	60		49.9		51.1		59.5	5	59.6		
Vehicle Noise:	61	1.4	59.8		52.5		52.0		60.4	ļ	60.6
Centerline Distant	ce to Noise C	ontour (in feet)								
				70 dl	BA	65	dBA	6	60 dBA	55	dBA
			Ldn:		7		15		32		69
		С		7		15		33		71	

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APPENDIX 9.1:

CADNAA OPERATIONAL NOISE MODEL INPUTS

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13349 - Bridge Point Rancho Cucamonga

CadnaA Noise Prediction Model: 13349-14.cna Date: 12.01.21 Analyst: B. Lawson

Calculation Configuration

Configurat	ion
Parameter	Value
General	
Country	(user defined)
Max. Error (dB)	0.00
Max. Search Radius (#(Unit,LEN))	2000.01
Min. Dist Src to Rcvr	0.00
Partition	
Raster Factor	0.50
Max. Length of Section (#(Unit,LEN))	999.99
Min. Length of Section (#(Unit,LEN))	1.01
Min. Length of Section (%)	0.00
Proj. Line Sources	On
Proj. Area Sources	On
Ref. Time	
Reference Time Day (min)	960.00
Reference Time Night (min)	480.00
Daytime Penalty (dB)	0.00
Recr. Time Penalty (dB)	5.00
Night-time Penalty (dB)	10.00
DTM	
Standard Height (m)	0.00
Model of Terrain	Triangulation
Reflection	
max. Order of Reflection	2
Search Radius Src	100.00
Search Radius Rcvr	100.00
Max. Distance Source - Rcvr	1000.00 1000.00
Min. Distance Rvcr - Reflector	1.00 1.00
Min. Distance Source - Reflector	0.10
Industrial (ISO 9613)	
Lateral Diffraction	some Obj
Obst. within Area Src do not shield	On
Screening	Incl. Ground Att. over Barrier
	Dz with limit (20/25)
Barrier Coefficients C1,2,3	3.0 20.0 0.0
Temperature (#(Unit,TEMP))	10
rel. Humidity (%)	70
Ground Absorption G	0.50
Wind Speed for Dir. (#(Unit,SPEED))	3.0
Roads (RLS-90)	
Strictly acc. to RLS-90	
Railways (FTA/FRA)	
Aircraft (???)	
Strictly acc. to AzB	

Receiver Noise Levels

Name	М.	ID		Level Lr		Limit. Value				Land	l Use	Height	:	C	oordinates	
			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	44.4	44.4	51.1	65.0	60.0	0.0				5.00	а	6170806.84	2341967.49	5.00
RECEIVERS		R2	53.4	53.4	60.0	65.0	60.0	0.0				5.00	а	6173879.36	2339036.76	5.00
RECEIVERS		R3	35.5	35.4	42.1	65.0	60.0	0.0				5.00	а	6168980.96	2335531.62	5.00
RECEIVERS		R4	35.9	35.8	42.5	65.0	60.0	0.0				5.00	а	6166982.09	2338647.59	5.00
RECEIVERS		PL	59.9	59.9	66.6	65.0	65.0	0.0				5.00	a	6173514.81	2339003.28	5.00

Point Source(s)

Name	М.	ID	R	esult. PW	'L		Lw/L	i	Op	erating Ti	ime	К0	Height	:	Co	oordinates	
			Day	Evening	Night	Туре	Value	norm.	Day	Special	Night				Х	Y	Z
			(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)	(dB)	(ft)		(ft)	(ft)	(ft)
POINTSOURCE		AC01	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	5.00	g	6173347.59	2341016.16	50.00
POINTSOURCE		AC02	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	5.00	g	6173347.85	2340320.67	50.00
POINTSOURCE		AC03	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	5.00	g	6173245.42	2340027.29	50.00
POINTSOURCE		AC04	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	5.00	g	6173217.65	2338199.18	50.00
POINTSOURCE		AC05	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	5.00	g	6172457.24	2338211.33	50.00
POINTSOURCE		AC06	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	5.00	g	6172413.42	2341033.16	50.00
POINTSOURCE		TRASH01	89.0	89.0	89.0	Lw	89		150.00	0.00	90.00	0.0	5.00	а	6173173.65	2341174.96	5.00
POINTSOURCE		TRASH02	89.0	89.0	89.0	Lw	89		150.00	0.00	90.00	0.0	5.00	а	6173385.86	2338416.78	5.00
POINTSOURCE		TRASH03	89.0	89.0	89.0	Lw	89		150.00	0.00	90.00	0.0	5.00	а	6172356.83	2338444.09	5.00

Line Source(s)

Name	М.	ID	R	esult. PW	/L	Result. PWL' Lw / Li O					Op	erating Ti	me		Moving	Pt. Src		Height	
			Day	Evening	Night	Day	Evening	Night	Туре	Value	norm.	Day	Special	Night	Number		Speed		
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)	Day	Evening	Night	(mph)	(ft)
LINESOURCE		DWY01	83.3	69.7	74.5	63.3	49.7	54.5	PWL-Pt	89.7					23.0	1.0	3.0	6.2	8
LINESOURCE		DWY01	87.4	73.8	78.5	63.3	49.7	54.5	PWL-Pt	89.7					23.0	1.0	3.0	6.2	8
LINESOURCE		DWY02	92.3	77.2	83.2	71.8	56.7	62.7	PWL-Pt	89.7					163.0	5.0	20.0	6.2	8
LINESOURCE		DWY05	87.4	72.1	78.6	68.1	52.7	59.2	PWL-Pt	89.7					69.0	2.0	9.0	6.2	8
LINESOURCE		DWY07	87.0	71.6	78.1	68.1	52.7	59.2	PWL-Pt	89.7					69.0	2.0	9.0	6.2	8
LINESOURCE		DWY08	89.2	75.6	80.4	63.3	49.7	54.5	PWL-Pt	89.7					23.0	1.0	3.0	6.2	8
LINESOURCE		DWY08	82.5	68.8	73.6	63.3	49.7	54.5	PWL-Pt	89.7					23.0	1.0	3.0	6.2	8
LINESOURCE		DWY10	85.6	70.3	76.8	68.1	52.7	59.2	PWL-Pt	89.7					69.0	2.0	9.0	6.2	8

Name	Height					Coordinat	es	
	Begin		End		х	у	z	Ground
	(ft)		(ft)		(ft)	(ft)	(ft)	(ft)
LINESOURCE	8.00	а			6172544.00	2341127.33	8.00	0.00
					6172367.13	2341128.49	8.00	0.00
					6172370.60	2341277.61	8.00	0.00
LINESOURCE	8.00	а			6172315.97	2340302.76	8.00	0.00
					6172333.39	2341090.84	8.00	0.00
					6172367.13	2341128.49	8.00	0.00
LINESOURCE	8.00	а			6172395.76	2338427.06	8.00	0.00
					6172389.66	2338060.48	8.00	0.00
LINESOURCE	8.00	а			6173187.90	2341111.15	8.00	0.00
					6173395.98	2341107.68	8.00	0.00
					6173469.96	2341112.31	8.00	0.00
LINESOURCE	8.00	а			6173222.02	2340234.45	8.00	0.00
					6173474.83	2340228.37	8.00	0.00
LINESOURCE	8.00	а			6172411.41	2339849.87	8.00	0.00
					6172436.31	2340089.96	8.00	0.00
					6172447.38	2340100.37	8.00	0.00
					6172459.78	2340109.16	8.00	0.00
					6172473.27	2340116.16	8.00	0.00
					6172487.60	2340121.25	8.00	0.00
					6172502.49	2340124.31	8.00	0.00
					6172517.66	2340125.31	8.00	0.00
					6172532.82	2340124.20	8.00	0.00
					6173290.09	2340107.08	8.00	0.00
					6173386.60	2340089.96	8.00	0.00
					6173469.10	2340089.18	8.00	0.00
LINESOURCE	8.00	а			6173334.45	2339828.45	8.00	0.00
					6173342.65	2340097.76	8.00	0.00
LINESOURCE	8.00	а			6173305.28	2338404.50	8.00	0.00
					6173304.34	2338391.70	8.00	0.00
					6173305.43	2338378.92	8.00	0.00
					6173308.55	2338366.47	8.00	0.00
					6173313.60	2338354.67	8.00	0.00
					6173320.47	2338343.83	8.00	0.00
					6173328.97	2338334.21	8.00	0.00
				_	6173338.89	2338326.07	8.00	0.00
					6173349.98	2338319.61	8.00	0.00
					6173361.95	2338314.99	8.00	0.00
					6173374.51	2338312.34	8.00	0.00
					6173387.33	2338311.71	8.00	0.00
					6173433.18	2338311.71	8.00	0.00

Area Source(s)

Name	М.	ID	R	esult. PW	'L	Re	esult. PW	L''		Lw/L	i	Op	erating Ti	me	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)	
AREASOURCE		DOCK01	111.5	111.5	111.5	71.1	71.1	71.1	Lw	111.5					8
AREASOURCE		DOCK02	111.5	111.5	111.5	69.7	69.7	69.7	Lw	111.5					8
AREASOURCE		DOCK03	111.5	111.5	111.5	67.7	67.7	67.7	Lw	111.5					8
AREASOURCE		DOCK04	111.5	111.5	111.5	67.1	67.1	67.1	Lw	111.5					8

Name	ł	lei	ght		Coordinat	es	
	Begin		End	х	у	z	Ground
	(ft)		(ft)	(ft)	(ft)	(ft)	(ft)
AREASOURCE	8.00	а		6172544.89	2341215.97	8.00	0.00
				6173138.82	2341202.27	8.00	0.00
				6173138.48	2341184.12	8.00	0.00
				6173186.43	2341183.09	8.00	0.00
				6173185.41	2341161.51	8.00	0.00
				6173184.72	2341135.48	8.00	0.00
				6173183.35	2341095.40	8.00	0.00
				6173183.69	2341015.94	8.00	0.00
				6172539.68	2341029.81	8.00	0.00
				6172543.52	2341104.31	8.00	0.00

Name	Height				Coordinat	es	
	Begin		End	x	У	z	Ground
	(ft)		(ft)	(ft)	(ft)	(ft)	(ft)
				6172543.18	2341146.10	8.00	0.00
AREASOURCE	8.00	а		6172298.25	2340303.01	8.00	0.00
				6172345.05	2340302.35	8.00	0.00
				6172436.52	2340300.23	8.00	0.00
				6172437.58	2340352.34	8.00	0.00
				6173224.60	2340335.32	8.00	0.00
				6173223.54	2340282.15	8.00	0.00
				6173222.55	2340251.02	8.00	0.00
				6173221.27	2340211.07	8.00	0.00
				6173220.50	2340185.71	8.00	0.00
				6173219.83	2340149.58	8.00	0.00
				6172295.39	2340169.59	8.00	0.00
AREASOURCE	8.00	а		6172335.02	2339851.35	8.00	0.00
				6172517.57	2339847.83	8.00	0.00
				6172489.31	2338424.23	8.00	0.00
				6172434.23	2338425.96	8.00	0.00
				6172365.61	2338427.92	8.00	0.00
				6172365.39	2338470.02	8.00	0.00
				6172361.70	2338476.75	8.00	0.00
				6172356.50	2338479.57	8.00	0.00
				6172307.23	2338481.09	8.00	0.00
AREASOURCE	8.00	а		6173227.64	2339833.94	8.00	0.00
				6173276.25	2339832.21	8.00	0.00
				6173310.81	2339830.62	8.00	0.00
				6173356.39	2339830.11	8.00	0.00
				6173452.14	2339827.04	8.00	0.00
				6173435.76	2339187.47	8.00	0.00
				6173434.73	2339143.94	8.00	0.00
				6173435.24	2339114.75	8.00	0.00
				6173411.69	2339114.75	8.00	0.00
				6173397.35	2338402.98	8.00	0.00
				6173337.44	2338405.03	8.00	0.00
				6173280.93	2338405.58	8.00	0.00
				6173254.74	2338405.92	8.00	0.00
				6173201.59	2338406.86	8.00	0.00

Barrier(s)

Name	м.	ID	Abso	rption	Z-Ext.	Cant	ilever	F	lei	ght		Coordinat	es	
			left	right		horz.	vert.	Begin		End	x	У	z	Ground
					(ft)	(ft)	(ft)	(ft)		(ft)	(ft)	(ft)	(ft)	(ft)
BARRIERPROP		BARRIER01						8.00	а		6172540.10	2341031.01	8.00	0.00
											6172543.52	2341104.31	8.00	0.00
BARRIERPROP		BARRIER02						8.00	а		6172543.18	2341146.10	8.00	0.00
											6172544.89	2341215.97	8.00	0.00
											6173138.82	2341202.27	8.00	0.00
											6173138.48	2341184.12	8.00	0.00
											6173186.43	2341183.09	8.00	0.00
											6173184.72	2341135.48	8.00	0.00
BARRIERPROP		BARRIER03						8.00	а		6173183.35	2341095.40	8.00	0.00
											6173183.69	2341015.94	8.00	0.00
BARRIERPROP		BARRIER04						8.00	а		6173223.54	2340282.15	8.00	0.00
											6173222.55	2340251.02	8.00	0.00
BARRIERPROP		BARRIER05						8.00	а		6173221.27	2340211.07	8.00	0.00
											6173220.50	2340185.71	8.00	0.00
BARRIERPROP		BARRIER06						8.00	а		6173276.25	2339832.21	8.00	0.00
											6173310.81	2339830.62	8.00	0.00
BARRIERPROP		BARRIER07						8.00	а		6173356.39	2339830.11	8.00	0.00
											6173452.14	2339827.04	8.00	0.00
											6173435.76	2339187.47	8.00	0.00
BARRIERPROP		BARRIER08						8.00	а		6173434.73	2339143.94	8.00	0.00
											6173435.24	2339114.75	8.00	0.00
											6173411.69	2339114.75	8.00	0.00
											6173397.35	2338402.98	8.00	0.00
											6173337.44	2338405.03	8.00	0.00
BARRIERPROP		BARRIER09						8.00	а		6173280.93	2338405.58	8.00	0.00
											6173254.74	2338405.92	8.00	0.00
BARRIERPROP		BARRIER10						8.00	а		6172434.23	2338425.96	8.00	0.00
											6172415.76	2338426.08	8.00	0.00
BARRIERPROP		BARRIER11						8.00	а		6172376.40	2338427.61	8.00	0.00
											6172300.14	2338428.25	8.00	0.00

Building(s)

Name	М.	ID	RB	Residents	Absorption	Height			Coordinat	es	
						Begin		х	У	z	Ground
						(ft)		(ft)	(ft)	(ft)	(ft)
BUILDING		BUILDING01	х	0		45.00	а	6172477.64	2340082.21	45.00	0.00
								6173245.00	2340063.11	45.00	0.00
								6173245.00	2340057.90	45.00	0.00
								6173274.51	2340057.90	45.00	0.00
								6173276.25	2339832.21	45.00	0.00
								6173227.64	2339833.94	45.00	0.00
								6173201.59	2338406.86	45.00	0.00
								6173254.74	2338405.92	45.00	0.00
								6173243.26	2338172.48	45.00	0.00
								6173149.51	2338169.01	45.00	0.00
								6173146.04	2338153.39	45.00	0.00
								6172533.19	2338167.27	45.00	0.00
								6172533.19	2338181.16	45.00	0.00
								6172430.76	2338188.11	45.00	0.00
								6172434.23	2338425.96	45.00	0.00
								6172489.31	2338424.23	45.00	0.00
								6172517.57	2339847.83	45.00	0.00
								6172472.43	2339853.04	45.00	0.00
BUILDING		BUILDING02	х	0		45.00	а	6172356.75	2341034.07	45.00	0.00
								6172371.64	2341033.01	45.00	0.00
								6172371.64	2341069.17	45.00	0.00
								6172404.61	2341070.23	45.00	0.00
								6172404.61	2341073.42	45.00	0.00
								6172539.68	2341071.29	45.00	0.00
								6172539.68	2341029.81	45.00	0.00
								6173240.55	2341013.86	45.00	0.00
								6173241.62	2341065.97	45.00	0.00
								6173358.60	2341062.78	45.00	0.00
								6173359.67	2341057.47	45.00	0.00
								6173395.83	2341057.47	45.00	0.00
								6173393.70	2341017.05	45.00	0.00
								6173397.96	2341015.99	45.00	0.00
								6173395.83	2340960.68	45.00	0.00
								6173404.34	2340960.68	45.00	0.00
								6173392.64	2340369.36	45.00	0.00
								6173383.07	2340370.42	45.00	0.00
								6173379.88	2340284.27	45.00	0.00
								6173223.54	2340282.15	45.00	0.00
								6173224.60	2340335.32	45.00	0.00
								6172437.58	2340352.34	45.00	0.00
								6172436.52	2340300.23	45.00	0.00
								6172345.05	2340302.35	45.00	0.00

APPENDIX 10.1:

UNMITIGATED TYPICAL CONSTRUCTION NOISE CALCULATIONS



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13349 - Bridge Point Rancho Cucamonga CadnaA Noise Prediction Model: 13349-11_ConstructionUnmitigated.cna Date: 06.10.20 Analyst: S. Shami

Calculation Configuration

Configurat	tion
Parameter	Value
General	
Country	(user defined)
Max. Error (dB)	0.00
Max. Search Radius (#(Unit,LEN))	2000.01
Min. Dist Src to Rcvr	0.00
Partition	
Raster Factor	0.50
Max. Length of Section (#(Unit,LEN))	999.99
Min. Length of Section (#(Unit,LEN))	1.01
Min. Length of Section (%)	0.00
Proj. Line Sources	On
Proj. Area Sources	On
Ref. Time	
Reference Time Day (min)	960.00
Reference Time Night (min)	480.00
Daytime Penalty (dB)	0.00
Recr. Time Penalty (dB)	5.00
Night-time Penalty (dB)	10.00
DTM	
Standard Height (m)	0.00
Model of Terrain	Triangulation
Reflection	
max. Order of Reflection	2
Search Radius Src	100.00
Search Radius Rcvr	100.00
Max. Distance Source - Rcvr	1000.00 1000.00
Min. Distance Rvcr - Reflector	1.00 1.00
Min. Distance Source - Reflector	0.10
Industrial (ISO 9613)	
Lateral Diffraction	some Obj
Obst. within Area Src do not shield	On
Screening	Incl. Ground Att. over Barrier
	Dz with limit (20/25)
Barrier Coefficients C1,2,3	3.0 20.0 0.0
Temperature (#(Unit,TEMP))	10
rel. Humidity (%)	70
Ground Absorption G	0.50
Wind Speed for Dir. (#(Unit,SPEED))	3.0
Roads (RLS-90)	
Strictly acc. to RLS-90	
Railways (FTA/FRA)	
Aircraft (???)	
Strictly acc to AzB	

Receiver Noise Levels

Name	М.	ID		Level Lr		Limit. Value				Use	Height		Coordinates			
			Day	Night	CNEL	Day	Night	CNEL	Туре	Auto	Noise Type			Х	Y	Z
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)				(ft)		(ft)	(ft)	(ft)
1_RECEIVERS		PL_North	58.6	58.6	65.2	70.0	0.0	0.0				5.00	а	6172923.75	2341359.44	5.00
2_RECEIVERS		PL_South	59.1	59.1	65.8	70.0	0.0	0.0				5.00	а	6172814.86	2337923.52	5.00
3_RECEIVERS		PL_East	59.8	59.8	66.4	65.0	0.0	0.0				5.00	а	6173518.13	2339003.28	5.00
4_RECEIVERS		PL_West	61.1	61.1	67.8	70.0	0.0	0.0				5.00	а	6172303.77	2339093.93	5.00

Area Source(s)

Name	М.	ID	R	esult. PW	Ľ	Re	Result. PWL''			Lw/L	i	Op	erating Ti	me	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)	
BUILDING		BUILDING00001	115.9	115.9	115.9	67.5	67.5	67.5	Lw"	67.5					8
BUILDING		BUILDING00002	118.7	118.7	118.7	67.5	67.5	67.5	Lw"	67.5					8

Name	ł	lei	ght		Coordinates							
	Begin		End		х	У	z	Ground				
	(ft)		(ft)		(ft)	(ft)	(ft)	(ft)				
BUILDING	8.00	а			6172358.79	2341047.88	8.00	0.00				
					6172372.07	2341047.49	8.00	0.00				
					6172372.28	2341083.95	8.00	0.00				
				6172414.17	2341082.21	8.00	0.00					
					6172414.17	2341086.12	8.00	0.00				
					6172446.94	2341086.12	8.00	0.00				

Name	ŀ	lei	ght			Coordinat	es	
	Begin		End		х	у	z	Ground
	(ft)		(ft)		(ft)	(ft)	(ft)	(ft)
					6172446.94	2341098.06	8.00	0.00
					6172624.24	2341094.15	8.00	0.00
					6172622.94	2341042.72	8.00	0.00
					6173180.23	2341030.13	8.00	0.00
					6173181.96	2341083.08	8.00	0.00
					6173359.26	2341079.18	8.00	0.00
					6173359.48	2341074.62	8.00	0.00
					6173395.72	2341074.62	8.00	0.00
					6173394.85	2341033.60	8.00	0.00
					6173398.54	2341033.17	8.00	0.00
					6173397.89	2340976.31	8.00	0.00
					6173405.70	2340975.88	8.00	0.00
					6173394.64	2340386.47	8.00	0.00
					6173385.96	2340383.86	8.00	0.00
					6173384.05	2340328.48	8.00	0.00
				_	6173380.92	2340327.79	8.00	0.00
					6173379.19	2340297.58	8.00	0.00
					6173351.76	2340298.62	8.00	0.00
					6173351.41	2340294.80	8.00	0.00
				_	6173165.64	2340297.93	8.00	0.00
					6173165.99	2340350.01	8.00	0.00
					6172344.81	2340367.37	8.00	0.00
					6172343.77	2340367.72	8.00	0.00
BUILDING	8.00	а			6172518.86	2339911.60	8.00	0.00
					6172473.54	2339913.68	8.00	0.00
					6172477.19	2340081.91	8.00	0.00
				_	6173281.36	2340064.72	8.00	0.00
					6173277.71	2339895.45	8.00	0.00
					6173231.88	2339895.45	8.00	0.00
					6173203.71	2338420.84	8.00	0.00
					6173256.66	2338418.67	8.00	0.00
		-			6173251.45	2338205.13	8.00	0.00
					6173247.11	2338206.87	8.00	0.00
					6173247.98	2338167.80	8.00	0.00
					6173205,44	2338168.67	8.00	0.00
		-		-	6173203.71	2338166.07	8.00	0.00
					6173149,02	2338166.94	8.00	0.00
					6173149.02	2338153.92	8.00	0.00
		-		-	6172531,83	2338164.33	8.00	0.00
	1	-			6172530.10	2338178.22	8.00	0.00
		-			6172477.15	2338180.83	8.00	0.00
		-		_	6172477.15	2338185.17	8.00	0.00
					6172432.87	2338185 17	8.00	0.00
		-		_	6172436 35	2338220 76	8 00	0.00
		-			6172431 14	2338220.76	8.00	0.00
					6172435 /8	2338436 02	8.00	0.00
		-		-	6172433.40	2338436 02	8.00	0.00
					01/2403.30	200400.00	0.00	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		Coordinat	es				
						Begin	x y z Groun						
						(ft)	(ft)	(ft)	(ft)	(ft)			

APPENDIX 10.2:

MITIGATED TYPICAL CONSTRUCTION NOISE CALCULATIONS



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13349 - Bridge Point Rancho Cucamonga CadnaA Noise Prediction Model: 13349-11_ConstructionMitigated.cna Date: 06.10.20 Analyst: S. Shami

Calculation Configuration

Configurat	tion
Parameter	Value
General	
Country	(user defined)
Max. Error (dB)	0.00
Max. Search Radius (#(Unit,LEN))	2000.01
Min. Dist Src to Rcvr	0.00
Partition	
Raster Factor	0.50
Max. Length of Section (#(Unit,LEN))	999.99
Min. Length of Section (#(Unit,LEN))	1.01
Min. Length of Section (%)	0.00
Proj. Line Sources	On
Proj. Area Sources	On
Ref. Time	
Reference Time Day (min)	960.00
Reference Time Night (min)	480.00
Daytime Penalty (dB)	0.00
Recr. Time Penalty (dB)	5.00
Night-time Penalty (dB)	10.00
DTM	
Standard Height (m)	0.00
Model of Terrain	Triangulation
Reflection	
max. Order of Reflection	2
Search Radius Src	100.00
Search Radius Rcvr	100.00
Max. Distance Source - Rcvr	1000.00 1000.00
Min. Distance Rvcr - Reflector	1.00 1.00
Min. Distance Source - Reflector	0.10
Industrial (ISO 9613)	
Lateral Diffraction	some Obj
Obst. within Area Src do not shield	On
Screening	Incl. Ground Att. over Barrier
	Dz with limit (20/25)
Barrier Coefficients C1,2,3	3.0 20.0 0.0
Temperature (#(Unit,TEMP))	10
rel. Humidity (%)	70
Ground Absorption G	0.50
Wind Speed for Dir. (#(Unit,SPEED))	3.0
Roads (RLS-90)	
Strictly acc. to RLS-90	
Railways (FTA/FRA)	
Aircraft (???)	
Strictly acc to AzB	

Receiver Noise Levels

Name	м.	ID		Level Lr		Limit. Value				Use	Height		Coordinates			
			Day	Night	CNEL	Day	Night	CNEL	Type	Auto	Noise Type			Х	Y	Z
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)				(ft)		(ft)	(ft)	(ft)
1_RECEIVERS		PL_North	58.6	58.6	65.2	70.0	0.0	0.0				5.00	а	6172923.75	2341359.44	5.00
2_RECEIVERS		PL_South	59.1	59.1	65.8	70.0	0.0	0.0				5.00	а	6172814.86	2337923.52	5.00
3_RECEIVERS		PL_East	54.3	54.3	61.0	65.0	0.0	0.0				5.00	а	6173518.13	2339003.28	5.00
4_RECEIVERS		PL_West	61.1	61.1	67.8	70.0	0.0	0.0				5.00	а	6172303.77	2339093.93	5.00

Area Source(s)

Name	М.	ID	R	esult. PW	Ľ	Re	esult. PW	L''		Lw/L	i	Op	erating Ti	me	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)	
BUILDING		BUILDING00001	115.9	115.9	115.9	67.5	67.5	67.5	Lw"	67.5					8
BUILDING		BUILDING00002	118.7	118.7	118.7	67.5	67.5	67.5	Lw"	67.5					8

Name	ł	lei	ght			Coordinat	es	
	Begin		End		х	У	z	Ground
	(ft)		(ft)		(ft)	(ft)	(ft)	(ft)
BUILDING	8.00 a				6172358.79	2341047.88	8.00	0.00
	0.00 a				6172372.07	2341047.49	8.00	0.00
					6172372.28	2341083.95	8.00	0.00
					6172414.17	2341082.21	8.00	0.00
				6172414.17	2341086.12	8.00	0.00	
					6172446.94	2341086.12	8.00	0.00

Name	ŀ	lei	ght			Coordinat	es	
	Begin		End		х	у	z	Ground
	(ft)		(ft)		(ft)	(ft)	(ft)	(ft)
					6172446.94	2341098.06	8.00	0.00
					6172624.24	2341094.15	8.00	0.00
					6172622.94	2341042.72	8.00	0.00
					6173180.23	2341030.13	8.00	0.00
					6173181.96	2341083.08	8.00	0.00
					6173359.26	2341079.18	8.00	0.00
					6173359.48	2341074.62	8.00	0.00
					6173395.72	2341074.62	8.00	0.00
					6173394.85	2341033.60	8.00	0.00
					6173398.54	2341033.17	8.00	0.00
					6173397.89	2340976.31	8.00	0.00
					6173405.70	2340975.88	8.00	0.00
					6173394.64	2340386.47	8.00	0.00
					6173385.96	2340383.86	8.00	0.00
					6173384.05	2340328.48	8.00	0.00
					6173380.92	2340327.79	8.00	0.00
					6173379.19	2340297.58	8.00	0.00
					6173351.76	2340298.62	8.00	0.00
					6173351.41	2340294.80	8.00	0.00
					6173165.64	2340297.93	8.00	0.00
					6173165.99	2340350.01	8.00	0.00
					6172344.81	2340367.37	8.00	0.00
			6172343.77 2340367.72		8.00	0.00		
BUILDING	8.00	а			6172518.86	2339911.60	8.00	0.00
					6172473.54	2339913.68	8.00	0.00
					6172477.19	2340081.91	8.00	0.00
					6173281.36	2340064.72	8.00	0.00
					6173277.71	2339895.45	8.00	0.00
					6173231.88	2339895.45	8.00	0.00
					6173203.71	2338420.84	8.00	0.00
					6173256.66	2338418.67	8.00	0.00
					6173251.45	2338205.13	8.00	0.00
					6173247.11	2338206.87	8.00	0.00
					6173247.98	2338167.80	8.00	0.00
					6173205.44	2338168.67	8.00	0.00
					6173203.71	2338166.07	8.00	0.00
					6173149.02	2338166.94	8.00	0.00
					6173149.02	2338153.92	8.00	0.00
					6172531.83	2338164.33	8.00	0.00
					6172530.10	2338178.22	8.00	0.00
					6172477.15	2338180.83	8.00	0.00
					6172477.15	2338185.17	8.00	0.00
					6172432.87	2338185.17	8.00	0.00
					6172436.35	2338220.76	8.00	0.00
		-			6172431.14	2338220.76	8.00	0.00
					6172435.48	2338436.03	8.00	0.00
				_	6172489.30	2338436.03	8.00	0.00

Barrier(s)

Name	M.	ID	Abso	rption	Z-Ext.	Canti	lever	Height				Coordinates					
			left	right		horz.	vert.	Begin	Begin		egin End		x	У	z	Ground	
					(ft)	(ft)	(ft)	(ft)	(ft)		(ft)	(ft)	(ft)	(ft)			
BARRIERS		PERIMETER FENCING						6.00	6.00 a		6173543.74	2340455.95	6.00	0.00			
											6173501.69	2338379.54	6.00	0.00			

Building(s)

-	-	υ.													
Name	М.	ID	RB	Residents	Absorption	Height	Coordinates								
						Begin	x y z Grour								
						(ft)	(ft)	(ft)	(ft)	(ft)					

APPENDIX 10.3:

UNMITIGATED CONCRETE CRUSHING NOISE CALCULATIONS



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13349 - Bridge Point Rancho Cucamonga CadnaA Noise Prediction Model: 13349-11_ConcreteUnmitigated.cna Date: 06.10.20 Analyst: S. Shami

Calculation Configuration

Configurat	tion
Parameter	Value
General	
Country	(user defined)
Max. Error (dB)	0.00
Max. Search Radius (#(Unit,LEN))	2000.01
Min. Dist Src to Rcvr	0.00
Partition	
Raster Factor	0.50
Max. Length of Section (#(Unit,LEN))	999.99
Min. Length of Section (#(Unit,LEN))	1.01
Min. Length of Section (%)	0.00
Proj. Line Sources	On
Proj. Area Sources	On
Ref. Time	
Reference Time Day (min)	960.00
Reference Time Night (min)	480.00
Daytime Penalty (dB)	0.00
Recr. Time Penalty (dB)	5.00
Night-time Penalty (dB)	10.00
DTM	
Standard Height (m)	0.00
Model of Terrain	Triangulation
Reflection	
max. Order of Reflection	2
Search Radius Src	100.00
Search Radius Rcvr	100.00
Max. Distance Source - Rcvr	1000.00 1000.00
Min. Distance Rvcr - Reflector	1.00 1.00
Min. Distance Source - Reflector	0.10
Industrial (ISO 9613)	
Lateral Diffraction	some Obj
Obst. within Area Src do not shield	On
Screening	Incl. Ground Att. over Barrier
	Dz with limit (20/25)
Barrier Coefficients C1,2,3	3.0 20.0 0.0
Temperature (#(Unit,TEMP))	10
rel. Humidity (%)	70
Ground Absorption G	0.50
Wind Speed for Dir. (#(Unit,SPEED))	3.0
Roads (RLS-90)	
Strictly acc. to RLS-90	
Railways (FTA/FRA)	
Aircraft (???)	
Strictly acc to AzB	

Receiver Noise Levels

Name	м.	ID	Level Lr			Limit. Value				Land	Use	Height		Coordinates			
			Day	Night	CNEL	Day	Night	CNEL	Туре	Auto	Noise Type			Х	Y	Z	
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)				(ft)		(ft)	(ft)	(ft)	
1_RECEIVERS		PL_North	50.8	50.8	57.5	70.0	0.0	0.0				5.00	а	6172923.75	2341359.44	5.00	
2_RECEIVERS		PL_South	51.8	51.8	58.4	70.0	0.0	0.0				5.00	а	6172814.86	2337923.52	5.00	
3_RECEIVERS		PL_East	72.1	72.1	78.8	65.0	0.0	0.0				5.00	а	6173526.04	2339512.76	5.00	
4_RECEIVERS		PL_West	55.5	55.5	62.2	70.0	0.0	0.0				5.00	а	6172303.77	2339093.93	5.00	

Area Source(s)

Name	М.	ID	R	esult. PW	'L	Re	esult. PW	L''		Lw/L	i	Op	me	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)	
CONCRETE		0	118.2	118.2	118.2	83.0	83.0	83.0	Lw"	83					8

Name	ŀ	lei	ght			Coordinat	es	
	Begin		End		х	У	z	Ground
	(ft)) (ft)		(ft)	(ft)	(ft)	(ft)	
CONCRETE	8.00	a		6173269.68	2339622.47	8.00	0.00	
				6173275.28	2339627.85	8.00	0.00	
					6173281.69	2339632.23	8.00	0.00
					6173288.74	2339635.48	8.00	0.00
					6173296.23	2339637.51	8.00	0.00
				6173303.96	2339638.26	8.00	0.00	
			6173311.71	2339637.72	8.00	0.00		

Name	ŀ	Height End		l x		Coordinat	es	
	Begin		End		x	v	z	Ground
	(6+)	-	(6+)		(6+)	(6)	(6+)	(6+)
	(11)		(11)	_	(11)	(11)	(11)	(11)
		_			6173319.25	2339635.90	8.00	0.00
					6173326.39	2339632.84	8.00	0.00
		-		-	6172222.02	2220620 64	× 00	0.00
				_	0175552.52	2333028.04	0.00	0.00
					6173338.66	2339623.41	8.00	0.00
					6173343.45	2339617.30	8.00	0.00
					6173347 15	2339610.47	8 00	0.00
				-	6170050.00	2000010.17	0.00	0.00
				_	6173353.83	2339615.05	8.00	0.00
					6173361.18	2339618.47	8.00	0.00
					6173368 99	2339620.64	8.00	0.00
				-	6170000.00	22220020101	0.00	0.00
				_	61/33/7.04	2339621.50	8.00	0.00
					6173385.13	2339621.03	8.00	0.00
					6173393.03	2339619.23	8.00	0.00
				-	6172400 52	2220010.17	0.00	0.00
				_	6175400.55	2339010.17	8.00	0.00
					6173407.42	2339611.91	8.00	0.00
					6173413.53	2339606.58	8.00	0.00
					6173418 67	2330600 32	8.00	0.00
				-	0173418.07	2333000.32	0.00	0.00
					6173422.72	2339593.31	8.00	0.00
					6173425.57	2339585.72	8.00	0.00
					6173427 13	2339577 77	8 00	0.00
				-	6173427.15	2000560.67	0.00	0.00
				_	01/342/.36	2339569.67	8.00	0.00
		_			6173426.26	2339561.64	8.00	0.00
					6173432.71	2339549.21	8.00	0.00
				-	6172427.01	2220525.00	0.00	0.00
				_	01/343/.01	2339535.88	8.00	0.00
					6173439.04	2339522.03	8.00	0.00
		-		-	6173438.75	2339508.02	8.00	0.00
				-	6172426.12	2220404 27	0.00	0.00
				_	01/3436.13	2559494.27	8.00	0.00
		_			6173431.27	2339481.13	8.00	0.00
					6173424.29	2339468.99	8.00	0.00
				-	6172425.00	2220462.05	0.00	0.00
				_	0175425.09	2339403.93	8.00	0.00
					6173425.03	2339458.86	8.00	0.00
					6173424.11	2339453.84	8.00	0.00
					6173422.36	2330110.06	8 00	0.00
				-	0173422.30	2339449.00	8.00	0.00
				_	6173419.82	2339444.64	8.00	0.00
					6173416.57	2339440.71	8.00	0.00
					6173412 71	2339437 39	8 00	0.00
				-	6173412.71	2333437.33	0.00	0.00
				_	6173408.34	2339434.77	8.00	0.00
					6173403.59	2339432.92	8.00	0.00
					6173398 59	2339431 90	8 00	0.00
				-	6173330.55	2000404.74	0.00	0.00
				_	6173393.50	2339431.74	8.00	0.00
					6173388.45	2339432.45	8.00	0.00
					6173383 59	2339434.00	8 00	0.00
				-	61733303.55	2000406.04	0.00	0.00
				_	61/33/9.07	2339436.34	8.00	0.00
					6173375.01	2339439.42	8.00	0.00
					6173365.92	2339434.18	8.00	0.00
				-	6172256.07	2220420.00	8.00	0.00
				_	61/3356.07	2339430.60	8.00	0.00
					6173345.75	2339428.79	8.00	0.00
		_		_	6173335.27	2339428.79	8.00	0.00
				-	6172224.04	2220420 50	0.00	0.00
				_	01/3324.94	2339430.60	8.00	0.00
					6173315.09	2339434.18	8.00	0.00
					6173306.01	2339439.42	8.00	0.00
				-	6172207 55	2220427 20	0.00	0.00
				_	01/5297.55	2339437.30	8.00	0.00
		_			6173288.86	2339436.60	8.00	0.00
					6173280.17	2339437.32	8.00	0.00
					6173271 72	2339439 46	8 00	0.00
					6173263 72	200042.05	0.00	0.00
				_	01/3263./3	2339442.95	8.00	0.00
		_			6173256.42	2339447.70	8.00	0.00
				٦	6173249.98	2339453.58	8.00	0.00
				-	6173244 60	2339/60 /2	8.00	0.00
				_	01/3244.00	2335400.43	0.00	0.00
					6173240.40	2339468.07	8.00	0.00
			T		6173237.51	2339476.30	8.00	0.00
		_			6173236.01	2339484 88	8.00	0.00
				_	51, 52, 50, 01	2000404.00	0.00	0.00
					6173235.93	2339493.60	8.00	0.00
					6173237.27	2339502.21	8.00	0.00
					6173232.81	2339515.44	8.00	0.00
					6172222.01	2220520.74	0.00	0.00
				_	01/3230.05	2339529.13	8.00	0.00
					6173229.05	2339543.05	8.00	0.00
					6173229.82	2339556.99	8.00	0.00
				-	6170000 00	22205050.00	0.00	0.00
				_	01/3230.22	2339565.63	8.00	0.00
					6173231.91	2339574.11	8.00	0.00
					6173234.85	2339582.25	8.00	0.00
					6172220.07	2220500.00	0.00	0.00
				_	01/5238.97	2333383.86	8.00	0.00
		_	L	_	6173244.18	2339596.76	8.00	0.00
		_			6173250.36	2339602.82	8.00	0.00
					6172257 27	2220607.00	0.00	0.00
					51/5257.57	2333007.88	0.00	0.00

Barrier(s)

APPENDIX 10.4:

MITIGATED CONCRETE CRUSHING NOISE CALCULATIONS

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13349 - Bridge Point Rancho Cucamonga CadnaA Noise Prediction Model: 13349-11_ConcreteMitigated.cna

CadnaA Noise Prediction Model: 13349-11_ConcreteMitigated.cna Date: 06.10.20 Analyst: S. Shami

Calculation Configuration

Configurat	ion
Parameter	Value
General	
Country	(user defined)
Max. Error (dB)	0.00
Max. Search Radius (#(Unit,LEN))	2000.01
Min. Dist Src to Rcvr	0.00
Partition	
Raster Factor	0.50
Max. Length of Section (#(Unit,LEN))	999.99
Min. Length of Section (#(Unit,LEN))	1.01
Min. Length of Section (%)	0.00
Proj. Line Sources	On
Proj. Area Sources	On
Ref. Time	
Reference Time Day (min)	960.00
Reference Time Night (min)	480.00
Daytime Penalty (dB)	0.00
Recr. Time Penalty (dB)	5.00
Night-time Penalty (dB)	10.00
DTM	
Standard Height (m)	0.00
Model of Terrain	Triangulation
Reflection	
max. Order of Reflection	2
Search Radius Src	100.00
Search Radius Rcvr	100.00
Max. Distance Source - Rcvr	1000.00 1000.00
Min. Distance Rvcr - Reflector	1.00 1.00
Min. Distance Source - Reflector	0.10
Industrial (ISO 9613)	
Lateral Diffraction	some Obj
Obst. within Area Src do not shield	On
Screening	Incl. Ground Att. over Barrier
	Dz with limit (20/25)
Barrier Coefficients C1,2,3	3.0 20.0 0.0
Temperature (#(Unit,TEMP))	10
rel. Humidity (%)	70
Ground Absorption G	0.50
Wind Speed for Dir. (#(Unit,SPEED))	3.0
Roads (RLS-90)	
Strictly acc. to RLS-90	
Railways (FTA/FRA)	
Aircraft (???)	
Strictly acc. to AzB	

Receiver Noise Levels

Name	м.	ID	Level Lr			Limit. Value				Land	Use	Height		Coordinates			
			Day	Night	CNEL	Day	Night	CNEL	Туре	Auto	Noise Type			Х	Y	Z	
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)				(ft)		(ft)	(ft)	(ft)	
1_RECEIVERS		PL_North	50.8	50.8	57.5	70.0	0.0	0.0				5.00	а	6172923.75	2341359.44	5.00	
2_RECEIVERS		PL_South	51.8	51.8	58.4	70.0	0.0	0.0				5.00	а	6172814.86	2337923.52	5.00	
3_RECEIVERS		PL_East	64.7	64.7	71.4	65.0	0.0	0.0				5.00	а	6173526.04	2339512.76	5.00	
4_RECEIVERS		PL_West	55.5	55.5	62.2	70.0	0.0	0.0				5.00	а	6172303.77	2339093.93	5.00	

Area Source(s)

	-														
Name	М.	ID	R	esult. PW	/L	Result. PWL"				Lw/L	i	Op	erating Ti	me	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)	
CONCRETE		0	118.2	118.2	118.2	83.0	83.0	83.0	Lw"	83					8

Name	Height				Coordinates				
	Begin		End		х	У	z	Ground	
	(ft)		(ft)		(ft)	(ft)	(ft)	(ft)	
CONCRETE	8.00	а			6173269.68	2339622.47	8.00	0.00	
					6173275.28	2339627.85	8.00	0.00	
					6173281.69	2339632.23	8.00	0.00	
					6173288.74	2339635.48	8.00	0.00	
					6173296.23	2339637.51	8.00	0.00	
					6173303.96	2339638.26	8.00	0.00	
					6173311.71	2339637.72	8.00	0.00	

Name	Height				Coordinates			
	Begin		End		x	v	z	Ground
	(64)	_	(6+)		(6+)	(6)	(6+)	(6+)
	(11)		(11)	_	(11)	(11)	(11)	(11)
		_			6173319.25	2339635.90	8.00	0.00
					6173326.39	2339632.84	8.00	0.00
		_		-	6172222.02	2220620 64	× 00	0.00
				_	0175552.52	2333028.04	8.00	0.00
					6173338.66	2339623.41	8.00	0.00
					6173343.45	2339617.30	8.00	0.00
					6173347 15	2339610.47	8 00	0.00
				-	6170050.00	2000010.17	0.00	0.00
				_	6173353.83	2339615.05	8.00	0.00
					6173361.18	2339618.47	8.00	0.00
					6173368 99	2339620.64	8.00	0.00
				-	6170000.00	22220020101	0.00	0.00
				_	61/33/7.04	2339621.50	8.00	0.00
					6173385.13	2339621.03	8.00	0.00
					6173393.03	2339619.23	8.00	0.00
				-	6172400 52	2220010.17	0.00	0.00
				_	6175400.55	2339010.17	8.00	0.00
					6173407.42	2339611.91	8.00	0.00
					6173413.53	2339606.58	8.00	0.00
					6173418 67	2330600 32	8 00	0.00
				-	0173418.07	2333000.32	0.00	0.00
					6173422.72	2339593.31	8.00	0.00
					6173425.57	2339585.72	8.00	0.00
					6173427 13	2339577 77	8 00	0.00
				-	6173427.15	2000560.67	0.00	0.00
				_	01/342/.36	2339569.67	8.00	0.00
		_			6173426.26	2339561.64	8.00	0.00
					6173432.71	2339549.21	8.00	0.00
				-	6172427.01	2220525.00	0.00	0.00
				_	01/343/.01	2339535.88	8.00	0.00
		_			6173439.04	2339522.03	8.00	0.00
		-		-	6173438.75	2339508.02	8.00	0.00
				-	6172426 12	2220404 27	0.00	0.00
				_	01/3436.13	2559494.27	8.00	0.00
		_			6173431.27	2339481.13	8.00	0.00
					6173424.29	2339468.99	8.00	0.00
				-	6172425.00	2220462.05	× 00	0.00
				_	0175425.09	2339403.93	8.00	0.00
					6173425.03	2339458.86	8.00	0.00
					6173424.11	2339453.84	8.00	0.00
					6173422.36	2330110.06	8 00	0.00
				-	0173422.30	2339449.00	8.00	0.00
				_	6173419.82	2339444.64	8.00	0.00
					6173416.57	2339440.71	8.00	0.00
					6173412 71	2339437 39	8 00	0.00
				-	6173412.71	2333437.33	0.00	0.00
				_	6173408.34	2339434.77	8.00	0.00
					6173403.59	2339432.92	8.00	0.00
					6173398 59	2339431 90	8 00	0.00
				-	6173330.55	2000404.74	0.00	0.00
				_	6173393.50	2339431.74	8.00	0.00
					6173388.45	2339432.45	8.00	0.00
					6173383 59	2339434.00	8 00	0.00
				-	61733303.55	2000406.04	0.00	0.00
				_	61/33/9.07	2339436.34	8.00	0.00
					6173375.01	2339439.42	8.00	0.00
					6173365.92	2339434.18	8.00	0.00
				-	6172256.07	2220420.00	8.00	0.00
				_	61/3356.07	2339430.60	8.00	0.00
					6173345.75	2339428.79	8.00	0.00
		_		_	6173335.27	2339428.79	8.00	0.00
				-	6172224.04	2220420 50	0.00	0.00
				_	01/3324.94	2339430.60	8.00	0.00
					6173315.09	2339434.18	8.00	0.00
					6173306.01	2339439.42	8.00	0.00
				-	6172207 55	2220427 20	0.00	0.00
				_	01/5297.55	2339437.30	8.00	0.00
		_			6173288.86	2339436.60	8.00	0.00
					6173280.17	2339437.32	8.00	0.00
					6173271 72	2339439 46	8 00	0.00
					6173263 73	200042.05	0.00	0.00
				_	01/3263./3	2339442.95	8.00	0.00
		_			6173256.42	2339447.70	8.00	0.00
				٦	6173249.98	2339453.58	8.00	0.00
				-	6173244 60	2339/60 /2	8 00	0.00
				_	01/3244.00	2335400.43	0.00	0.00
					6173240.40	2339468.07	8.00	0.00
			T		6173237.51	2339476.30	8.00	0.00
		_			6173236.01	2339484 88	8 00	0.00
				_	51, 52, 50, 01	2000404.00	0.00	0.00
					6173235.93	2339493.60	8.00	0.00
					6173237.27	2339502.21	8.00	0.00
					6173232.81	2339515.44	8.00	0.00
					6172222.01	2220520.74	0.00	0.00
				_	b1/3230.05	2339529.13	8.00	0.00
					6173229.05	2339543.05	8.00	0.00
					6173229.82	2339556.99	8.00	0.00
				-	6170000 00	22205050.00	0.00	0.00
				_	01/3230.22	2339565.63	8.00	0.00
					6173231.91	2339574.11	8.00	0.00
					6173234.85	2339582.25	8.00	0.00
				-	6172320 07	2220500.00	0.00	0.00
				_	01/5238.97	2333383.86	8.00	0.00
		_	L	_	6173244.18	2339596.76	8.00	0.00
				-	6173250.36	2339602.82	8.00	0.00
					6172257 27	2220607.00	0.00	0.00
					51/5257.57	2333007.88	0.00	0.00

Barrier(s)
Name	М.	ID	Absorption		Z-Ext.	Cantilever		Height			Coordinates			
			left	right		horz.	vert.	Begin		End	x	у	z	Ground
					(ft)	(ft)	(ft)	(ft)		(ft)	(ft)	(ft)	(ft)	(ft)
BARRIERS		PERIMETER FENCING						6.00	а		6173543.74	2340455.95	6.00	0.00
											6173501.69	2338379.54	6.00	0.00

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