



Towne Centre View

NOISE IMPACT ANALYSIS

CITY OF SAN DIEGO

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LIST OF ABBREVIATED TERMS

(1)	Reference
ADT	Average Daily Traffic
ANSI	American National Standards Institute
BNSF	Burlington Northern Santa Fe Railroad
Caltrans	California Department of Transportation
CEQA	California Environmental Quality Act
CNEL	Community Noise Equivalent Level
dBA	A-weighted decibels
EPA	Environmental Protection Agency
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
Hz	Hertz
I-15	Interstate 15
INCE	Institute of Noise Control Engineering
L_{eq}	Equivalent continuous (average) sound level
L_{max}	Maximum level measured over the time interval
L_{min}	Minimum level measured over the time interval
mph	Miles per hour
OPR	Office of Planning and Research
PPV	Peak particle velocity
Project	Towne Centre View
REMEL	Reference Energy Mean Emission Level
TGA	Trip Generation Assessment

1 INTRODUCTION

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

1.1 SITE LOCATION

The proposed Towne Centre View site is located at the end Towne Centre Drive, as shown on Exhibit 1-A. The Project site is located north of the Eastgate Technology Park area and is designated Scientific Research land use in the University Community Plan (Subarea 11). Interstate 805 is located approximately 1,500 feet east and I-5 is located approximately 2,900 feet west of the Project site. The eastern portion of the Project site is currently developed with 192,365 square feet of research and development and a 7,370 sf covered courtyard. Based on a review of historical aerial photographs, the existing land uses have been on-site since 2002 with one structure constructed in 2007. The western portion of the Project site is entitled for 190,000 sf of research and development (R&D) uses (pursuant to Coastal Development Permit 117798 and Site Development Permit 2758) and is currently being used as a staging area for the Mid-Coast Trolley construction. The nearest airport is the Marine Air Corps Station (MCAS) Miramar, which is located roughly 3 miles southeast of the Project site.

1.2 PROJECT DESCRIPTION

Exhibit 1-B illustrates the preliminary site plan. The Project involves redevelopment of the Project site with a five (5)-buildings campus. The proposed land uses include research, laboratory, technology, and office land uses. Buildings A through E would have a gross floor area (GFA) of 999,386 sf, with additional area consisting of balcony and roof deck space. A podium parking structure would be provided generally in the southern portion of the Project site (primarily subterranean under the proposed Buildings A through D), and a parking garage would be provided in the eastern portion of the Project site.

At the time this energy study was prepared, the future tenants of the proposed Project are unknown. This analysis is intended to describe energy usage associated with the expected typical operational activities at the Project site. The Project is anticipated to generate a net total of 6,461 trip-ends per day with 1,034 AM peak hour trips and 905 PM peak hour trips (1).

EXHIBIT 1-A: LOCATION MAP

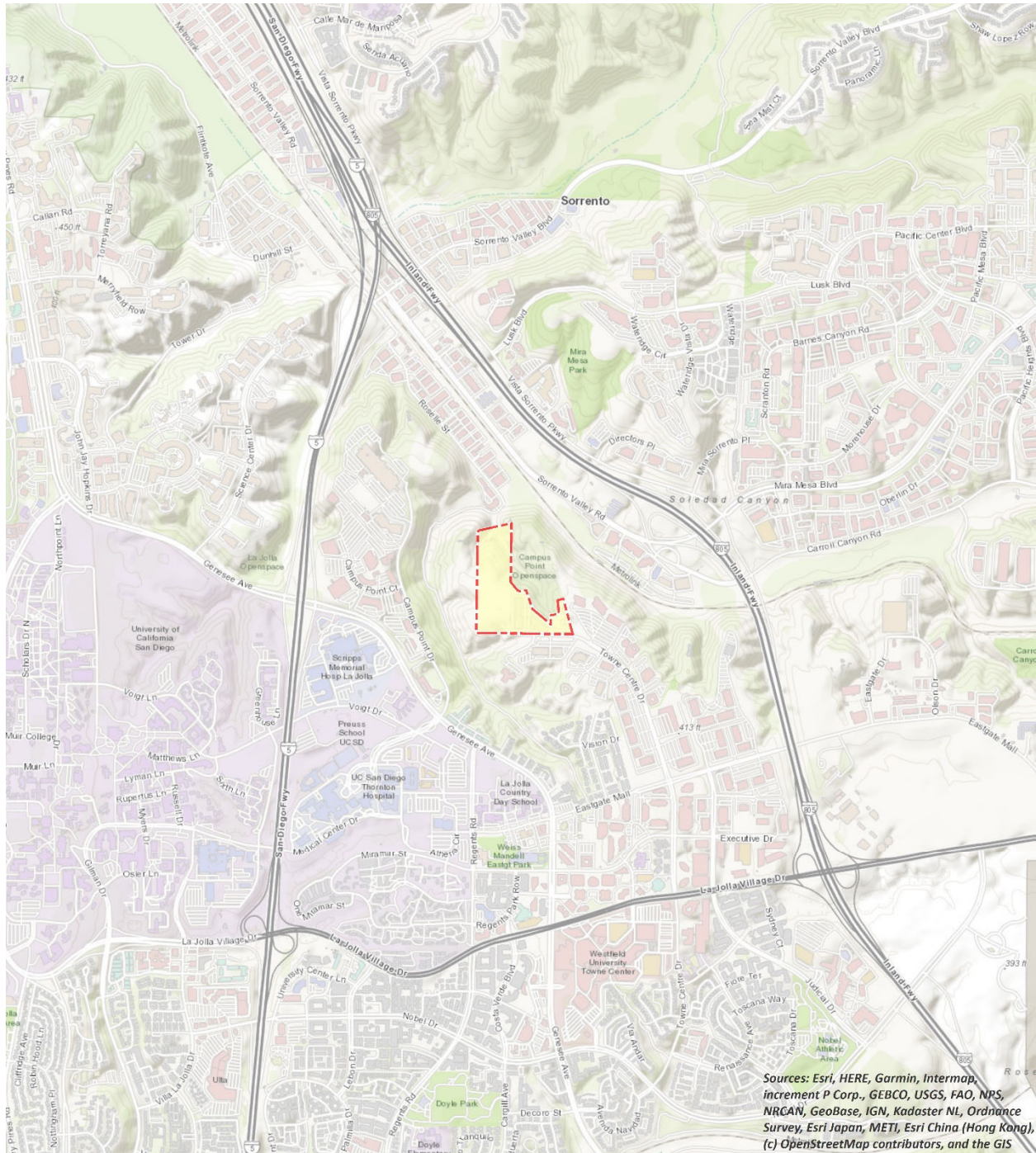
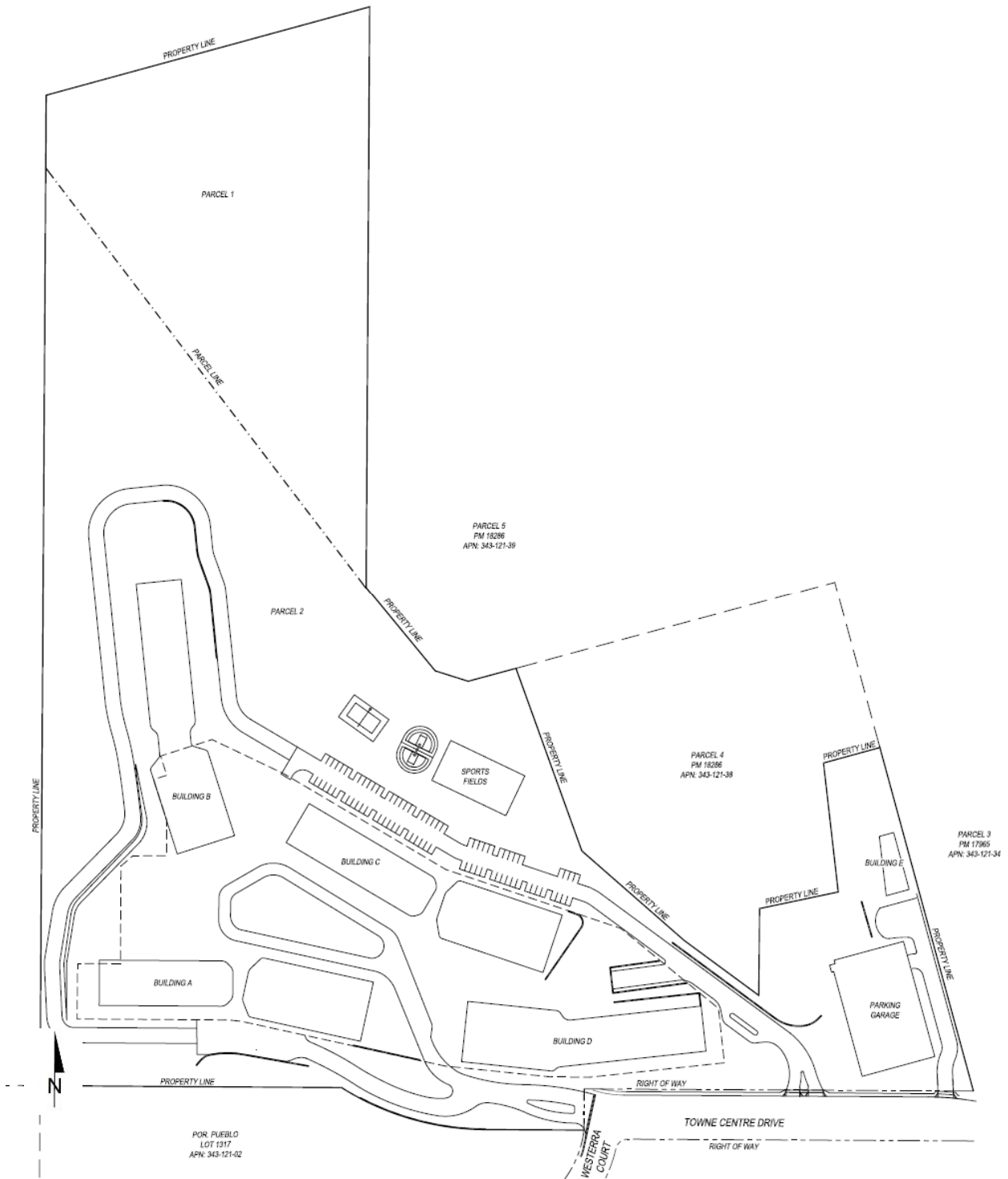


EXHIBIT 1-B: SITE PLAN



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2 FUNDAMENTALS

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

EXHIBIT 2-A: TYPICAL NOISE LEVELS

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

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

2.1 RANGE OF NOISE

Since the range of intensities that the human ear can detect is so large, the scale frequently used to measure intensity is a scale based on multiples of 10, the logarithmic scale. The scale for measuring intensity is the decibel scale. Each interval of 10 decibels indicates a sound energy ten times greater than before, which is perceived by the human ear as being roughly twice as loud. (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 and is commonly used to describe the “average” noise levels within the environment.

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

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

2.3 SOUND PROPAGATION

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

2.3.1 GEOMETRIC SPREADING

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

as cylindrical spreading. Sound levels attenuate at a rate of 3 dB for each doubling of distance from a line source. (2)

2.3.2 GROUND ABSORPTION

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

2.3.3 ATMOSPHERIC EFFECTS

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

2.3.4 SHIELDING

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

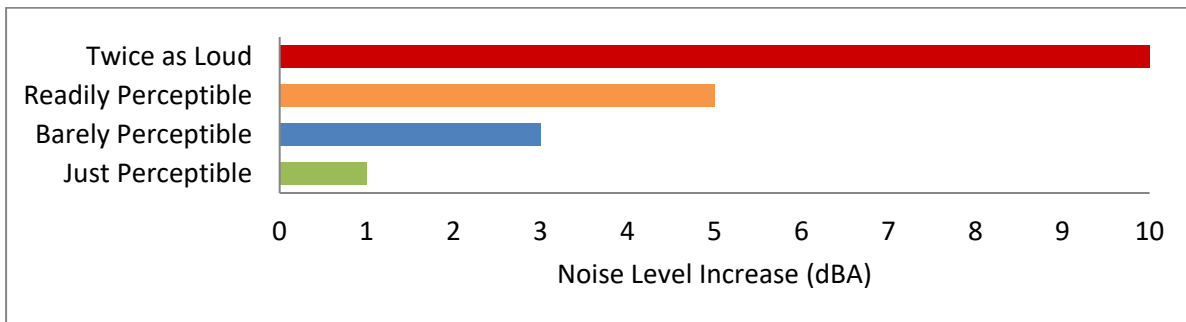
Community responses to noise varies depending upon everyone's susceptibility to noise and personal attitudes about noise. Several factors are related to the level of community annoyance including:

- 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; and,
- 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 is considered *barely perceptible*, and changes of 5 dBA are considered *readily perceptible*. (4)

EXHIBIT 2-B: NOISE LEVEL INCREASE PERCEPTION



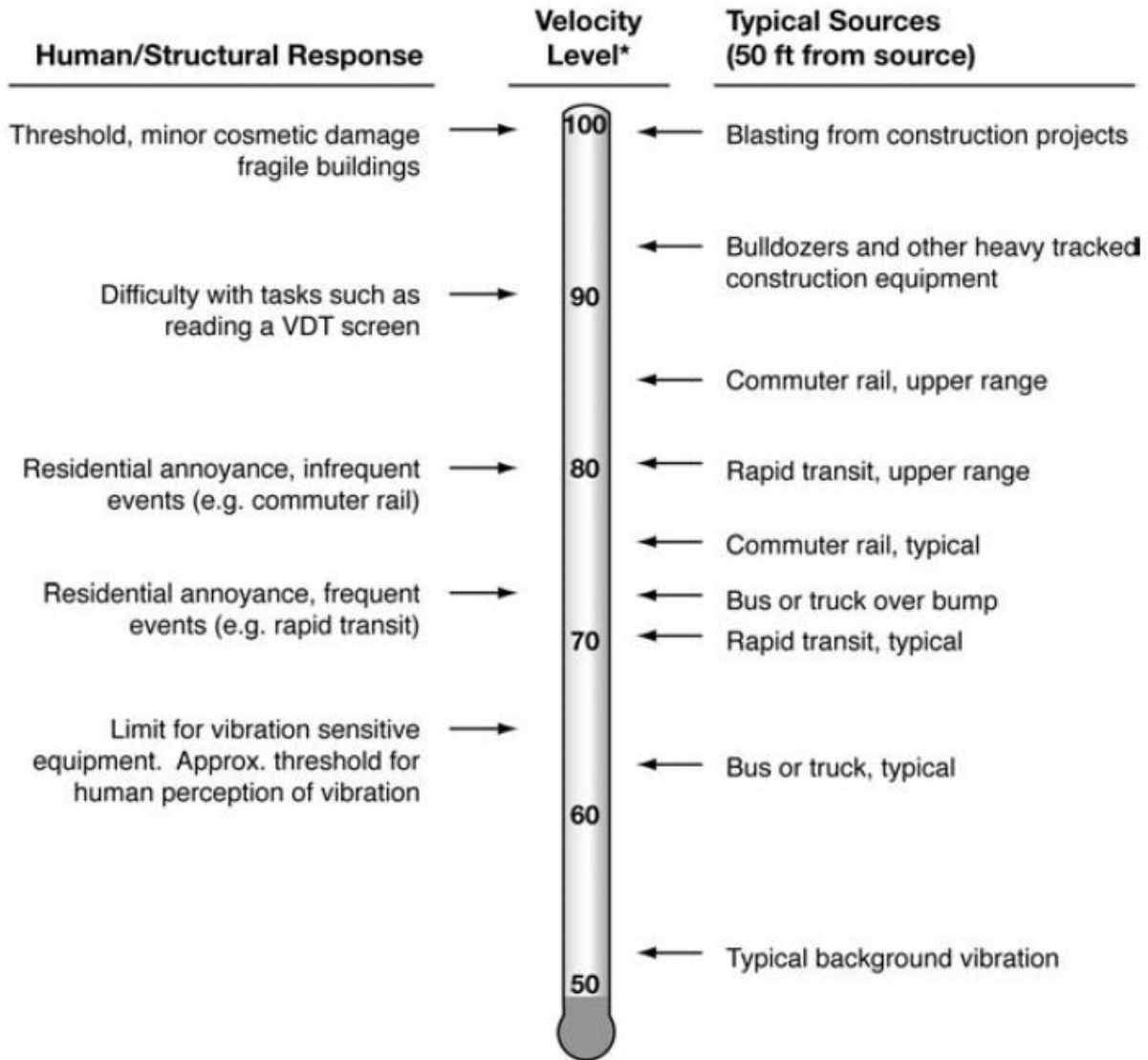
2.8 VIBRATION

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 (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 (9).

3.2 STATE OF CALIFORNIA BUILDING CODE

The State of California's noise insulation standards for non-residential standards are codified in Title 24, Part 11, the California Green Building Standards Code Section 5.507.4, Acoustical Control. 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 assemblies must be used when buildings are developed near major transportation noise sources, and where such noise sources create an exterior noise level of 65 CNEL or higher. Acoustical studies that accompany building plans must demonstrate that the structure has been designed to limit interior noise in habitable rooms to acceptable noise levels. For new non-residential buildings, the acceptable interior noise limit in occupied spaces is 50 CNEL. CalGreen exempts "buildings with few or no occupants or where occupants are not likely to be affected by exterior noise, as determined by the enforcement authority, such as factories, stadiums, storage, enclosed parking structures and utility buildings."

3.3 CITY OF SAN DIEGO NOISE ELEMENT

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

EXHIBIT 3-A: LAND USE - NOISE COMPATIBILITY GUIDELINES

Land Use Category	Exterior Noise Exposure (dBA CNEL)			
	60	65	70	75
<i>Open Space and Parks and Recreational</i>				
Community & Neighborhood Parks; Passive Recreation				
Regional Parks; Outdoor Spectator Sports, Golf Courses; Athletic Fields; Outdoor Spectator Sports, Water Recreational Facilities; Horse Stables; Park Maint. Facilities				
<i>Agricultural</i>				
Crop Raising & Farming; Aquaculture, Dairies; Horticulture Nurseries & Greenhouses; Animal Raising, Maintain & Keeping; Commercial Stables				
<i>Residential</i>				
Single Units; Mobile Homes; Senior Housing		45		
Multiple Units; Mixed-Use Commercial/Residential; Live Work; Group Living Accommodations <i>*For uses affected by aircraft noise, refer to Policies NE-D.2. & NE-D.3.</i>		45	45*	
<i>Institutional</i>				
Hospitals; Nursing Facilities; Intermediate Care Facilities; Kindergarten through Grade 12 Educational Facilities; Libraries; Museums; Places of Worship; Child Care Facilities		45		
Vocational or Professional Educational Facilities; Higher Education Institution Facilities (Community or Junior Colleges, Colleges, or Universities)		45	45	
Cemeteries				
<i>Sales</i>				
Building Supplies/Equipment; Food, Beverages & Groceries; Pets & Pet Supplies; Sundries, Pharmaceutical, & Convenience Sales; Wearing Apparel & Accessories			50	50
<i>Commercial Services</i>				
Building Services; Business Support; Eating & Drinking; Financial Institutions; Assembly & Entertainment; Radio & Television Studios; Golf Course Support			50	50
Visitor Accommodations		45	45	45
<i>Offices</i>				
Business & Professional; Government; Medical, Dental & Health Practitioner; Regional & Corporate Headquarters			50	50
<i>Vehicle and Vehicular Equipment Sales and Services Use</i>				
Commercial or Personal Vehicle Repair & Maintenance; Commercial or Personal Vehicle Sales & Rentals; Vehicle Equipment & Supplies Sales & Rentals; Vehicle Parking				
<i>Wholesale, Distribution, Storage Use Category</i>				
Equipment & Materials Storage Yards; Moving & Storage Facilities; Warehouse; Wholesale Distribution				
<i>Industrial</i>				
Heavy Manufacturing; Light Manufacturing; Marine Industry; Trucking & Transportation Terminals; Mining & Extractive Industries				
Research & Development			50	

	Compatible	Indoor Uses	Standard construction methods should attenuate exterior noise to an acceptable indoor noise level. Refer to Section I.
		Outdoor Uses	Activities associated with the land use may be carried out.
	Conditionally Compatible	Indoor Uses	Building structure must attenuate exterior noise to the indoor noise level indicated by the number for occupied areas. Refer to Section I.
		Outdoor Uses	Feasible noise mitigation techniques should be analyzed and incorporated to make the outdoor activities acceptable. Refer to Section I.
	Incompatible	Indoor Uses	New construction should not be undertaken.
		Outdoor Uses	Severe noise interference makes outdoor activities unacceptable.

Source: City of San Diego General Plan Noise Element, Table NE-3.

The Land Use Compatibility for Community Noise Exposure matrix describes categories of compatibility and not specific noise standards. (10) For conditionally compatible exterior noise levels, approaching 75 dBA CNEL for office land uses, building structures must attenuate exterior noise to the indoor noise level of 50 CNEL for occupied areas.

3.4 CITY OF SAN DIEGO NOISE ORDINANCE

While the City of San Diego General Plan Noise Element provides guidelines to assess transportation noise on sensitive land uses, the City Municipal Code Section 59.5.0401 has established noise level limits for operational (stationary) and construction related noise sources.

3.4.1 OPERATIONAL NOISE STANDARDS

Chapter 5, Public Safety, Morals, and Welfare-Article 9.5 of the City of San Diego Municipal Code contains the City’s Noise Abatement and Control Ordinance. Table 3-1 outlines the operational noise standards in Section 59.5.0401 of the City of San Diego Noise Abatement and Control Ordinance (11):

- A. It shall be unlawful for any person to cause noise by any means to the extent that the one-hour average sound level exceeds the applicable limit...
- B. The sound level limit at a location on a boundary between two zoning districts is the arithmetic mean of the respective limits for the two districts...

TABLE 3-1: OPERATIONAL NOISE STANDARDS

City	Land Use	Exterior Noise Level Standards (dBA Leq) ³		
		Daytime	Evening	Nighttime
City of San Diego ¹	Single-Family Residential	50	45	40
	Multi-Family Residential	55	50	45
	All Other Residential	60	55	50
	Commercial	65	60	60
	Industrial or Agricultural	75	75	75

¹ City of San Diego Municipal Code, Section 59.5.0401 (Appendix 3.1).

² Leq represents a steady state sound level containing the same total energy as a time varying signal over a given period.

³ "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.

3.4.2 CONSTRUCTION NOISE STANDARDS

To control noise impacts associated with the construction of the proposed Project the City of San Diego has established limits in Section 59.5.0404 to the hours of construction and noise levels. Relevant to the Project, according to of the City’s Noise Abatement and Control Ordinance:

- A. It shall be unlawful for any person, between the hours of 7:00 P.M. of any day and 7:00 A.M. of the following day, or on legal holidays as specified in Section 21.0104 of the San Diego Municipal Code, with exception of Columbus Day and Washington’s Birthday, or on Sundays, to erect, construct, demolish, excavate for, alter or repair any building or structure in such a manner as to create disturbing, excessive or offensive noise unless

a permit has been applied for and granted beforehand by the Noise Abatement and Control Administrator...

- B. It shall be unlawful for any person, including the City of San Diego, to conduct any construction activity so as to cause, at or beyond the property lines of any property zoned residential, an average sound level greater than 75 decibels during the 12-hour period from 7:00 A.M. to 7:00 P.M.

3.5 AIRCRAFT NOISE

The San Diego County Regional Airport Authority (SDCRAA), serving as the Airport Land Use Commission, is responsible for the management and development of the Airport Land Use Compatibility Plan (ALUCP) for each public use and military airport in San Diego County. Each ALUCP identifies land use and noise level compatibility due to operations at airports as well as forecasted noise level contours based on future operations at each airport. These noise level contours and land use compatibility noise levels are used in determining whether a proposed land use is consistent with forecasted noise levels. Table 3-2 presents the land uses and the compatible noise levels. The ALUCP for the Project Site is the Marine Corps Air Station (MCAS) Miramar ALUCP.

3.6 CONSTRUCTION VIBRATION STANDARDS

Construction activity can result in varying degrees of ground-borne vibration, depending on the equipment and methods used, distance to the affected structures and soil type. Construction vibration complaints are generally associated with pile driving and rock blasting. Other construction equipment such as air compressors, light trucks, hydraulic loaders, etc., generates little or no ground vibration. (12) Occasionally large bulldozers and loaded trucks can cause perceptible vibration levels at close proximity.

To analyze vibration impacts originating from the construction of the vibration-generating construction activities are appropriately evaluated against standards established under a City's Municipal Code, if such standards exist. However, the City of San Diego does not identify specific construction vibration level limits. Since the City of San Diego does not identify any construction related vibration standards, this analysis relies on the Caltrans *Transportation and Construction Vibration Guidance Manual*, (13 p. 38) Table 19 and 20, vibration damage and annoyance criteria are used in this noise study to assess potential temporary construction-related impacts at adjacent receiver locations.

BUILDING DAMAGE:

While ground vibrations from construction activities do not often reach the levels that can damage structures, fragile buildings must receive special consideration. The construction vibration damage potential criteria include consideration of the building conditions. (3 p. 182) Table 3-3 describes the maximum acceptable transient and continuous vibration building damage potential levels by structure type and condition.

TABLE 3-2: MCAS MIRAMAR AIRPORT NOISE COMPATIBILITY CRITERIA

Land Use Category 1 Note: Multiple land use categories and compatibility criteria may apply to a project	Exterior Noise Exposure (dB CNEL)					
	50-55	55-60	60-65	65-70	70-75	75-80
<i>Agricultural and Animal-Related</i>						
nature preserves; wildlife preserves; horse stables; livestock breeding or farming		A	A	A	A	
zoos; animal shelters/kennels; interactive nature exhibits			A	A		
agriculture (except residences and livestock); greenhouses; fishing						A
<i>Recreational</i>						
children-oriented neighborhood parks; playgrounds			A			
campgrounds; recreational vehicle/motor home parks						
community parks; regional parks; golf courses; tennis courts; athletic fields; outdoor spectator sports; fairgrounds; water recreation facilities				A		
recreation buildings; gymnasiums; club houses; athletic clubs; dance studios				50	50	
<i>Public</i>						
outdoor amphitheaters		A	A			
children’s schools (K-12); day care centers (>14 children)			45			
libraries			45			
auditoriums; concert halls; indoor arenas; places of worship			45	45		
adult schools; colleges; universities ²			45	45		
prisons; reformatories				50		
public safety facilities (e.g., police, fire stations)				50	50	
cemeteries; cemetery chapels; mortuaries				45 A	45 A	
<i>Residential, Lodging, and Care</i>						
residential (including single-family, multi-family, and mobile homes); family day care homes (14 children)			45			
extended-stay hotels; retirement homes; assisted living; hospitals; nursing homes; intermediate care facilities			45			
hotels; motels; other transient lodging ³			45	45		
<i>Commercial and Industrial</i>						
office buildings; medical clinics; clinical laboratories; radio, television, recording studios				50	50	
retail sales; eating/drinking establishments; movie theaters; personal services				50	50 B	
wholesale sales; warehouses; mini/other indoor storage					50 C	50 C

TABLE 3-2: MCAS MIRAMAR AIRPORT NOISE COMPATIBILITY CRITERIA

Land Use Category 1 Note: Multiple land use categories and compatibility criteria may apply to a project		Exterior Noise Exposure (dB CNEL)					
		50-55	55-60	60-65	65-70	70-75	75-80
industrial; manufacturing; research & development; auto, marine, other sales & repair services; car washes; gas stations; trucking, transportation terminals						50 C	50 C
extractive industry; utilities; road, rail rights-of-way; outdoor storage; public works yards; automobile parking; automobile dismantling; solid waste facilities							50 C
Land Use Acceptability		Interpretation/Comments					
	<i>Compatible</i>	<p><i>Indoor Uses:</i> Standard construction methods will sufficiently attenuate exterior noise to an acceptable indoor community noise equivalent level (CNEL)</p> <p><i>Outdoor Uses:</i> Activities associated with the land use may be carried out with essentially no interference from aircraft noise</p>					
	<i>Conditional</i>	<p><i>Indoor Uses:</i> Building must be capable of attenuating exterior noise to the indoor CNEL indicated by the number; standard construction methods will normally suffice</p> <p><i>Outdoor Uses:</i> CNEL is acceptable for outdoor activities, although some noise interference may occur.</p>					
	<i>Conditional</i>	<p><i>Indoor or Outdoor Uses:</i></p> <p>A Caution should be exercised with regard to noise-sensitive outdoor uses; these uses are likely to be disrupted by aircraft noise events; acceptability is dependent upon characteristics of the specific use⁴</p> <p>B Outdoor dining or gathering places incompatible above CNEL 70 dB</p> <p>C Sound attenuation must be provided for associated office, retail, and other noise-sensitive indoor spaces sufficient to reduce exterior noise to an interior maximum of CNEL 50 dB</p>					
	<i>Incompatible</i>	<p><i>Indoor Uses:</i> Unacceptable noise interference if windows are open; at exposures above 65 dB CNEL, extensive mitigation techniques required to make the indoor environment acceptable for performance of activities</p> <p><i>Outdoor Uses:</i> Severe noise interference makes outdoor activities unacceptable</p>					

Notes

- ¹ Land uses not specifically listed shall be evaluated using the criteria for similar uses.
 - ² Applies only to classrooms, offices, and related indoor uses. Laboratory facilities, gymnasiums, outdoor athletic facilities, and other uses to be evaluated as indicated for those land use categories.
 - ³ Hotels and motels are lodging intended for stays by an individual person of no more than 30 days consecutively and no more than 90 days total per year; facilities for longer stays are in extended-stay hotels category.
 - ⁴ Noise-sensitive land uses are ones for which the associated primary activities, whether indoor or outdoor, are susceptible to disruption by loud noise events. The most common types of noise-sensitive land uses include, but are not limited to, the following: residences, hospitals, nursing facilities, intermediate care facilities, educational facilities, libraries, museums, concert halls, places of worship, child-care facilities, and certain types of passive recreational parks and open space.
- Source:

TABLE 3-3: BUILDING DAMAGE VIBRATION CRITERIA

Structure and Condition	Maximum Transient Vibration Levels PPV (in/sec)	Maximum Continuous Vibration Levels PPV (in/sec)
Extremely fragile historic buildings	0.12	0.08
Fragile buildings	0.2	0.1
Historic and some old buildings	0.5	0.25
Older residential structures	0.5	0.3
New residential structures	1.0	0.5
Modern industrial/commercial buildings	2.0	0.5

Caltrans Transportation and Construction Vibration Guidance Manual, April 2020, Tables 19, p. 38.

Based on a review of aerial photography, the residential building near the Project Site were developed prior to 1994 and thus can be described as older residential structures with a maximum acceptable transient vibration threshold of 0.5 PPV (in/sec).

TABLE 3-4: HUMAN ANNOYANCE VIBRATION CRITERIA

Human Response	Maximum Transient Vibration Levels PPV (in/sec)	Maximum Continuous Vibration Levels PPV (in/sec)
Barely perceptible	0.04	0.01
Distinctly perceptible	0.25	0.04
Strongly perceptible	0.9	0.10
Severe	2.0	0.4

Caltrans Transportation and Construction Vibration Guidance Manual, April 2020, Tables 20, p. 38.

HUMAN ANNOYANCE

For sensitive residential receiver locations, potential annoyance due to construction-related vibration levels is evaluated based on the Caltrans annoyance potential criteria. Table 3-4 describes the maximum acceptable criteria used to describe the transient and continuous sources of vibration. To describe the human annoyance due to construction vibration levels, this analysis relies on the distinctly perceptible maximum transient vibration threshold of 0.25 PPV (in/sec).

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4 SIGNIFICANCE CRITERIA

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

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

4.1 SIGNIFICANCE CRITERIA SUMMARY

TRAFFIC NOISE

Per the City Significance Determination Thresholds, traffic noise impacts would be considered significant if any of the following occur as a direct result of the proposed development. Table 4-1 presents a summary of the City’s traffic noise significance criteria.

TABLE 4-1: TRAFFIC NOISE SIGNIFICANCE CRITERIA

Structure of Proposed Use that would be Impacted by Traffic Noise	Interior Space (CNEL)	Exterior Useable Space (CNEL)	General Indication of Potential Significance
Single-family detached	45 dB	65 dB	Structure or outdoor useable area is <50 feet from the center of the closest (outside) lane on a street with existing or future ADTs >7,500
Multi-family, school, library, hospital, day care center, hotel, motel, park, convalescent home	Development Services Department ensures 45 dB pursuant to Title 24	65 dB	
Office, church, business, professional uses	n/a	70 dB	Structure or outdoor useable area is <50 feet from the center of the closest lane on a street with existing or future ADTs >20,000
Commercial, retail, industrial, outdoor spectator sports uses	n/a	75 dB	Structure or outdoor useable area is <50 feet from the center of the closest lane on a street with existing or future ADTs >40,000

In addition to the criteria in Table 4-1 the City considers a 3 dB or greater increase in traffic noise levels significant, where traffic noise levels currently exceed the significance thresholds in Table 4-1. The City does not identify a threshold for traffic noise levels increases when the existing or future noise levels do not exceed the thresholds in Table 4-1, therefore, for purposes of this analysis, the County of San Diego traffic noise increase thresholds of 10 dB is used to determine where a significant noise level increase occurs when noise levels do not exceed the thresholds in Table 4-1 (14). Similarly, a cumulatively considerable impact would occur if the Project increased future cumulative by more than 3 dBA CNEL where noise levels would exceed those identified in Table 4-1 or 10 dBA CNEL where noise levels do not exceed the standards shown in Table 4-1. The project's contribution to the increase would be cumulatively considerable if it is 2 dBA CNEL or more.

AIRCRAFT NOISE

The City Significance Determination Thresholds relative to aircraft noise impacts are primarily focused on noise impacts from San Diego Internal Airport and noise sensitive land uses such as residences, hospitals, schools, and daycare centers. The City thresholds do not specifically identify aircraft noise associated with MCAS Miramar. However, the San Diego County Airport Land Use Commission has developed an Airport Land Use Compatibility Plan (ALUCP) for MSAC Miramar (15). The MCAS Miramar ALUCP provides aircraft noise levels contours, the airport influence zones, and a land use compatibility table for assessing noise impacts to various land uses. The land use compatibility table of the MCAS Miramar ALUCP is shown as Table 3-2.

STATIONARY NOISE SOURCES

Per the City Significance Determination Guidelines, operational noise levels would be considered significant if they exceed the noise level limits shown in Table 3-1 at the property line of the Project site. Further the thresholds state "If a non-residential use, such as a commercial, industrial, or school use, is proposed to abut an existing residential use, the decibel level at the property line should be the arithmetic mean of the decibel levels allowed for each use as set forth in Section 59.5.0401 of the Municipal Code. Although the noise level above could be consistent with the City's Noise Ordinance Standards, a noise level above 65 dB (A) CNEL at the residential property line could be considered a significant environmental impact." Additionally, if stationary sources of noise cause the ambient noise level to increase by 5 dBA or more would be considered significant.

CONSTRUCTION NOISE

Per the City Significance Determination Guidelines, "construction noise levels measured at or beyond the property lines of any property zoned residential shall not exceed an average sound level greater than 75 dBA L_{eq} during the period of 7:00 a.m. to 7:00 p.m. In addition, construction activity that would create disturbing, excessive, or offensive noise is prohibited between the hours of 7:00 p.m. of any day and 7:00 a.m. of the following day, or on legal holidays as specified in Section 21.04 of the San Diego Municipal Code, with exception of Columbus Day and Washington's Birthday, or on Sundays. Construction may occur during these periods only if a permit has been applied for and granted beforehand by the Noise Abatement and Control Administrator, in conformance with San Diego Municipal Code Section 59.5.0404. Additionally,

where temporary construction noise would substantially interfere with normal business communication, or affect sensitive receptors, such as day care facilities, a significant noise impact may be identified. The City does not specify a noise level increase limit that would be considered significant, therefore, for purposes of this analysis a 10 dBA L_{eq} increase in ambient noise levels at a residential property would be considered significant.

CONSTRUCTION VIBRATION

If Project-related construction activities create vibration levels which exceed the Caltrans guidelines for the maximum-acceptable vibration criteria of 0.5 in/sec for older residential uses or 0.25 PPV in/sec for Human annoyance, the vibration may be considered significant. Vibration thresholds are summarized in Table 4-2.

TABLE 4-2: CONSTRUCTION NOISE AND VIBRATION SIGNIFICANCE CRITERIA

Analysis	Condition(s)	Significance Criteria	
		Daytime	Nighttime
Construction	Exempt from the exterior noise level standards between the hours of 7:00 p.m. and 7:00 a.m. on weekdays, between the hours of 5:00 p.m. and 8:00 a.m. on Saturdays, or at any time on Sunday or a federal holiday. Construction is not allowed outside these hours without a permit. ¹		
	Noise Level Threshold ¹	75 dBA L_{eq} at Nearest Residential Property Line	n/a
		Increase ambient by 10 dBA L_{eq}	n/a
	Structural Vibration Level Threshold ²	0.5 PPV (in/sec)	n/a
Annoyance Vibration Level Threshold ²	0.25 PPV (in/sec)	n/a	

¹ City of San Diego Municipal Code Section 59.5.0404

² Caltrans Transportation and Construction Vibration Manual, April 2020 Table 19.

"Daytime" = 7:00 a.m. - 10:00 p.m.; "Nighttime" = 10:00 p.m. - 7:00 a.m.; "PPV" = Peak Particle Velocity

NOISE/LAND USE COMPATIBILITY

Per the City Significance Determination Guidelines, noise is one factor to be considered in determining whether a land use is compatible. Land use compatibility noise factors are presented in Exhibit 3-A. Based on Exhibit 3-A, the Project would be compatible with noise levels up to 65 dBA CNEL, conditionally compatible with noise levels up to 75 dBA CNEL, and incompatible with noise levels over 75 dBA CNEL. Under the conditionally compatible criteria, the structure must be capable if reducing interior noise levels 50 dBA CNEL or less.

SENSITIVE WILDLIFE

Per the City Significance Determination Guidelines, "noise mitigation may be required for significant noise impacts to certain avian species during their breeding season, depending upon the location of the project such as in or adjacent to an MHPA, including construction during the breeding season of these species" that would "exceed 60dB(A) or existing ambient noise level if above 60dB(A)." The City also states, "that significant noise impacts to the California gnatcatcher are only analyzed if the project is within an MHPA; there are no restrictions for the gnatcatcher outside the MHPA any time of year."

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5 EXISTING NOISE LEVEL MEASUREMENTS

To assess the existing noise level environment, 24-hour noise level measurements were taken at four locations in the vicinity of the Project site. The receiver locations were selected to describe and document the existing noise environment in the vicinity of Project site. Exhibit 5-A provides the boundaries of the Project site and the noise level measurement locations. To fully describe the existing noise conditions, noise level measurements were collected by Urban Crossroads, Inc. on Wednesday, June 24th, 2020. Appendix 5.1 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, existing ambient noise levels are estimated to be 2.5 dBA L_{eq} lower than during non-pandemic times 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.

5.1 MEASUREMENT PROCEDURE AND CRITERIA

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

5.2 NOISE MEASUREMENT LOCATIONS

The long-term noise level measurements were positioned as close to the nearest sensitive receiver locations as possible to assess the existing ambient hourly noise levels surrounding the Project site. Both Caltrans and the Federal Transit Authority (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.* (17)

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. (17) 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. Noise measurement locations in the Project study area are described below and shown on Exhibit 5-A. All distances are measured from the Project site boundary to the measurement location.

- L1: Location L1 was located at the nearest façade of the Pacific Sorrento Technology Park building at 10150 Sorrento Valley Road., approximately 1,508 feet east of the Project site.
- L2: Location L2 was located at an existing multi family residence in the Playmor La Jolla development at 9669 Caminito Del Feliz, approximately 1,380 feet south of the Project site.
- L3: Location L3 was located at an existing multi-family residence at the end of a Private Drive, called Leeds Street, nearest the Project site within the La Jolla Vista Townhouse community, approximately 1,218 feet south of the Project site.
- L4: Location L4 was located at Scripps Health Campus west of the Project site. L4 is located at 10140 Campus Pointe Drive, approximately 1,259 feet west of the Project site.

5.3 NOISE MEASUREMENT RESULTS

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

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

Location ¹	Description	Energy Average Noise Level (dBA L_{eq}) ²		CNEL
		Daytime	Nighttime	
L1	10150 Sorrento Valley Road	56.6	50.7	59.8
L2	9669 Caminito Del Feliz	52.4	39.5	52.5
L3	Western end of Leeds Street	48.2	39.3	49.6
L4	10140 Campus Point Drive	64.1	55.4	64.8

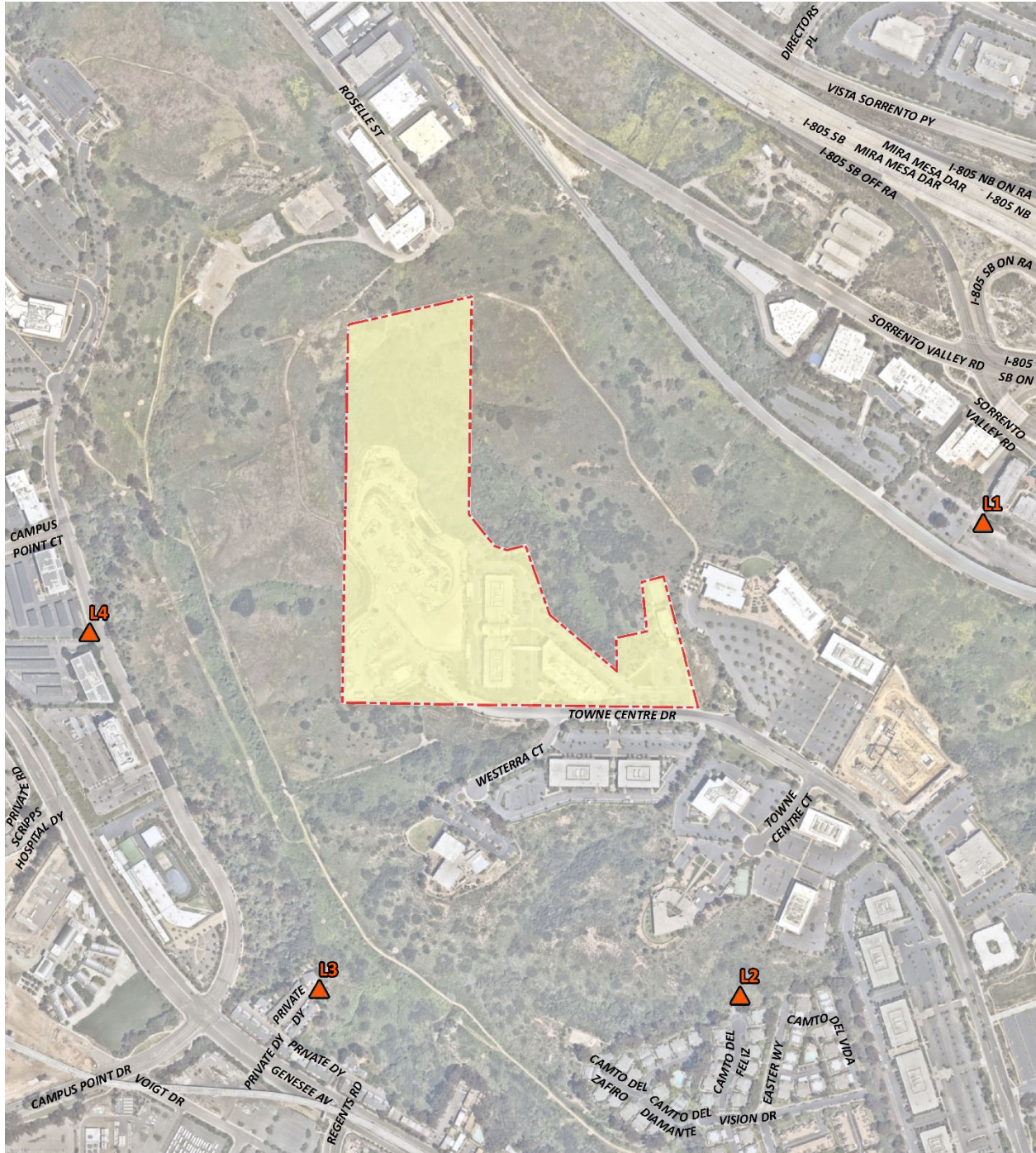
¹ See Exhibit 5-A for the noise level measurement locations.

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

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

Table 5-1 provides the (energy average) noise levels used to describe the daytime and nighttime ambient conditions. These daytime and nighttime energy average noise levels represent the average of all hourly noise levels observed during these time periods expressed as a single number. Appendix 5.2 provides summary worksheets of the noise levels for each hour as well as the minimum, maximum, L₁, L₂, L₅, L₈, L₂₅, L₅₀, L₉₀, L₉₅, and L₉₉ percentile noise levels observed during the daytime and nighttime periods.

EXHIBIT 5-A: NOISE MEASUREMENT LOCATIONS



 **LEGEND:**
 Measurement Locations

6 TRAFFIC NOISE METHODS AND PROCEDURES

The following section outlines the methods and procedures used to estimate and analyze the future traffic noise environment. Consistent with OPR land use/noise compatibility standards, all transportation related noise levels are presented in terms of the 24-hour CNEL's.

6.1 FHWA TRAFFIC NOISE PREDICTION MODEL

The expected roadway noise level increases from vehicular traffic were calculated by Urban Crossroads, Inc. using a computer program that replicates the Federal Highway Administration (FHWA) Traffic Noise Model- FHWA TNM. (18) FHWA TNM arrives at a predicted noise level through a series of adjustments to the Reference Energy Mean Emission Level (REMEL). 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.

Table 6-1 presents the roadway parameters used to assess the Project's off-site transportation noise impacts. Table 6-1 identifies the 19 off-site study area roadway segments, the distance from the centerline to adjacent land use based on the functional roadway classifications per the City of San Diego General Plan Circulation Element, and the posted vehicle speeds. Based on the information provided by the Project traffic engineer, Urban Systems Associates, Inc. (19), the off-site traffic noise analysis includes the following traffic scenarios.

- Existing
- Existing Plus Project
- Opening Year (2027)
- Opening Year (2027) Plus Project
- Horizon Year (2050)
- Horizon Year (2050) Plus Project

The average daily traffic (ADT) volumes used for this study are presented on Table 6-2. The Existing Plus Project scenario is based on the difference between the Opening Year 2027 with and without Project traffic volumes added to the existing traffic volumes. Table 6-3 provides the time of day (daytime, evening, and nighttime) vehicle splits and Table 6-4 presents the traffic flow distributions (vehicle mix) used for this analysis. The vehicle mix provides the hourly distribution percentages of automobile, medium trucks, and heavy trucks for input into the FHWA noise prediction model.

TABLE 6-1: OFF-SITE ROADWAY PARAMETERS

ID	Roadway	Segment	Receiving Land Use ¹	Classification ²	Centerline Distance to Receiving Land Use (Feet) ³	Vehicle Speed (mph)
1	Towne Centre Dr.	Westerra Court to Towne Centre Court	Commercial	2-C (w/o TWLTL)	44'	40
2	Towne Centre Dr.	Towne Centre Court to Eastgate Mall	Commercial	2-C (w/o TWLTL)	84'	40
3	Towne Centre Dr.	Eastgate Mall to Executive Drive	Residential	2-C (w/ TWLTL)	76'	40
4	Eastgate Mall	Executive Drive to Towne Centre Driveway	Residential	2-C (w/ TWLTL)	76'	40
5	Eastgate Mall	Towne Centre Driveway to La Jolla Village Drive	Commercial	2-C (w/ TWLTL)	76'	40
6	Eastgate Mall	Eastgate Mall to Executive Drive	Commercial	4-C (w/ TWLTL)	76'	35
7	La Jolla Village Dr.	Executive Drive to Judicial Driveway	Residential	2-C (w/o fronting property)	55'	35
8	La Jolla Village Dr.	Judicial Driveway to Golden Haven Drive / Brook Lane	Residential	2-C (w/ TWLTL)	55'	35
9	Judicial Drive	Golden Haven Drive / Brook Lane to Sydney Court	Residential	2-C (w/ TWLTL)	76'	35
10	Judicial Drive	Sydney Court to Illumina Way	Residential	2-C (w/ TWLTL)	76'	35
11	Judicial Drive	Illumina Way to Nobel Drive	Commercial	6-MA	40'	35
12	Nobel Drive	Judicial Drive to I-805 SB On-Ramp	Commercial	6-MA	40'	45
13	Nobel Drive	I-805 SB On-Ramp to I-805 NB Off-Ramp	Commercial	6-MA	60'	45
14	Eastgate Mall	Regents Road to Genesee Avenue	Institutional	6-MA	60'	45
15	Eastgate Mall	Genesee Avenue to Easter Way	Residential	6-MA	60'	45
16	Eastgate Mall	Easter Way to Towne Center Drive	Residential	6-MA	84'	45
17	Eastgate Mall	Towne Centre Drive to Judicial Drive	Commercial	6-MA	76'	45
18	Eastgate Mall	Judicial Drive to Eastgate Drive	Commercial	6-MA	76'	45
19	Eastgate Mall	Eastgate Drive to Olson Drive	Commercial	7-MA	76'	45

¹ Based on a review of existing aerial imagery.

² Urban Systems Associates, Inc.

7-MA = 7-Lane Major Arterial

6-MA = 6-Lane Major Arterial

4-C (w/ TWLTL) = 4-Lane Collector with Two-Way Left-Turn Lane

2-C (w/ TWLTL) = 2-Lane Collector with Two-Way Left-Turn Lane

2-C (w/o TWLTL) = 2-Lane Collector without Two-Way Left-Turn Lane

2-C (w/o fronting property) = 2-Lane Collector with no fronting property

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

TABLE 6-2: AVERAGE DAILY TRAFFIC VOLUMES

ID	Roadway	Segment	Average Daily Traffic Volumes ¹					
			Existing		Opening Year		Horizon Year	
			Without Project	With Project	With Project	Without Project	With Project	Without Project
1	Towne Centre Dr.	Westerra Court to Towne Centre Court	9,322	13,844	9,916	14,438	11,677	16,200
2	Towne Centre Dr.	Towne Centre Court to Eastgate Mall	9,322	15,783	9,916	16,377	11,677	18,138
3	Towne Centre Dr.	Eastgate Mall to Executive Drive	9,322	15,783	9,916	16,377	11,677	18,138
4	Eastgate Mall	Executive Drive to Towne Centre Driveway	9,251	15,712	9,844	16,305	9,424	15,885
5	Eastgate Mall	Towne Centre Driveway to La Jolla Village Drive	6,560	7,335	6,710	7,485	8,497	9,272
6	Eastgate Mall	Eastgate Mall to Executive Drive	14,935	17,067	16,885	19,017	16,885	19,017
7	La Jolla Village Dr.	Executive Drive to Judicial Driveway	11,798	12,897	13,922	15,021	13,922	15,021
8	La Jolla Village Dr.	Judicial Driveway to Golden Haven Drive / Brook Lane	14,764	15,797	16,274	17,307	16,274	17,307
9	Judicial Drive	Golden Haven Drive / Brook Lane to Sydney Court	14,712	15,746	16,221	17,255	17,305	18,339
10	Judicial Drive	Sydney Court to Illumina Way	14,712	15,746	16,221	17,255	17,305	18,339
11	Judicial Drive	Illumina Way to Nobel Drive	70,715	71,749	78,772	79,806	78,772	79,806
12	Nobel Drive	Judicial Drive to I-805 SB On-Ramp	71,077	72,047	78,234	79,204	78,234	79,204
13	Nobel Drive	I-805 SB On-Ramp to I-805 NB Off-Ramp	70,946	71,915	78,102	79,071	78,102	79,071
14	Eastgate Mall	Regents Road to Genesee Avenue	57,583	58,229	58,503	59,149	58,503	59,149
15	Eastgate Mall	Genesee Avenue to Easter Way	57,322	57,968	58,239	58,885	58,239	58,885
16	Eastgate Mall	Easter Way to Towne Center Drive	52,405	52,987	53,260	53,842	53,260	53,842
17	Eastgate Mall	Towne Centre Drive to Judicial Drive	50,308	50,889	51,137	51,718	51,137	51,718
18	Eastgate Mall	Judicial Drive to Eastgate Drive	50,238	50,819	51,066	51,647	51,066	51,647
19	Eastgate Mall	Eastgate Drive to Olson Drive	64,559	66,885	71,617	73,943	71,617	73,943

¹ Urban Systems Associates, Inc.

TABLE 6-3: TIME OF DAY VEHICLE SPLITS

Roadway Segment	Time of Day Vehicle Distribution			
	Daytime	Evening	Nighttime	Total
All	75%	10%	15%	100%

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

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

Roadway	Total % Traffic Flow			Total
	Autos	Medium Trucks	Heavy Trucks	
Major Arterial ¹	92.00%	5.00%	3.00%	100.00%

¹ Traffic Mix based on the County of San Diego Guidelines for Determining Significance for Noise - Appendix C: Screening Criteria for Potential Adverse Traffic Noise Effects, January 2009.

7 OFF-SITE TRANSPORTATION NOISE IMPACTS

To assess the off-site transportation CNEL noise level impacts associated with development of the proposed Project, noise contours were developed based on traffic data provided by Urban Systems Associates, Inc. (19) Noise contour boundaries represent the equal levels of noise exposure and are measured in CNEL from the center of the roadway. Noise level contours are conservative as they do not account for any noise attenuation features such as noise barriers or topography. Noise contours were developed for the following traffic scenarios:

- Existing/Plus Project: This scenario refers to the existing present-day noise conditions, without and with the development of the Project.
- Opening Year 2027/Plus Project: This scenario refers to the Opening Year 2027 noise conditions, without and with the development of the Project.
- Horizon Year 2050/Plus Project: This scenario refers to the Horizon Year 2050 noise conditions without and with the development of the Project.

7.1 NOISE CONTOURS

Noise contours were used to assess the Project's incremental traffic-related noise impacts at land uses adjacent to roadways conveying Project traffic. The noise contours represent the distance to noise levels of a constant value and are measured from the center of the roadway for the 70, 65, and 60 dBA noise levels. The noise contours do not consider the effect of any existing noise barriers or topography that may attenuate ambient noise levels. In addition, because the noise contours reflect modeling of vehicular noise on area roadways, they appropriately do not reflect noise contributions from the surrounding stationary noise sources within the Project study area. Tables 7-1 to 7-6 present a summary of the exterior traffic noise levels for each traffic condition.

TABLE 7-1: EXISTING WITHOUT PROJECT CONTOURS

ID	Road	Segment	Receiving Land Use ¹	Noise Level at Nearest Receiving Land Use (CNEL dBA) ²	Distance to Contour from Centerline (Feet)		
					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Towne Centre Drive	Northern Terminus to Westerra Court	Commercial	63.1	RW	37	80
2	Towne Centre Drive	Westerra Court to Eastgate Mini Park	Commercial	63.1	RW	RW	80
3	Towne Centre Drive	Eastgate Mini Park to Towne Centre Court	Residential	63.1	RW	RW	80
4	Towne Centre Drive	Towne Centre Court to 9665 Towne Centre Drive	Residential	63.0	RW	RW	80
5	Eastgate Mall	Regents Road to Genesee Avenue	Commercial	61.0	RW	RW	58
6	Eastgate Mall	Genesee Avenue to Easter Way	Commercial	64.6	RW	47	101
7	Eastgate Mall	I-805 Overpass to Opeartion Boulevard	Residential	63.6	RW	40	86
8	Eastgate Mall	Opeartion Boulevard to Olson Drive	Residential	64.5	RW	47	100
9	Eastgate Mall	Olson Drive to Autoport Mall	Residential	64.5	RW	46	100
10	Eastgate Mall	Autoport Mall to Miramar Road	Residential	64.5	RW	46	100
11	Miramar Road	Eastgate Mall to Miramar Mall	Commercial	72.6	75	161	347
12	Miramar Road	Miramar Mall to Miramar Place	Commercial	72.6	75	162	348
13	Miramar Road	Miramar Place to Camino Santa Fe / Frost Mar Place	Commercial	72.6	75	162	348
14	Miramar Road	Camino Santa Fe / Frost Mar Place to Commerce Avenue	Institutional	71.7	65	141	303
15	Miramar Road	Commerce Avenue to Production Avenue	Residential	71.7	65	140	302
16	Miramar Road	Production Avenue to Distribution Avenue	Residential	71.3	61	132	284
17	Miramar Road	Distribution Avenue to Miramar Way	Commercial	71.1	60	128	277
18	Miramar Road	Miramar Way to Carroll Road	Commercial	71.1	60	128	276
19	La Jolla Village Drive	I-805 SB Ramps to Towne Centre Drive	Commercial	72.2	70	152	327

¹ Based on a review of existing aerial imagery.

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

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

TABLE 7-2: EXISTING PLUS PROJECT CONTOURS

ID	Road	Segment	Receiving Land Use ¹	Noise Level at Nearest Receiving Land Use (CNEL dBA) ²	Distance to Contour from Centerline (Feet)		
					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Towne Centre Drive	Northern Terminus to Westerra Court	Commercial	64.8	22	48	104
2	Towne Centre Drive	Westerra Court to Eastgate Mini Park	Commercial	65.4	RW	53	114
3	Towne Centre Drive	Eastgate Mini Park to Towne Centre Court	Residential	65.4	RW	53	114
4	Towne Centre Drive	Towne Centre Court to 9665 Towne Centre Drive	Residential	65.3	RW	53	114
5	Eastgate Mall	Regents Road to Genesee Avenue	Commercial	61.5	RW	RW	63
6	Eastgate Mall	Genesee Avenue to Easter Way	Commercial	65.2	RW	51	110
7	Eastgate Mall	I-805 Overpass to Opeartion Boulevard	Residential	63.9	RW	42	91
8	Eastgate Mall	Opeartion Boulevard to Olson Drive	Residential	64.8	RW	49	105
9	Eastgate Mall	Olson Drive to Autoport Mall	Residential	64.8	RW	48	104
10	Eastgate Mall	Autoport Mall to Miramar Road	Residential	64.8	RW	48	104
11	Miramar Road	Eastgate Mall to Miramar Mall	Commercial	72.7	75	163	350
12	Miramar Road	Miramar Mall to Miramar Place	Commercial	72.7	76	163	351
13	Miramar Road	Miramar Place to Camino Santa Fe / Frost Mar Place	Commercial	72.7	76	163	351
14	Miramar Road	Camino Santa Fe / Frost Mar Place to Commerce Avenue	Institutional	71.8	66	141	305
15	Miramar Road	Commerce Avenue to Production Avenue	Residential	71.8	65	141	304
16	Miramar Road	Production Avenue to Distribution Avenue	Residential	71.4	62	133	286
17	Miramar Road	Distribution Avenue to Miramar Way	Commercial	71.2	60	129	279
18	Miramar Road	Miramar Way to Carroll Road	Commercial	71.2	60	129	278
19	La Jolla Village Drive	I-805 SB Ramps to Towne Centre Drive	Commercial	72.4	72	155	334

¹ Based on a review of existing aerial imagery.

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

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

TABLE 7-3: OPENING YEAR 2050 NOISE LEVEL CONTOURS

ID	Road	Segment	Receiving Land Use ¹	Noise Level at Nearest Receiving Land Use (CNEL dBA) ²	Distance to Contour from Centerline (Feet)		
					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Towne Centre Drive	Northern Terminus to Westerra Court	Commercial	63.3	RW	39	84
2	Towne Centre Drive	Westerra Court to Eastgate Mini Park	Commercial	63.3	RW	RW	84
3	Towne Centre Drive	Eastgate Mini Park to Towne Centre Court	Residential	63.3	RW	39	84
4	Towne Centre Drive	Towne Centre Court to 9665 Towne Centre Drive	Residential	63.3	RW	39	83
5	Eastgate Mall	Regents Road to Genesee Avenue	Commercial	61.1	RW	RW	59
6	Eastgate Mall	Genesee Avenue to Easter Way	Commercial	65.1	RW	51	110
7	Eastgate Mall	I-805 Overpass to Opeartion Boulevard	Residential	64.3	RW	45	96
8	Eastgate Mall	Opeartion Boulevard to Olson Drive	Residential	65.0	RW	50	107
9	Eastgate Mall	Olson Drive to Autoport Mall	Residential	64.9	RW	50	107
10	Eastgate Mall	Autoport Mall to Miramar Road	Residential	64.9	RW	50	107
11	Miramar Road	Eastgate Mall to Miramar Mall	Commercial	73.1	80	173	373
12	Miramar Road	Miramar Mall to Miramar Place	Commercial	73.1	80	172	371
13	Miramar Road	Miramar Place to Camino Santa Fe / Frost Mar Place	Commercial	73.1	80	172	371
14	Miramar Road	Camino Santa Fe / Frost Mar Place to Commerce Avenue	Institutional	71.8	66	142	306
15	Miramar Road	Commerce Avenue to Production Avenue	Residential	71.8	66	142	305
16	Miramar Road	Production Avenue to Distribution Avenue	Residential	71.4	62	133	287
17	Miramar Road	Distribution Avenue to Miramar Way	Commercial	71.2	60	130	280
18	Miramar Road	Miramar Way to Carroll Road	Commercial	71.2	60	130	279
19	La Jolla Village Drive	I-805 SB Ramps to Towne Centre Drive	Commercial	72.7	75	163	350

¹ Based on a review of existing aerial imagery.

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

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

TABLE 7-4: OPENING YEAR 2027 WITH NOISE LEVEL PROJECT CONTOURS

ID	Road	Segment	Receiving Land Use ¹	Noise Level at Nearest Receiving Land Use (CNEL dBA) ²	Distance to Contour from Centerline (Feet)		
					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Towne Centre Drive	Northern Terminus to Westerra Court	Commercial	65.0	23	50	107
2	Towne Centre Drive	Westerra Court to Eastgate Mini Park	Commercial	65.5	RW	54	117
3	Towne Centre Drive	Eastgate Mini Park to Towne Centre Court	Residential	65.5	RW	54	117
4	Towne Centre Drive	Towne Centre Court to 9665 Towne Centre Drive	Residential	65.5	RW	54	116
5	Eastgate Mall	Regents Road to Genesee Avenue	Commercial	61.6	RW	RW	64
6	Eastgate Mall	Genesee Avenue to Easter Way	Commercial	65.6	RW	55	119
7	Eastgate Mall	I-805 Overpass to Opeartion Boulevard	Residential	64.6	RW	47	101
8	Eastgate Mall	Opeartion Boulevard to Olson Drive	Residential	65.2	RW	52	111
9	Eastgate Mall	Olson Drive to Autoport Mall	Residential	65.2	RW	52	111
10	Eastgate Mall	Autoport Mall to Miramar Road	Residential	65.2	RW	52	111
11	Miramar Road	Eastgate Mall to Miramar Mall	Commercial	73.1	81	175	376
12	Miramar Road	Miramar Mall to Miramar Place	Commercial	73.1	81	174	374
13	Miramar Road	Miramar Place to Camino Santa Fe / Frost Mar Place	Commercial	73.1	81	174	374
14	Miramar Road	Camino Santa Fe / Frost Mar Place to Commerce Avenue	Institutional	71.8	66	143	308
15	Miramar Road	Commerce Avenue to Production Avenue	Residential	71.8	66	143	307
16	Miramar Road	Production Avenue to Distribution Avenue	Residential	71.4	62	134	289
17	Miramar Road	Distribution Avenue to Miramar Way	Commercial	71.3	61	131	282
18	Miramar Road	Miramar Way to Carroll Road	Commercial	71.3	61	131	281
19	La Jolla Village Drive	I-805 SB Ramps to Towne Centre Drive	Commercial	72.8	77	166	358

¹ Based on a review of existing aerial imagery.

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

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

TABLE 7-5: HORIZON YEAR 2050 NOISE LEVEL CONTOURS

ID	Road	Segment	Receiving Land Use ¹	Noise Level at Nearest Receiving Land Use (CNEL dBA) ²	Distance to Contour from Centerline (Feet)		
					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Towne Centre Drive	Northern Terminus to Westerra Court	Commercial	64.1	RW	43	93
2	Towne Centre Drive	Westerra Court to Eastgate Mini Park	Commercial	64.1	RW	43	93
3	Towne Centre Drive	Eastgate Mini Park to Towne Centre Court	Residential	64.1	RW	43	93
4	Towne Centre Drive	Towne Centre Court to 9665 Towne Centre Drive	Residential	63.1	RW	RW	81
5	Eastgate Mall	Regents Road to Genesee Avenue	Commercial	62.1	RW	RW	69
6	Eastgate Mall	Genesee Avenue to Easter Way	Commercial	65.1	RW	51	110
7	Eastgate Mall	I-805 Overpass to Opeartion Boulevard	Residential	64.3	RW	45	96
8	Eastgate Mall	Opeartion Boulevard to Olson Drive	Residential	65.0	RW	50	107
9	Eastgate Mall	Olson Drive to Autoport Mall	Residential	65.2	RW	52	111
10	Eastgate Mall	Autoport Mall to Miramar Road	Residential	65.2	RW	52	111
11	Miramar Road	Eastgate Mall to Miramar Mall	Commercial	73.1	80	173	373
12	Miramar Road	Miramar Mall to Miramar Place	Commercial	73.1	80	172	371
13	Miramar Road	Miramar Place to Camino Santa Fe / Frost Mar Place	Commercial	73.1	80	172	371
14	Miramar Road	Camino Santa Fe / Frost Mar Place to Commerce Avenue	Institutional	71.8	66	142	306
15	Miramar Road	Commerce Avenue to Production Avenue	Residential	71.8	66	142	305
16	Miramar Road	Production Avenue to Distribution Avenue	Residential	71.4	62	133	287
17	Miramar Road	Distribution Avenue to Miramar Way	Commercial	71.2	60	130	280
18	Miramar Road	Miramar Way to Carroll Road	Commercial	71.2	60	130	279
19	La Jolla Village Drive	I-805 SB Ramps to Towne Centre Drive	Commercial	72.7	75	163	350

¹ Based on a review of existing aerial imagery.

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

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

TABLE 7-6: HORIZON YEAR 2050 WITH NOISE LEVEL PROJECT CONTOURS

ID	Road	Segment	Receiving Land Use ¹	Noise Level at Nearest Receiving Land Use (CNEL dBA) ²	Distance to Contour from Centerline (Feet)		
					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Towne Centre Drive	Northern Terminus to Westerra Court	Commercial	65.5	25	54	116
2	Towne Centre Drive	Westerra Court to Eastgate Mini Park	Commercial	66.0	RW	58	125
3	Towne Centre Drive	Eastgate Mini Park to Towne Centre Court	Residential	66.0	RW	58	125
4	Towne Centre Drive	Towne Centre Court to 9665 Towne Centre Drive	Residential	65.4	RW	53	114
5	Eastgate Mall	Regents Road to Genesee Avenue	Commercial	62.5	RW	RW	74
6	Eastgate Mall	Genesee Avenue to Easter Way	Commercial	65.6	RW	55	119
7	Eastgate Mall	I-805 Overpass to Opeartion Boulevard	Residential	64.6	RW	47	101
8	Eastgate Mall	Opeartion Boulevard to Olson Drive	Residential	65.2	RW	52	111
9	Eastgate Mall	Olson Drive to Autoport Mall	Residential	65.5	RW	54	116
10	Eastgate Mall	Autoport Mall to Miramar Road	Residential	65.5	RW	54	116
11	Miramar Road	Eastgate Mall to Miramar Mall	Commercial	73.1	81	175	376
12	Miramar Road	Miramar Mall to Miramar Place	Commercial	73.1	81	174	374
13	Miramar Road	Miramar Place to Camino Santa Fe / Frost Mar Place	Commercial	73.1	81	174	374
14	Miramar Road	Camino Santa Fe / Frost Mar Place to Commerce Avenue	Institutional	71.8	66	143	308
15	Miramar Road	Commerce Avenue to Production Avenue	Residential	71.8	66	143	307
16	Miramar Road	Production Avenue to Distribution Avenue	Residential	71.4	62	134	289
17	Miramar Road	Distribution Avenue to Miramar Way	Commercial	71.3	61	131	282
18	Miramar Road	Miramar Way to Carroll Road	Commercial	71.3	61	131	281
19	La Jolla Village Drive	I-805 SB Ramps to Towne Centre Drive	Commercial	72.8	77	166	358

¹ Based on a review of existing aerial imagery.

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

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

7.2 EXISTING PLUS 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 traffic data provided by Urban Systems Associates, Inc. (20). All off-site noise levels are calculated, without accounting for any noise attenuation features such as noise barriers or topography.

Table 7-1 shows the Existing without Project conditions CNEL noise levels. The Existing without Project exterior noise levels range from 61.0 to 72.6 dBA CNEL. Table 7-2 shows the Existing with Project Buildout conditions range from 61.5 to 72.7 dBA CNEL.

Table 7-7 shows that the Project off-site traffic noise level increase range from 0.1 to 2.3 dBA CNEL on the study area roadway segments. Based on the significance criteria for off-site traffic noise presented in Table 4-1, existing noise sensitive uses on the study area roadway segments would not experience a significant increase in traffic noise levels due to the proposed Project under Existing plus Project conditions.

7.3 OPENING YEAR 2027 PLUS PROJECT TRAFFIC NOISE LEVEL INCREASES

Table 7-4 shows the Opening Year 2027 without Project conditions CNEL noise levels. The Opening Year 2027 without Project exterior noise levels range from 61.1 to 73.1 dBA CNEL. Table 7-5 shows the Opening Year 2027 plus Project Buildout conditions range from 61.6 to 73.1 dBA CNEL.

Table 7-8 shows that the Opening Year 2027 Plus Project off-site traffic noise level increases will range from 0.0 to 2.2 dBA CNEL on the study area roadway segments. Based on the significance criteria for off-site traffic noise presented in Table 4-1, existing noise sensitive uses on the study area roadway segments would not experience a significant increase in traffic noise levels due to the proposed Project under Opening Year 2027 plus Project conditions.

7.3 HORIZON YEAR 2050 PLUS PROJECT TRAFFIC NOISE LEVEL INCREASES

Table 7-5 shows the Horizon Year 2050 without Project conditions CNEL noise levels. The Horizon Year 2050 without Project exterior noise levels range from 62.1 to 73.1 dBA CNEL. Table 7-6 shows the Horizon Year 2050 plus Project conditions range from 62.5 to 73.1 dBA CNEL.

Table 7-9 shows that the Horizon Year 2050 plus Project off-site traffic noise level increases will range from 0.0 to 2.3 dBA CNEL on the study area roadway segments. Based on the significance criteria for off-site traffic noise presented in Table 4-1, existing noise sensitive uses on the study area roadway segments would not experience a significant increase in traffic noise levels due to the proposed Project under Horizon Year 2050 plus Project conditions.

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

ID	Road	Segment	CNEL at Receiving Land Use (dBA) ¹			Noise-Sensitive Land Use? ²	Incremental Noise Level Increase Threshold	
			No Project	With Project	Increase		Limit (dBA)	Exceeded?
1	Towne Centre Dr.	Westerra Court to Towne Centre Court	63.1	64.8	1.7	No	10	No
2	Towne Centre Dr.	Towne Centre Court to Eastgate Mall	63.1	65.4	2.3	No	10	No
3	Towne Centre Dr.	Eastgate Mall to Executive Drive	63.1	65.4	2.3	Yes	3	No
4	Eastgate Mall	Executive Drive to Towne Centre Driveway	63.0	65.3	2.3	Yes	3	No
5	Eastgate Mall	Towne Centre Driveway to La Jolla Village Drive	61.0	61.5	0.5	No	10	No
6	Eastgate Mall	Eastgate Mall to Executive Drive	64.6	65.2	0.6	No	10	No
7	La Jolla Village Dr.	Executive Drive to Judicial Driveway	63.6	63.9	0.3	Yes	5	No
8	La Jolla Village Dr.	Judicial Driveway to Golden Haven Drive / Brook Lane	64.5	64.8	0.3	Yes	5	No
9	Judicial Drive	Golden Haven Drive / Brook Lane to Sydney Court	64.5	64.8	0.3	Yes	5	No
10	Judicial Drive	Sydney Court to Illumina Way	64.5	64.8	0.3	Yes	5	No
11	Judicial Drive	Illumina Way to Nobel Drive	72.6	72.7	0.1	No	10	No
12	Nobel Drive	Judicial Drive to I-805 SB On-Ramp	72.6	72.7	0.1	No	10	No
13	Nobel Drive	I-805 SB On-Ramp to I-805 NB Off-Ramp	72.6	72.7	0.1	No	10	No
14	Eastgate Mall	Regents Road to Genesee Avenue	71.7	71.8	0.1	No	10	No
15	Eastgate Mall	Genesee Avenue to Easter Way	71.7	71.8	0.1	Yes	3	No
16	Eastgate Mall	Easter Way to Towne Center Drive	71.3	71.4	0.1	Yes	3	No
17	Eastgate Mall	Towne Centre Drive to Judicial Drive	71.1	71.2	0.1	No	10	No
18	Eastgate Mall	Judicial Drive to Eastgate Drive	71.1	71.2	0.1	No	10	No
19	Eastgate Mall	Eastgate Drive to Olson Drive	72.2	72.4	0.2	No	10	No

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

² Based on a review of existing aerial imagery. Noise sensitive uses limited to existing residential land uses.

TABLE 7-8: OPENING YEAR 2027 PROJECT TRAFFIC NOISE LEVEL INCREASES

ID	Road	Segment	CNEL at Receiving Land Use (dBA) ¹			Noise-Sensitive Land Use? ²	Incremental Noise Level Increase Threshold	
			No Project	With Project	Increase		Limit (dBA)	Exceeded?
1	Towne Centre Dr.	Westerra Court to Towne Centre Court	63.3	65.0	1.7	No	10	No
2	Towne Centre Dr.	Towne Centre Court to Eastgate Mall	63.3	65.5	2.2	No	10	No
3	Towne Centre Dr.	Eastgate Mall to Executive Drive	63.3	65.5	2.2	Yes	3	No
4	Eastgate Mall	Executive Drive to Towne Centre Driveway	63.3	65.5	2.2	Yes	3	No
5	Eastgate Mall	Towne Centre Driveway to La Jolla Village Drive	61.1	61.6	0.5	No	10	No
6	Eastgate Mall	Eastgate Mall to Executive Drive	65.1	65.6	0.5	No	10	No
7	La Jolla Village Dr.	Executive Drive to Judicial Driveway	64.3	64.6	0.3	Yes	5	No
8	La Jolla Village Dr.	Judicial Driveway to Golden Haven Drive / Brook Lane	65.0	65.2	0.2	Yes	3	No
9	Judicial Drive	Golden Haven Drive / Brook Lane to Sydney Court	64.9	65.2	0.3	Yes	3	No
10	Judicial Drive	Sydney Court to Illumina Way	64.9	65.2	0.3	Yes	3	No
11	Judicial Drive	Illumina Way to Nobel Drive	73.1	73.1	0.0	No	10	No
12	Nobel Drive	Judicial Drive to I-805 SB On-Ramp	73.1	73.1	0.0	No	10	No
13	Nobel Drive	I-805 SB On-Ramp to I-805 NB Off-Ramp	73.1	73.1	0.0	No	10	No
14	Eastgate Mall	Regents Road to Genesee Avenue	71.8	71.8	0.0	No	10	No
15	Eastgate Mall	Genesee Avenue to Easter Way	71.8	71.8	0.0	Yes	3	No
16	Eastgate Mall	Easter Way to Towne Center Drive	71.4	71.4	0.0	Yes	3	No
17	Eastgate Mall	Towne Centre Drive to Judicial Drive	71.2	71.3	0.1	No	10	No
18	Eastgate Mall	Judicial Drive to Eastgate Drive	71.2	71.3	0.1	No	10	No
19	Eastgate Mall	Eastgate Drive to Olson Drive	72.7	72.8	0.1	No	10	No

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

² Based on a review of existing aerial imagery. Noise sensitive uses limited to existing residential land uses.

TABLE 7-9: HORIZON YEAR 2050 PROJECT TRAFFIC NOISE LEVEL INCREASES

ID	Road	Segment	CNEL at Receiving Land Use (dBA) ¹			Noise-Sensitive Land Use? ²	Incremental Noise Level Increase Threshold	
			No Project	With Project	Increase		Limit (dBA)	Exceeded?
1	Towne Centre Dr.	Westerra Court to Towne Centre Court	64.1	65.5	1.4	No	10	No
2	Towne Centre Dr.	Towne Centre Court to Eastgate Mall	64.1	66.0	1.9	No	10	No
3	Towne Centre Dr.	Eastgate Mall to Executive Drive	64.1	66.0	1.9	Yes	3	No
4	Eastgate Mall	Executive Drive to Towne Centre Driveway	63.1	65.4	2.3	Yes	3	No
5	Eastgate Mall	Towne Centre Driveway to La Jolla Village Drive	62.1	62.5	0.4	No	10	No
6	Eastgate Mall	Eastgate Mall to Executive Drive	65.1	65.6	0.5	No	10	No
7	La Jolla Village Dr.	Executive Drive to Judicial Driveway	64.3	64.6	0.3	Yes	5	No
8	La Jolla Village Dr.	Judicial Driveway to Golden Haven Drive / Brook Lane	65.0	65.2	0.2	Yes	3	No
9	Judicial Drive	Golden Haven Drive / Brook Lane to Sydney Court	65.2	65.5	0.3	Yes	3	No
10	Judicial Drive	Sydney Court to Illumina Way	65.2	65.5	0.3	Yes	3	No
11	Judicial Drive	Illumina Way to Nobel Drive	73.1	73.1	0.0	No	10	No
12	Nobel Drive	Judicial Drive to I-805 SB On-Ramp	73.1	73.1	0.0	No	10	No
13	Nobel Drive	I-805 SB On-Ramp to I-805 NB Off-Ramp	73.1	73.1	0.0	No	10	No
14	Eastgate Mall	Regents Road to Genesee Avenue	71.8	71.8	0.0	No	10	No
15	Eastgate Mall	Genesee Avenue to Easter Way	71.8	71.8	0.0	Yes	3	No
16	Eastgate Mall	Easter Way to Towne Center Drive	71.4	71.4	0.0	Yes	3	No
17	Eastgate Mall	Towne Centre Drive to Judicial Drive	71.2	71.3	0.1	No	10	No
18	Eastgate Mall	Judicial Drive to Eastgate Drive	71.2	71.3	0.1	No	10	No
19	Eastgate Mall	Eastgate Drive to Olson Drive	72.7	72.8	0.1	No	10	No

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

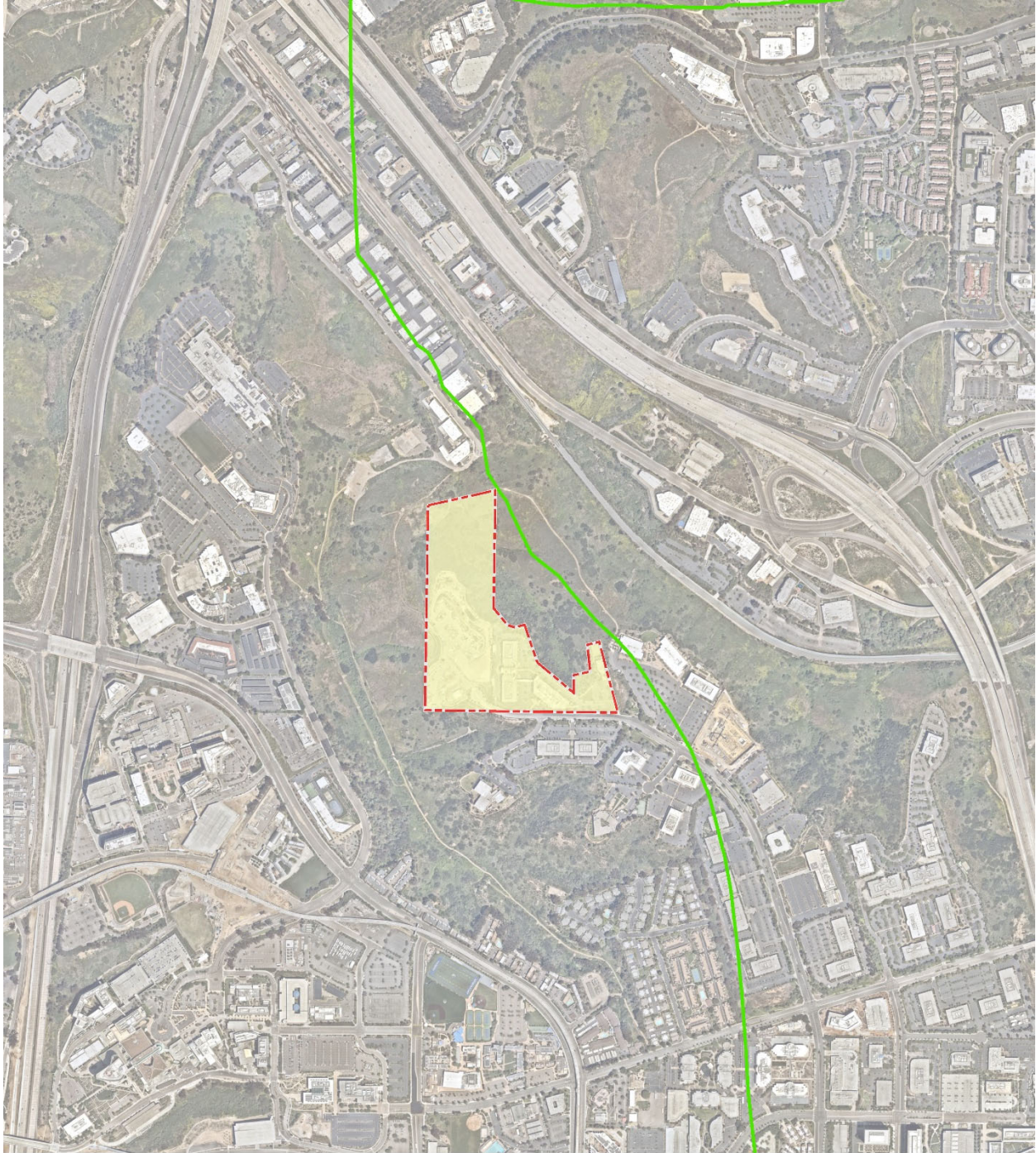
² Based on a review of existing aerial imagery. Noise sensitive uses limited to existing residential land uses.

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8 AIRCRAFT NOISE

MCAS Miramar is located approximately 3 miles southeast of the Project site. The Project site is in APZ II, and TZ of the MCAS Miramar ALUCP. As shown in Exhibit 8-A, the 60 CNEL contours for the MCAS Miramar extends to eastern edge of the Project site but does not encroach on the Project site. This is well below the compatibility standards of 75 CNEL for office land uses as shown in Table 3-2. Therefore, impacts due to aircraft noise would be less than significant.

EXHIBIT 8-A: MCAS MIRAMAR ALUCP NOISE LEVEL CONTOURS NEAR PROJECT SITE



LEGEND:
60 CNEL

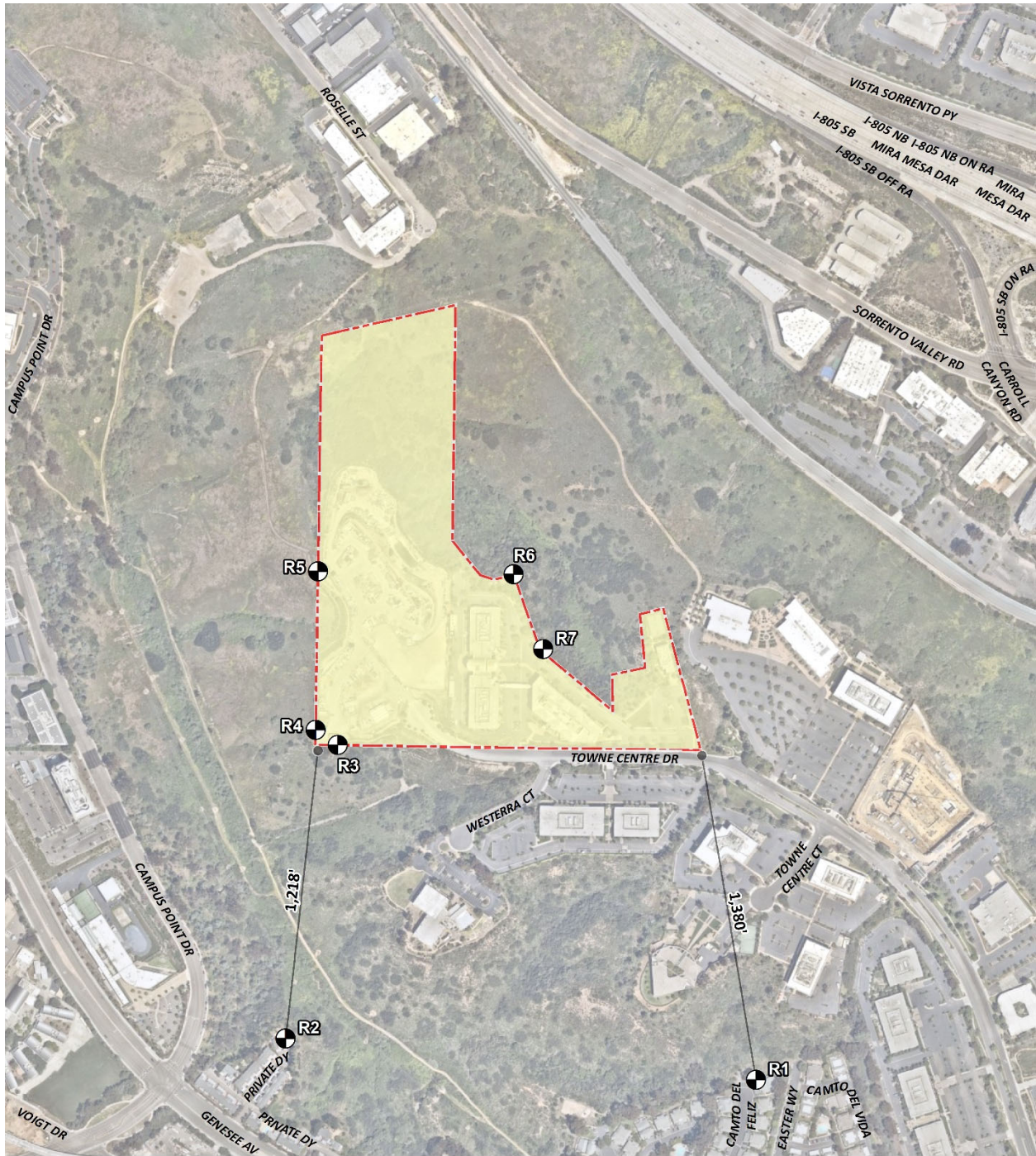
9 RECEIVER LOCATIONS

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

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

- R1: Location R1 was located at an existing multi family residence in the Playmor La Jolla development at 9669 Caminito Del Feliz, approximately 1,380 feet south of the Project site. This is the same location as Measurement L2.
- R2: Location R2 represents a residence located at the western terminus of a private drive, called Leeds Street. R2 is located within the La Jolla Vista Townhouse community, approximately 1,218 feet south of the Project site. This is near L3 and represents the nearest non-residential use to the Project site.
- R3 to R7: R3 through R-7 represent the nearest property lines to the generators, where exceedances are likely to occur, and are used to verify compliance with the City of San Diego noise ordinance. R3 through R7 do not represent noise sensitive receivers or exterior use area. It should be noted the surrounding land uses are open space which do not have a specific noise level limit as shown in Table 3-1. Therefore, the industrial noise level limit has been applied at the property line of the Project.

EXHIBIT 9-A: RECEIVER LOCATIONS



LEGEND:
● Distance from receiver to Project site boundary (in feet)
● Receivers

10 OPERATIONAL NOISE IMPACTS

This section analyzes the potential stationary-source operational noise impacts at the nearest receiver locations, resulting from the operation of the proposed Towne Centre View Project. Exhibit 10-A identifies the noise source locations used to assess the hourly average L_{eq} operational noise levels consistent with the City of San Diego Noise Ordinance and Noise Element of the General Plan. Modeling of stationary sources is conservative as does not account topography or existing structures that may obstruct the path of the soundwaves. Furthermore, the modeling of onsite equipment includes the operation of all on-site sources at the same time, which is unlikely all ventilation units and generators would be operating at the same time as all surface parking lots are operating at full capacity with all vehicles active.

10.1 OPERATIONAL NOISE SOURCES

This operational noise analysis is intended to describe changes in noise levels associated with the expected typical of daytime and nighttime activities at the Project site. This analysis assumes the Project would be operational daily 7:00 a.m. to 10:00 p.m. Building maintenance activities would occur during the nighttime periods 10:00 p.m. to 7:00 a.m. Consistent with similar land uses, the Project business operations would primarily be conducted within the enclosed buildings, except for air handler units associated with the building heating and cooling systems, short-term generator operation during normal maintenance activities, traffic movements and surface parking lot activities. The on-site Project-related noise sources are expected to include: roof-top air handling units, generators, and surface parking lot activity.

10.2 REFERENCE NOISE LEVELS

To estimate the Project operational noise impacts, reference noise levels of similar equipment are used to represent the noise levels expected with the development of the proposed Project. Noise levels from parking lot activities are derived from international studies on parking lot activities.

A detailed description of the reference noise level measurements shown on Table 10-1 is provided in the following sections. It is important to note that the following projected noise levels assume the worst-case noise environment with the roof-top air handling units, generators, and surface parking lot activity all operating simultaneously. This is a conservative assumption as the operations of these noise sources would vary throughout the day. Appendix 10.1 includes the detailed noise model inputs.

EXHIBIT 10-A: OPERATIONAL NOISE SOURCE LOCATIONS



TABLE 10-1: REFERENCE NOISE LEVELS

Noise Source ¹	Noise Source Height (Feet)	Min./Hour ²		Reference Noise Level (dBA L _{eq}) @ 50 Feet	Sound Power Level (dBA) ³
		Day	Night		
Roof-Top Air Handling Units	3'	40	20	57.0	88.6
1,600 kW Generators	8'	2	0	73.6	105.2
2,000 kW Generators	8'	2	0	74.4	106.0
Parking (per square meter)	0'	45	10	38.6	70.2

¹ Anticipated duration (minutes within the hour) of noise activity during typical hourly conditions expected at the Project site. "Daytime" = 8:00 a.m. - 10:00 p.m.; "Nighttime" = 10:01 p.m. - 7:59 a.m.

² 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.

³ Generator noise levels based on sample generators identified by Project applicant.

10.2.1 ROOF-TOP AIR HANDLING UNITS

The proposed Project would include boilers to provide building heating and cooling. The boilers would be in building penthouses and would be shielded from exterior receivers. Thus, to assess the noise levels created by the boilers roof-top air handling units for the boilers have been modeled. Reference noise level data for air handling units were obtained from HuntAir for a VIBRO-ACOUSTIC RFL-MV packaged rooftop unit that ranged from 29,500 cubic feet per minute (CFM) to 93,900 CFM. For modeling, a model VIBRO-ACOUSTIC RFL-MV with an air flow capacity of 93,900 CFM was used to determine impacts. Approximately eight rooftop units have been modeled per building except for Building E which is assumed to have two rooftop air handling units for 24 total units. This is a conservative assumption as typically only 1 CFM per sf is required for proper ventilation, thus approximately 10 units of this size would be sufficient to provide the necessary ventilation for all buildings. At the uniform reference distance of 50 feet, the reference noise level for these units is 57.0 dBA L_{eq}.

10.2.2 GENERATORS

The Project would also include up to six generators located within acoustical and weather enclosures. The locations of the generator rooms are shown in Exhibit 9-A. According to the Project applicant, the generators are anticipated to include four 1,600 kilo Watt (kW) and two 2,000 kW units. Each of the 1,600 kW generators can produce an uncontrolled noise level of 126.7 dBA L_{max} at 23 feet and the 2,000 kW generators can produce an uncontrolled noise level of 126.3 dBA L_{max} at 23 feet. The proposed enclosures would provide approximately 45 dBA reduction from the uncontrolled noise levels. Thus, with the sound enclosures, generator noise levels would be reduced to noise levels of 80.3 and 81.1 dBA L_{max}, respectively. The generators are for emergency purposes and would only be operated under normal operations for half an hour each week for maintenance and testing. The only scenario in which they would operate for a full hour would be in the case of a power outage. Even in this scenario, the generators would likely only operate at 70 percent of maximum capacity. Therefore, for assessment purposes, the

generators were modeled operating at full power for 30 minutes per day. Generator specification sheets are included in Appendix 9.2. Based on typical maintenance requirements generators were modeled operating for 30 minutes during daytime hours once a month. To be conservative, all generators were assumed to operate simultaneously while all other onsite operations were also active.

10.2.3 PARKING LOT ACTIVITY

Parking activities are based on the number of parking spaces and the type of land use. The Project includes two small surface parking lots. The total surface parking is 112 spaces. Parking areas were modeled as typical visitor and employee parking for activity levels with each surface lot modeled based on the number of spaces. Based on studies conducted in Europe and Australia, the average parking procedure, which included movement associated with either entering or exiting the parking area, parking the vehicles, and opening and closing doors resulted in a sound power level of approximately 63 dBA L_w /square meter (21).

10.3 CADNA A NOISE PREDICTION MODEL

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

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

The operational noise level calculations provided in this noise study account for the distance attenuation provided due to geometric spreading, when sound from a localized stationary source (i.e., a point source) propagates uniformly outward in a spherical pattern. A standard ground attenuation factor of 0.66 was used in the noise analysis to account for mixed ground representing a combination of hard and soft surfaces consistent with study area conditions.

10.4 PROJECT OPERATIONAL NOISE LEVELS

Using the reference noise levels to represent the proposed Project operations that include roof-top air handling units, generators, and surface parking lot 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 receiver locations. Table 10-2 shows the Project operational noise levels during the daytime hours of 7:00 a.m. to 10:00 p.m. The daytime hourly noise levels at the off-site receiver locations are expected to range from 26.1 to 54.2 dBA L_{eq} .

TABLE 10-2: DAYTIME PROJECT OPERATIONAL NOISE LEVELS

Noise Source ¹	Operational Noise Levels by Receiver Location (dBA L_{eq})						
	R1	R2	R3	R4	R5	R6	R7
Roof-Top Air Handling Units	27.3	26.7	26.7	29.7	24.1	23.5	32.4
Generators	54.2	50.6	49.8	37.1	21.8	27.8	49.0
Parking Lot	12.6	13.1	12.8	34.0	3.6	3.5	44.3
Total (All Noise Sources)	54.2	50.6	49.8	39.3	26.1	29.2	50.3

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

Tables 10-3 shows the Project operational noise levels during the nighttime hours of 10:00 p.m. to 7:00 a.m. The nighttime hourly noise levels at the off-site receiver locations are expected to range from 23.6 to 44.6 dBA L_{eq} . The differences between the daytime and nighttime noise levels are largely related to the on-site activity as the facility would operate at much lower intensity than during daytime. During the nighttime air handlers would operate approximately 15-30 minutes out of an hour in multiple cycles as compared to the daytime where the units would typically operate 20-40 minutes in multiple cycles. To be conservative, it was assumed the AHU would operate 60 minutes during the daytime and 30 minutes at night. This is equivalent to the units operating at full capacity. Additionally, it was assumed occasional nighttime activities associated with maintenance would result in limited activity in parking lots. The generators would only be operated outside an emergency during testing and thus are not included in the nighttime operations. Appendix 10.1 includes the detailed noise model inputs.

TABLE 10-3: NIGHTTIME PROJECT OPERATIONAL NOISE LEVELS

Noise Source ¹	Operational Noise Levels by Receiver Location (dBA L_{eq})						
	R1	R2	R3	R4	R5	R6	R7
Roof-Top Air Handling Units	27.3	26.7	26.7	29.7	24.1	23.5	32.4
Generators	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Parking Lot	12.6	13.1	12.8	34.0	3.6	3.5	44.3
Total (All Noise Sources)	27.5	26.9	26.9	35.4	24.2	23.6	44.6

Note: 0.0 noise level indicates the source does not contribute to the overall noise level.

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

10.5 PROJECT OPERATIONAL NOISE LEVEL COMPLIANCE

To demonstrate compliance with local noise regulations, the Project-only operational noise levels are evaluated against exterior noise level thresholds based on the City of San Diego exterior noise level standards at receiver locations at the Project property lines. Table 10-4 shows the operational noise levels associated with Towne Centre View Project will satisfy the City of San Diego daytime and nighttime exterior noise level standards at the nearest receiver locations. Therefore, the operational noise impacts are considered *less than significant* at the nearest noise-sensitive receiver locations.

TABLE 10-4: OPERATIONAL NOISE LEVEL COMPLIANCE

Receiver Location ¹	Land Use	Project Operational Noise Levels (dBA Leq) ²		Noise Level Standards (dBA Leq) ³		Noise Level Standards Exceeded? ⁴	
		Daytime	Nighttime	Daytime	Nighttime	Daytime	Nighttime
R1	Residential	54.2	27.5	65	60	No	No
R2	Residential	50.6	26.9	65	60	No	No
R3	Industrial/OS	49.8	26.9	75	75	No	No
R4	Industrial/OS	39.3	35.4	75	75	No	No
R5	Industrial/OS	26.1	24.2	75	75	No	No
R6	Industrial/OS	29.2	23.6	75	75	No	No
R7	Industrial/OS	50.3	44.6	75	75	No	No

¹ See Exhibit 10-A for the receiver locations.

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

³ Exterior noise level standards for residential land use, as shown on Table 3-1. Per the City Significance Determination Thresholds, the limit at a residential and non-residential property is the arithmetic mean of the two zones.

⁴ Do the estimated Project operational noise source activities exceed the noise level standards?
"Daytime" = 7:00 a.m. to 9:00 p.m.; "Nighttime" = 9:00 p.m. to 7:00 a.m.

10.6 PROJECT OPERATIONAL NOISE LEVEL INCREASES

To describe the Project operational noise level increases, the Project operational noise levels are combined with the existing ambient noise levels measurements for the 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:

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

Where "SPL1," "SPL2," etc. are equal to the sound pressure levels being combined, or in this case, the Project-operational and existing ambient noise levels. The difference between the combined Project and ambient noise levels describes the Project noise level increases to the existing ambient noise environment. Noise levels that would be experienced at receiver locations when Project-source noise is added to the daytime and nighttime ambient conditions are presented on Tables 10-5 and 10-6, respectively. As indicated on Tables 10-5 and 10-6, the Project will

generate an unmitigated daytime and nighttime operational noise level increases ranging from 0.0 to 4.4 dBA L_{eq} at the nearest receiver locations. Project-related operational noise level increases will satisfy the operational noise level increase significance criteria presented in Section 4, the increases at the sensitive receiver locations will be *less than significant*.

TABLE 10-5: DAYTIME PROJECT OPERATIONAL NOISE LEVEL INCREASES

Receiver Location ¹	Total Project Operational Noise Level ²	Measurement Location	Reference Ambient Noise Levels ³	Combined Project and Ambient ⁴	Project Increase ⁵	Noise Sensitive Land Use?	Increase Criteria ⁶	Increase Criteria Exceeded?
R1	54.2	L2	52.4	56.4	4.0	Yes	5	No
R2	50.6	L3	48.2	52.6	4.4	Yes	5	No
R3	49.8	L3	48.2	52.1	3.9	No	n/a	No
R4	39.3	L3	48.2	48.7	0.5	No	n/a	No
R5	26.1	L4	64.1	64.1	0.0	No	n/a	No
R6	29.2	L1	56.6	56.6	0.0	No	n/a	No
R7	50.3	L1	56.6	57.5	0.9	No	n/a	No

¹ See Exhibit 10-A for the receiver locations.

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

³ Observed daytime ambient noise levels as shown on Table 5-1.

⁴ Represents the combined ambient conditions plus the Project activities.

⁵ The noise level increase expected with the addition of the proposed Project activities.

⁶ Significance increase criteria as shown in Section 4.

TABLE 10-6: NIGHTTIME OPERATIONAL NOISE LEVEL INCREASES

Receiver Location ¹	Total Project Operational Noise Level ²	Measurement Location	Reference Ambient Noise Levels ³	Combined Project and Ambient ⁴	Project Increase ⁵	Noise Sensitive Land Use?	Increase Criteria ⁶	Increase Criteria Exceeded?
R1	27.5	L2	52.4	52.4	0.0	Yes	5	No
R2	26.9	L3	48.2	48.2	0.0	Yes	5	No
R3	26.9	L3	48.2	48.2	0.0	No	n/a	No
R4	35.4	L3	48.2	48.4	0.2	No	n/a	No
R5	24.2	L4	64.1	64.1	0.0	No	n/a	No
R6	23.6	L1	56.6	56.6	0.0	No	n/a	No
R7	44.6	L1	56.6	56.9	0.3	No	n/a	No

¹ See Exhibit 10-A for the receiver locations.

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

³ Observed nighttime ambient noise levels as shown on Table 5-1.

⁴ Represents the combined ambient conditions plus the Project activities.

⁵ The noise level increase expected with the addition of the proposed Project activities.

⁶ Significance increase criteria as shown in Section 4.

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11 CONSTRUCTION IMPACTS

This section analyzes potential average dBA L_{eq} impacts resulting from the short-term construction activities associated with the development of the Project. Exhibit 11-A shows the construction noise source locations in relation to the nearest residential sensitive receiver locations previously described as R1 and R2 in Section 8. The analysis of construction noise is conservative as it does not account for any topography or existing structure that may obstruct the path of the soundwaves.

11.1 CONSTRUCTION NOISE LEVELS

Noise generated by the Project construction equipment would include a combination of loaders, dozers, excavators, trucks, power tools, concrete mixers, and portable generators that can reach high noise levels. The number and mix of construction equipment is expected to occur in the following stages:

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

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

11.2 TYPICAL CONSTRUCTION REFERENCE NOISE LEVELS

To describe the Project construction noise levels, measurements were collected for similar activities at several construction sites. Table 11-1 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 11-1 have been adjusted for consistency to describe a uniform reference distance of 50 feet.

EXHIBIT 11-A: CONSTRUCTION NOISE SOURCE LOCATIONS






- LEGEND:**
-  Receiver Locations
 -  Distance from receiver to Project site boundary (in feet)
 -  Construction Activity

TABLE 11-1: CONSTRUCTION REFERENCE NOISE LEVELS

Construction Stage	Reference Construction Activity	Reference Noise Level @ 50 Feet (dBA L _{eq}) ¹	Highest Reference Noise Level (dBA L _{eq})
Demolition	Demolition Activity	67.9	71.9
	Backhoe	64.2	
	Water Truck Pass-By & Backup Alarm	71.9	
Site Preparation	Scraper, Water Truck, & Dozer Activity	75.3	75.3
	Backhoe	64.2	
	Water Truck Pass-By & Backup Alarm	71.9	
Excavation	Rough Grading Activities	73.5	73.5
	Water Truck Pass-By & Backup Alarm	71.9	
	Construction Vehicle Maintenance Activities	67.5	
Building Construction	Foundation Trenching	68.2	71.6
	Framing	62.3	
	Concrete Mixer Backup Alarms & Air Brakes	71.6	
Paving	Concrete Mixer Truck Movements	71.2	71.2
	Concrete Paver Activities	65.6	
	Concrete Mixer Pour & Paving Activities	65.9	
Architectural Coating	Air Compressors	65.2	65.2
	Generator	64.9	
	Crane	62.3	

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

11.3 TYPICAL CONSTRUCTION NOISE ANALYSIS

Using the reference construction equipment noise levels and the CadnaA noise prediction model, calculations of the Project construction noise level impacts at the nearest sensitive receiver locations were completed. To assess the worst-case construction noise levels, the Project construction noise analysis relies on the highest noise level impacts when the equipment with the highest reference noise level is operating at the closest point from the edge of primary construction activity (Project site boundary) to each receiver location. Noise calculations are conservative and do not account for the effects of intervening terrain or obstacles. As shown on Table 11-2, the construction noise levels are expected to range from 28.1 to 38.9 dBA L_{eq}, and the highest construction levels are expected to be 38.2 and 38.9 dBA L_{eq} at the nearest receiver locations (R1 and R2, respectively). Appendix 11.1 includes the detailed CadnaA construction noise model inputs.

TABLE 11-2: CONSTRUCTION EQUIPMENT NOISE LEVEL SUMMARY

Receiver Location ¹	Construction Noise Levels (dBA L _{eq})						
	Demolition	Site Preparation	Excavation	Building Construction	Paving	Architectural Coating	Highest Levels ²
R1	34.8	38.2	36.4	34.5	34.1	28.1	38.2
R2	35.5	38.9	37.1	35.2	34.8	28.8	38.9

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

² Construction noise level calculations based on distance from the Project site boundaries (construction activity area) to nearby receiver locations. CadnaA construction noise model inputs are included in Appendix 11.1.

11.4 TYPICAL CONSTRUCTION NOISE LEVEL COMPLIANCE

To evaluate whether the Project will generate potentially significant short-term noise levels at nearby sensitive residential receiver locations, the City’s construction-related the noise level threshold is used as acceptable thresholds to assess construction noise level impacts. The construction noise analysis shows that the nearby receiver locations will satisfy the City of City of San Diego significance threshold during Project construction activities as shown on Table 11-3. Therefore, the noise impacts due to Project construction noise is considered *less than significant* at all receiver locations.

TABLE 11-3: CONSTRUCTION NOISE LEVEL COMPLIANCE

Receiver Location ¹	Construction Noise Levels (dBA L _{eq})		
	Highest Construction Noise Levels ²	Threshold ³	Threshold Exceeded? ⁴
R1	38.2	75	No
R2	38.9	75	No

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

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

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

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

11.5 TYPICAL CONSTRUCTION NOISE INCREASE

To describe the Project construction noise level increases, the Project construction noise levels are combined with the existing ambient noise levels measurements for the nearest receiver locations potentially impacted by Project construction 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:

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

Where “SPL1,” “SPL2,” etc. are equal to the sound pressure levels being combined, or in this case, the Project-construction and existing ambient noise levels. The difference between the combined Project and ambient noise levels describes the Project noise level increases to the existing ambient noise environment. Noise levels that would be experienced at receiver locations when Project-source noise is added to the daytime ambient conditions are presented on Table 11-4. As indicated on Table 11-4, the Project will generate an unmitigated construction noise level increases ranging from 0.2 to 0.5 dBA L_{eq} at the nearest receiver locations. Project-related construction noise level increases will satisfy the short-term noise level increase significance criteria presented in Section 4, the increases at the sensitive receiver locations will be *less than significant*.

TABLE 11-4: PROJECT CONSTRION NOISE LEVEL INCREASES

Receiver Location ¹	Total Project Construction Noise Level ²	Measurement Location	Reference Ambient Noise Levels ³	Combined Project and Ambient ⁴	Project Increase ⁵	Noise Sensitive Land Use?	Increase Criteria ⁶	Increase Criteria Exceeded?
R1	38.2	L2	52.4	52.6	0.2	Yes	10	No
R2	38.9	L3	48.2	48.7	0.5	Yes	10	No

¹ See Exhibit 11-A for the receiver locations.

² Total Project daytime construction noise levels as shown on Table 11-3.

³ Observed daytime ambient noise levels as shown on Table 5-1.

⁴ Represents the combined ambient conditions plus the Project activities.

⁵ The noise level increase expected with the addition of the proposed Project activities.

⁶ Significance increase criteria as discussed in Section 4.

11.6 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 11-5. 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. The FTA provides the following equation: $PPV_{equip} = PPV_{ref} \times (25/D)^{1.5}$

TABLE 11-5: VIBRATION SOURCE LEVELS FOR CONSTRUCTION EQUIPMENT

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

Federal Transit Administration, Transit Noise and Vibration Impact Assessment

Table 11-6 presents the expected Project related typical construction activity vibration levels at each of the nearest receiver locations. At distances ranging from 1,218 to 1,380 feet from the Project construction activity, the transient construction vibration velocity levels are estimated to range from 0.00009 to 0.00026 PPV in/sec. Based on maximum acceptable continuous vibration threshold of 0.5 PPV (in/sec) for older residential structures or commercial buildings, the typical Project construction vibration levels will satisfy the building damage thresholds at all the nearest receiver locations. In addition, the construction vibration analysis on Table 11-6 shows that the impacts will satisfy the *distinctly perceptible* maximum the continuous vibration human annoyance threshold of 0.25 PPV (in/sec) at all the nearest receiver locations. In addition to the nearest residential structures there are existing office buildings on nearby properties that are as close as 155 feet (9791 Towner Centre Drive). At this distance, the highest vibration levels would reach 0.006 PPV in/sec. These levels would be well below the level required to adversely affect the structure and would be below the human annoyance thresholds of perception. Therefore, the vibration impacts due to the typical Project construction activities are considered *less than significant*.

TABLE 11-6: TYPICAL PROJECT CONSTRUCTION VIBRATION LEVELS

Receiver ¹	Structure Type ²	Distance to Const. Activity (Feet) ³	Typical Construction Vibration Levels PPV (in/sec) ⁴				Thresholds PPV (in/sec) ⁵		Thresholds Exceeded?	
			Jackhammer	Loaded Trucks	Large bulldozer	Highest Vibration Level	Building Damage	Human Annoyance	Building Damage	Human Annoyance
R1	Residential	1,380'	0.00009	0.00019	0.00022	0.00022	0.50	0.25	No	No
R2	Residential	1,218'	0.00010	0.00022	0.00026	0.00026	0.05	0.25	No	No

¹ Receiver locations are shown on Exhibit 11-A.

² Caltrans Transportation and Construction Vibration Guidance Manual, April 2020, Tables 19, p. 38.

³ Distance from receiver location to Project construction boundary.

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

⁵ Thresholds for transient sources associated with typical construction activities, Caltrans Transportation and Construction Vibration Manual, April 2020 p.38. (see Tables 3-1 & 3-2).

"PPV" = Peak Particle Velocity

Moreover, the impacts at the site of the closest sensitive receivers 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.

12 LAND USE COMPATIBILITY NOISE ANALYSIS

12.1 EXTERIOR NOISE/LAND USE COMPATIBILITY

Due to the Project location, the Project site has limited exposure to local roadways and is at the terminus of Towne Centre Drive. The surrounding freeways are located over 1,000 feet away from the Project site well beyond the traffic noise modeling distance recommended by the Federal Highway Administration and thus have limited exposure to either I-5 and I-805. Based on the noise measurements in the surrounding neighborhood as shown in Table 5-1, the expected maximum future exterior noise levels were estimated to be 65 dBA CNEL or less. Similarly, based on the MCAS Miramar ALUCP, the Project site would not be exposed to aircraft noise in excess of 60 CNEL. Therefore, exterior noise level the Project would be compatible with the City of San Diego standards.

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13 SENSITIVE WILDLIFE IMPACTS

13.1 CITY OF SAN DIEGO MULTIPLE HABITAT PLANNING AREA

According to the Project biological assessment while the Project site is within the MHPA, “the proposed project impact footprint is not within the City of San Diego MHPA” but will occur directly adjacent to the MHPA (22). “Therefore, the project must ensure that indirect impacts to the MHPA are minimized.” Section 1.4.3 of the City’s Subarea Plan outlines the requirements to address indirect effects related to noise.

Section 1.4.3 of the City’s Subarea Plan, states that “uses in or adjacent to the MHPA should be designed to minimize noise impacts. Berms or walls should be constructed adjacent to commercial areas, recreational areas, and any other use that may introduce noises that could impact or interfere with wildlife utilization of the MHPA. Excessively noisy uses or activities adjacent to breeding areas must incorporate noise reduction measures and be curtailed during the breeding season of sensitive species. Adequate noise reduction measures should also be incorporated for the remainder of the year.”

Based on this guidance, the biological assessment has assessed the potential construction and operation noise impacts to sensitive avian species and includes adequate noise mitigation for Project construction. No impacts from operation were identified and no mitigation was required. Impacts to sensitive wildlife are not further addressed in this noise analysis.

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14 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.
4. **U.S. Department of Transportation, Federal Highway Administration, Office of Environment and Planning, Noise and Air Quality Branch.** *Highway Traffic Noise Analysis and Abatement Policy and Guidance*. December 2011.
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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.
7. **U.S. Department of Transportation, Federal Transit Administration.** *Transit Noise and Vibration Impact Assessment Manual*. September 2018.
8. **Office of Planning and Research.** *State of California General Plan Guidelines 2003*. October 2003.
9. **City of San Diego.** *California Environmental Quality Act Significance Determination Thresholds*. San Diego, California, San Diego : s.n., July 2016.
10. —. General Plan, Noise Element. *City of San Diego General Plan*. [Online] June 29, 2015. [Cited: January 4, 2021.] <https://www.sandiego.gov/sites/default/files/legacy/planning/genplan/pdf/generalplan/adoptednoiseelem.pdf>.
11. —. Municipal Code - Chapter 5, Public Safety, Morals, and Welfare, Article 9.5: Noise Abatement and Control. *The City of San Diego, Municipal Code*. [Online] [Cited: January 4, 2021.] <https://docs.sandiego.gov/municode/MuniCodeChapter05/Ch05Art9.5Division05.pdf>.
12. **U.S. Department of Transportation, Federal Transit Administration.** *Transit Noise and Vibration Impact Assessment Manual*. September 2018.
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14. **County of San Diego.** *County of San Diego Guidelines for Determining Significance Noise*. 2009.
15. **San Diego County Airport Land Use Commission.** *MCAS Miramar Airport Land Use Compatibility Plan*. 2011.
16. **American National Standards Institute (ANSI).** *Specification for Sound Level Meters ANSI S1.4-2014/IEC 61672-1:2013*.
17. **California Department of Transportation (Caltrans).** *Transportation and Construction Vibration Guidance Manual*. April 2020.
18. **U.S. Department of Transportation, Federal Highway Administration.** *FHWA Highway Traffic Noise Prediction Model*. December 1978. FHWA-RD-77-108.

19. **Urban System Associates, Inc.** *Towne Centre View Traffic Impact Analysis*. 2021.
20. **Urban Crossroads, Inc.** *Towne Centre View Air Quality Impact Analysis*. 2021.
21. *Prediction of parking area noise in Australian conditions*. **Nicol, Laurence and Paul Johnson**. s.l. : Gold Coast, Australia. Proceedings of ACOUSTICS 2011. Vols. 2-4 November 2011, p. Paper Number 39. Paper Number 39,.
22. **Alden Environmental, Inc.** *Towne Centre View Project*. 2021.
23. **U.S. Department of Transportation, Federal Highway Administration, Office of Environment and Planning, Noise and Air Quality Branch.** *Highway Traffic Noise Analysis and Abatement Policy and Guidance*. December 2011.

APPENDIX 3.1:

CITY OF SAN DIEGO MUNICIPAL CODE

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Article 9.5: Noise Abatement and Control

Division 4: Limits

(“Noise Level Limits, Standards and Control”

added 9–18–1973 by O–11122 N.S.)

(Retitled to “Limits” on 9–22–1976 by O–11916 N.S.)

§59.5.0401 Sound Level Limits

- (a) It shall be unlawful for any person to cause noise by any means to the extent that the one-hour average sound level exceeds the applicable limit given in the following table, at any location in the City of San Diego on or beyond the boundaries of the property on which the noise is produced. The noise subject to these limits is that part of the total noise at the specified location that is due solely to the action of said person.

TABLE OF APPLICABLE LIMITS

Land Use	Time of Day	One-Hour Average Sound Level (decibels)
1. Single Family Residential	7 a.m. to 7 p.m.	50
	7 p.m. to 10 p.m.	45
	10 p.m. to 7 a.m.	40
2. Multi-Family Residential (Up to a maximum density of 1/2000)	7 a.m. to 7 p.m.	55
	7 p.m. to 10 p.m.	50
	10 p.m. to 7 a.m.	45
3. All other Residential	7 a.m. to 7 p.m.	60
	7 p.m. to 10 p.m.	55
	10 p.m. to 7 a.m.	50
4. Commercial	7 a.m. to 7 p.m.	65
	7 p.m. to 10 p.m.	60
	10 p.m. to 7 a.m.	60
5. Industrial or Agricultural	any time	75

- (b) The sound level limit at a location on a boundary between two zoning districts is the arithmetic mean of the respective limits for the two districts. Permissible construction noise level limits shall be governed by Sections 59.5.0404 of this article.

- (c) Fixed-location public utility distribution or transmission facilities located on or adjacent to a property line shall be subject to the noise level limits of Part A. of this section, measured at or beyond six feet from the boundary of the easement upon which the equipment is located.
- (d) This section does not apply to firework displays authorized by permit from the Fire Department.
- (e) This section does not apply to noise generated by helicopters at heliports or helistops authorized by a conditional use permit, nor to any roller coaster operated on City-owned parkland.

(Amended 9-11-1989 by O-17337 N.S.)

(Amended 11-28-2005 by O-19446 N.S.; effective 2-9-2006.)

§59.5.0402 Motor Vehicles

- (a) Off-Highway
 - (1) Except as otherwise provided for in this article, it shall be unlawful to operate any motor vehicle of any type on any site, other than on a public street or highway as defined in the California Vehicle Code, in any manner so as to cause noise in excess of those noise levels permitted for on-highway motor vehicles as specified in the table for “45 mile-per-hour or less speed limits” contained in Section 23130 of the California Vehicle Code, and as corrected for distances set forth in subsection A.2. below.

- (2) Corrections

The maximum noise level as the off-highway vehicle passes may be measured at a distance of other than fifty (50) feet from the center line of travel, provided the measurement is further adjusted by adding algebraically the applicable correction as follows:

Distance (Feet)	Correction (decibels)
25	-6
28	-5
32	-4
35	-3
40	-2
45	-1
50 (preferred distance)	0
56	+1
63	+2
70	+3
80	+4
90	+5
100	+6

- (3) A measured noise level thus corrected shall be deemed in violation of this section if it exceeds the applicable noise-level limit as specified above.
- (b) Nothing in this section shall apply to authorized emergency vehicles when being used in emergency situations, including the blowing of sirens and/or horns.
(“Motor Vehicles” renumbered from Sec. 59.5.0403 on 9-22-1976 by O-11916 N.S.)

§59.5.0403 Watercraft

Violations for excessive noise of watercraft operating in waters under the jurisdiction of The City of San Diego shall be prosecuted under applicable provisions of the California Harbors and Navigation Code. Permits issued by The City of San Diego for the operation of watercraft not in compliance with noise criteria of the Harbors and Navigation Code shall be reviewed and approved by the Administrator prior to issuance.
(“Watercraft” renumbered from Sec. 59.5.0407 and amended 9-22-1976 by O-11916 N.S.)

§59.5.0404 Construction Noise

- (a) It shall be unlawful for any person, between the hours of 7:00 p.m. of any day and 7:00 a.m. of the following day, or on legal holidays as specified in Section 21.0104 of the San Diego Municipal Code, with exception of Columbus Day and Washington’s Birthday, or on Sundays, to erect, construct, demolish, excavate for, alter or repair any building or structure in such a manner as to create disturbing, excessive or offensive noise unless a permit has been applied for and granted beforehand by the Noise Abatement and Control Administrator. In granting such permit, the Administrator shall consider whether the construction noise in the vicinity of the proposed work site would be less objectionable at night than during the daytime because of different population densities or different neighboring activities; whether obstruction and interference with traffic particularly on streets of major importance, would be less objectionable at night than during the daytime; whether the type of work to be performed emits noises at such a low level as to not cause significant disturbances in the vicinity of the work site; the character and nature of the neighborhood of the proposed work site; whether great economic hardship would occur if the work were spread over a longer time; whether proposed night work is in the general public interest; and he shall prescribe such conditions, working times, types of construction equipment to be used, and permissible noise levels as he deems to be required in the public interest.
- (b) Except as provided in subsection C. hereof, it shall be unlawful for any person, including The City of San Diego, to conduct any construction activity so as to cause, at or beyond the property lines of any property zoned residential, an average sound level greater than 75 decibels during the 12-hour period from 7:00 a.m. to 7:00 p.m.
- (c) The provisions of subsection B. of this section shall not apply to construction equipment used in connection with emergency work, provided the Administrator is notified within 48 hours after commencement of work.

(Amended 1-3-1984 by O-16100 N.S.)

(Amended 8-9-2019 by O-21114 N.S.; effective 9-8-2019.)

Ch.	Art.	Div.
5	9.5	4

§59.5.0406 Refuse Vehicles and Parking Lot Sweepers

No person shall operate or permit to be operated a refuse compacting, processing, or collection vehicle between the hours of 7:00 p.m. to 6:00 a.m. or a parking lot sweeper between the hours of 7:00 p.m. to 7:00 a.m. in any residential area unless a permit has been applied for and granted by the Administrator.

(“Refuse Vehicles” added 9-18-1973 by O-11122 N.S.; amended 9-22-1976 by O-11916 N.S.)

(Amended 6-9-2010 by O-19960 N.S.; effective 7-9-2010.)

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APPENDIX 5.1:
STUDY AREA PHOTOS

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JN: 13564 Study Area Photos



L1_E

32, 53' 17.530000", 117, 12' 32.120000"



L1_N

32, 53' 17.610000", 117, 12' 32.340000"



L1_S

32, 53' 17.800000", 117, 12' 32.180000"



L1_W

32, 53' 17.530000", 117, 12' 32.120000"



L2_E

32, 52' 56.500000", 117, 12' 44.620000"



L2_N

32, 52' 54.510000", 117, 12' 45.420000"

JN: 13564 Study Area Photos



L2_S
32, 52' 56.500000", 117, 12' 44.620000"



L2_W
32, 52' 56.350000", 117, 12' 44.700000"



L3_E
32, 53' 12.300000", 117, 13' 18.870000"



L3_N
32, 53' 12.280000", 117, 13' 18.930000"



L3_S
32, 53' 12.300000", 117, 13' 18.870000"



L3_W
32, 52' 56.190000", 117, 13' 6.180000"

JN: 13564 Study Area Photos



L4_E
32, 53' 12.270000", 117, 13' 18.900000"



L4_N
32, 53' 17.490000", 117, 12' 32.120000"



L4_S
32, 53' 12.240000", 117, 13' 18.870000"



L4_W
32, 53' 12.280000", 117, 13' 18.930000"

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APPENDIX 5.2:
NOISE LEVEL MEASUREMENT WORKSHEETS

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24-Hour Noise Level Measurement Summary

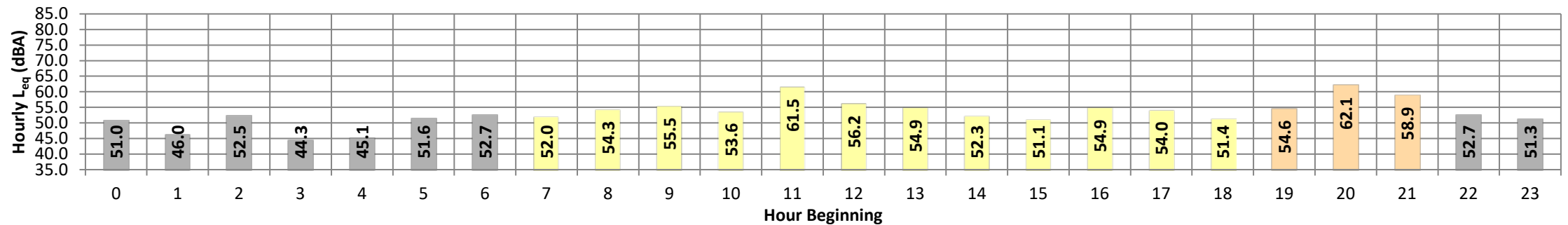
Date: Wednesday, June 24, 2020
Project: Towne Centre View

Location: L1 - Located east of the project site next to Scripps Health near Sorrento Valley Road.

Meter: Piccolo II

JN: 13564
Analyst: P. Mara

Hourly L_{eq} dBA Readings (unadjusted)



Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L_{eq}	Adj.	Adj. L_{eq}
Night	0	51.0	56.4	43.4	56.1	55.8	55.6	55.4	52.5	48.4	44.5	44.0	43.6	51.0	10.0	61.0
	1	46.0	50.5	42.7	50.1	49.7	49.1	48.5	47.0	45.4	43.3	43.1	42.8	46.0	10.0	56.0
	2	52.5	68.2	51.6	67.7	67.6	66.9	66.5	63.7	61.0	53.6	52.4	51.7	52.5	10.0	62.5
	3	44.3	46.6	42.7	46.4	46.2	45.8	45.6	44.8	44.1	43.1	43.0	42.8	44.3	10.0	54.3
	4	45.1	47.2	43.5	47.0	46.8	46.4	46.2	45.5	44.9	44.0	43.8	43.6	45.1	10.0	55.1
	5	51.6	58.1	46.8	58.0	57.8	57.0	56.5	52.4	48.6	47.3	47.1	46.9	51.6	10.0	61.6
Day	6	52.7	60.3	47.6	60.0	59.6	58.9	57.9	51.4	49.2	48.1	47.9	47.7	52.7	10.0	62.7
	7	52.0	61.0	46.6	60.7	60.1	58.4	56.6	50.8	48.6	47.2	47.0	46.7	52.0	0.0	52.0
	8	54.3	80.1	55.1	79.6	79.3	78.0	76.7	72.8	69.3	59.7	57.8	56.4	54.3	0.0	54.3
	9	55.5	64.0	47.0	63.7	63.4	62.6	61.9	53.9	49.1	47.5	47.3	47.1	55.5	0.0	55.5
	10	53.6	63.4	46.6	62.6	62.0	60.9	58.9	53.2	49.4	47.1	46.9	46.7	53.6	0.0	53.6
	11	61.5	77.7	48.5	77.0	76.2	74.9	73.3	66.2	55.5	49.5	49.2	48.7	61.5	0.0	61.5
	12	56.2	77.0	48.3	76.4	76.1	75.4	74.6	66.9	55.1	48.9	48.6	48.4	56.2	0.0	56.2
	13	54.9	77.2	48.2	76.7	76.2	74.6	73.3	65.7	54.5	48.9	48.6	48.3	54.9	0.0	54.9
	14	52.3	60.6	47.7	59.8	59.0	57.7	56.9	52.9	49.7	48.2	48.0	47.8	52.3	0.0	52.3
	15	51.1	58.5	47.3	58.1	57.8	57.3	55.7	50.3	48.6	47.7	47.5	47.3	51.1	0.0	51.1
	16	54.9	61.9	47.2	61.7	61.6	60.9	60.4	55.8	49.7	47.9	47.6	47.3	54.9	0.0	54.9
	17	54.0	61.2	46.8	60.9	60.4	59.7	59.2	55.0	50.0	47.5	47.2	46.9	54.0	0.0	54.0
Evening	18	51.4	58.7	46.3	58.5	58.3	57.7	56.6	51.0	48.1	46.7	46.5	46.3	51.4	0.0	51.4
	19	54.6	61.7	46.0	61.5	61.1	60.4	59.7	56.1	50.2	46.7	46.4	46.1	54.6	5.0	59.6
	20	62.1	67.7	54.4	67.4	67.1	66.5	66.0	63.7	60.5	55.3	54.9	54.5	62.1	5.0	67.1
Night	21	58.9	66.7	48.9	66.3	66.0	65.0	63.4	60.4	55.6	50.1	49.6	49.1	58.9	5.0	63.9
	22	52.7	65.8	49.3	65.5	65.2	64.4	63.6	61.1	57.7	50.8	50.1	49.5	52.7	10.0	62.7
23	51.3	71.7	53.1	71.6	71.3	70.8	70.5	68.6	64.0	54.6	54.0	53.3	51.3	10.0	61.3	
Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L_{eq} (dBA)		
Day	Min	51.1	58.5	46.3	58.1	57.8	57.3	55.7	50.3	48.1	46.7	46.5	46.3	24-Hour	Daytime	Nighttime
	Max	61.5	80.1	55.1	79.6	79.3	78.0	76.7	72.8	69.3	59.7	57.8	56.4			
Energy Average		55.4	Average:		66.3	65.9	64.8	63.7	57.9	52.3	48.9	48.5	48.2	55.2	56.6	50.7
Evening	Min	54.6	61.7	46.0	61.5	61.1	60.4	59.7	56.1	50.2	46.7	46.4	46.1			
	Max	62.1	67.7	54.4	67.4	67.1	66.5	66.0	63.7	60.5	55.3	54.9	54.5	24-Hour CNEL (dBA)		
Energy Average		59.5	Average:		65.1	64.8	64.0	63.0	60.1	55.4	50.7	50.3	49.9	59.8		
Night	Min	44.3	46.6	42.7	46.4	46.2	45.8	45.6	44.8	44.1	43.1	43.0	42.8			
	Max	52.7	71.7	53.1	71.6	71.3	70.8	70.5	68.6	64.0	54.6	54.0	53.3			
Energy Average		50.7	Average:		58.0	57.8	57.2	56.7	54.1	51.5	47.7	47.3	46.9			



24-Hour Noise Level Measurement Summary

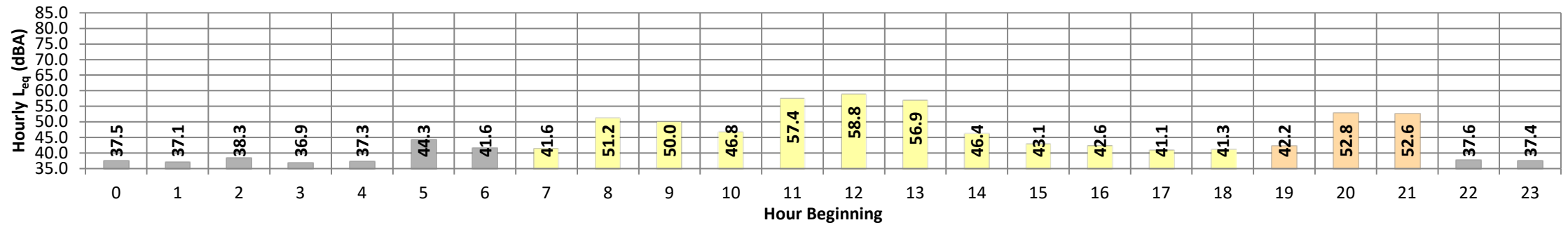
Date: Wednesday, June 24, 2020
Project: Towne Centre View

Location: L2 - Located south of the Project site on Caminito Del Feliz near existing multi-family residential homes at 9669 Caminito Del Feliz.

Meter: Piccolo II

JN: 13564
Analyst: P. Mara

Hourly L_{eq} dBA Readings (unadjusted)



Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L_{eq}	Adj.	Adj. L_{eq}			
Night	0	37.5	38.7	36.9	38.6	38.4	38.2	38.1	37.7	37.4	37.1	37.0	36.9	37.5	10.0	47.5			
	1	37.1	38.0	36.6	37.9	37.7	37.5	37.4	37.2	37.0	36.8	36.7	36.6	37.1	10.0	47.1			
	2	38.3	41.6	36.6	41.2	40.9	40.1	39.9	39.0	37.8	36.9	36.8	36.7	38.3	10.0	48.3			
	3	36.9	37.5	36.5	37.4	37.3	37.2	37.2	37.0	36.9	36.7	36.6	36.5	36.9	10.0	46.9			
	4	37.3	38.5	36.8	38.3	38.2	37.9	37.8	37.4	37.3	37.0	37.0	36.9	37.3	10.0	47.3			
	5	44.3	49.9	38.9	49.0	48.6	47.8	47.3	45.4	43.5	40.5	39.9	39.2	44.3	10.0	54.3			
Day	6	41.6	50.8	38.3	50.2	49.6	46.7	44.6	40.7	39.6	38.7	38.6	38.4	41.6	10.0	51.6			
	7	41.6	47.4	38.6	47.1	46.9	46.1	45.1	41.8	39.7	39.0	38.8	38.7	41.6	0.0	41.6			
	8	51.2	71.2	48.0	70.8	70.5	69.9	69.4	65.7	60.5	53.6	49.4	48.4	51.2	0.0	51.2			
	9	50.0	59.8	39.1	59.2	58.8	57.6	56.7	48.0	42.2	39.6	39.4	39.1	50.0	0.0	50.0			
	10	46.8	55.0	40.3	54.6	54.1	52.9	52.0	45.9	43.2	40.8	40.6	40.4	46.8	0.0	46.8			
	11	57.4	81.1	42.1	79.9	79.2	77.0	74.0	60.3	50.4	43.3	42.9	42.2	57.4	0.0	57.4			
	12	58.8	69.8	42.0	68.8	67.8	65.9	64.2	58.8	52.0	42.6	42.4	42.2	58.8	0.0	58.8			
	13	56.9	67.9	41.7	66.9	66.1	64.6	63.6	55.4	48.3	42.8	42.2	41.8	56.9	0.0	56.9			
	14	46.4	52.5	41.5	52.2	51.7	50.8	49.9	47.5	45.0	42.1	41.8	41.6	46.4	0.0	46.4			
	15	43.1	51.4	40.0	50.6	49.4	47.2	46.2	42.9	41.4	40.4	40.3	40.1	43.1	0.0	43.1			
	16	42.6	48.6	39.5	48.0	47.5	46.1	45.3	43.0	41.6	40.1	39.8	39.6	42.6	0.0	42.6			
	17	41.1	45.4	39.1	44.9	44.4	43.4	43.0	41.7	40.6	39.5	39.4	39.2	41.1	0.0	41.1			
	18	41.3	45.5	38.8	45.2	44.9	44.3	43.8	42.1	40.6	39.2	39.0	38.9	41.3	0.0	41.3			
Evening	19	42.2	50.4	38.9	49.0	48.2	46.6	45.4	42.1	40.5	39.4	39.2	39.0	42.2	5.0	47.2			
	20	52.8	61.2	39.4	60.5	59.6	58.3	57.7	54.2	50.2	40.6	40.1	39.6	52.8	5.0	57.8			
	21	52.6	60.8	37.5	60.2	59.7	58.5	57.9	54.7	49.3	37.8	37.7	37.6	52.6	5.0	57.6			
Night	22	37.6	39.0	37.0	38.8	38.6	38.2	38.1	37.8	37.5	37.2	37.1	37.0	37.6	10.0	47.6			
	23	37.4	38.8	36.7	38.7	38.5	38.2	38.1	37.6	37.3	36.9	36.9	36.8	37.4	10.0	47.4			
Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L_{eq} (dBA)					
Day	Min	41.1	45.4	38.6	44.9	44.4	43.4	43.0	41.7	39.7	39.0	38.8	38.7	24-Hour	Daytime	Nighttime			
	Max	58.8	81.1	48.0	79.9	79.2	77.0	74.0	65.7	60.5	53.6	49.4	48.4						
Energy Average		52.6	Average:		57.3	56.8	55.5	54.4	49.4	45.5	41.9	41.3	41.0	50.5	52.4	39.5			
Evening	Min	42.2	50.4	37.5	49.0	48.2	46.6	45.4	42.1	40.5	37.8	37.7	37.6				24-Hour CNEL (dBA)		
	Max	52.8	61.2	39.4	60.5	59.7	58.5	57.9	54.7	50.2	40.6	40.1	39.6				52.5		
Energy Average		51.1	Average:		56.6	55.8	54.5	53.7	50.3	46.7	39.3	39.0	38.7						
Night	Min	36.9	37.5	36.5	37.4	37.3	37.2	37.2	37.0	36.9	36.7	36.6	36.5						
	Max	44.3	50.8	38.9	50.2	49.6	47.8	47.3	45.4	43.5	40.5	39.9	39.2						
Energy Average		39.5	Average:		41.1	40.9	40.2	39.8	38.9	38.3	37.5	37.4	37.2						



24-Hour Noise Level Measurement Summary

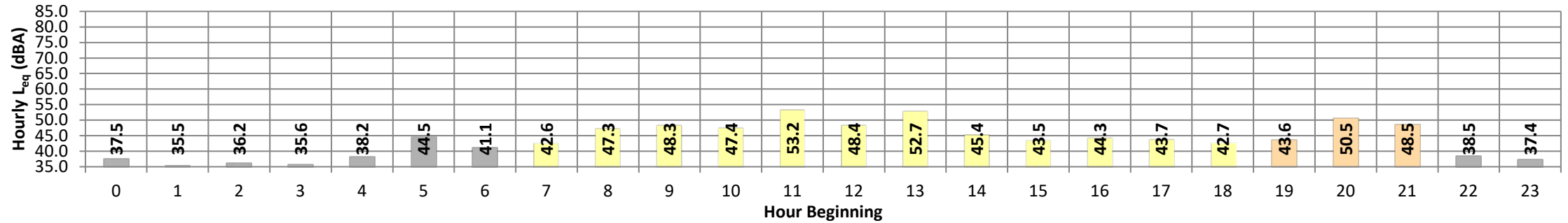
Date: Wednesday, June 24, 2020
Project: Towne Centre View

Location: L3 - Located south of the Project site on Leeds Street near
existing multi-family residential homes at 9837 Genesee
Avenue.

Meter: Piccolo II

JN: 13564
Analyst: P. Mara

Hourly L_{eq} dBA Readings (unadjusted)



Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L_{eq}	Adj.	Adj. L_{eq}
Night	0	37.5	41.3	34.9	41.1	40.9	40.3	39.7	38.1	36.9	35.3	35.2	35.0	37.5	10.0	47.5
	1	35.5	41.8	33.9	41.0	40.2	38.7	37.5	35.4	34.7	34.1	34.0	33.9	35.5	10.0	45.5
	2	36.2	39.8	34.0	39.6	39.4	38.8	38.5	36.8	35.7	34.3	34.2	34.0	36.2	10.0	46.2
	3	35.6	38.2	34.7	37.9	37.5	36.9	36.6	35.9	35.4	34.9	34.8	34.7	35.6	10.0	45.6
	4	38.2	43.2	35.9	42.7	42.0	40.6	39.8	38.5	37.8	36.7	36.4	36.1	38.2	10.0	48.2
	5	44.5	49.6	39.8	48.9	48.5	47.8	47.3	45.7	43.5	41.0	40.7	40.1	44.5	10.0	54.5
Day	6	41.1	46.0	38.5	45.6	45.2	44.0	43.3	41.5	40.4	39.0	38.8	38.6	41.1	10.0	51.1
	7	42.6	48.6	38.8	48.2	47.6	46.3	45.7	43.3	41.5	39.5	39.2	38.9	42.6	0.0	42.6
	8	47.3	68.5	44.6	67.2	66.9	65.8	65.3	61.5	58.6	47.7	45.9	45.1	47.3	0.0	47.3
	9	48.3	56.5	39.5	55.7	55.0	53.9	53.3	49.8	44.1	40.0	39.8	39.6	48.3	0.0	48.3
	10	47.4	55.7	40.8	55.2	54.7	53.1	52.0	47.5	44.3	41.6	41.2	40.9	47.4	0.0	47.4
	11	53.2	73.4	44.0	72.9	71.9	70.8	69.7	58.1	51.4	45.3	44.7	44.2	53.2	0.0	53.2
	12	48.4	65.8	44.8	65.2	64.8	63.9	63.3	56.5	50.7	45.8	45.4	45.0	48.4	0.0	48.4
	13	52.7	67.7	43.8	67.2	66.7	65.4	63.6	54.3	49.7	45.5	44.9	44.1	52.7	0.0	52.7
	14	45.4	51.3	41.3	50.7	50.3	49.2	48.5	46.1	44.3	42.1	41.7	41.4	45.4	0.0	45.4
	15	43.5	50.0	39.1	49.5	48.9	48.0	47.2	44.4	41.5	39.7	39.4	39.2	43.5	0.0	43.5
	16	44.3	51.6	39.2	51.0	50.5	49.0	48.3	44.6	42.2	39.8	39.6	39.3	44.3	0.0	44.3
	17	43.7	50.2	39.4	49.6	49.0	47.6	46.9	44.5	42.6	40.0	39.8	39.5	43.7	0.0	43.7
	18	42.7	48.0	38.7	47.6	47.2	46.4	45.5	43.7	41.8	39.4	39.2	38.8	42.7	0.0	42.7
Evening	19	43.6	48.8	39.2	48.4	48.1	47.4	46.9	44.8	42.2	39.9	39.7	39.4	43.6	5.0	48.6
	20	50.5	57.8	41.3	57.3	57.0	55.8	55.1	51.8	47.6	43.2	42.8	41.7	50.5	5.0	55.5
	21	48.5	54.5	36.3	54.2	53.7	53.2	52.7	50.4	46.5	38.5	38.1	36.4	48.5	5.0	53.5
Night	22	38.5	46.4	35.5	45.3	44.1	42.0	41.3	38.8	37.2	35.9	35.7	35.5	38.5	10.0	48.5
	23	37.4	44.4	35.2	43.3	41.9	40.0	39.2	37.5	36.7	35.7	35.5	35.3	37.4	10.0	47.4
Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L_{eq} (dBA)		
Day	Min	42.6	48.0	38.7	47.6	47.2	46.3	45.5	43.3	41.5	39.4	39.2	38.8	24-Hour	Daytime	Nighttime
	Max	53.2	73.4	44.8	72.9	71.9	70.8	69.7	61.5	58.6	47.7	45.9	45.1			
Energy Average		48.2	Average:		56.7	56.1	54.9	54.1	49.5	46.1	42.2	41.7	41.3	24-Hour CNEL (dBA)		
Evening	Min	43.6	48.8	36.3	48.4	48.1	47.4	46.9	44.8	42.2	38.5	38.1	36.4			
	Max	50.5	57.8	41.3	57.3	57.0	55.8	55.1	51.8	47.6	43.2	42.8	41.7			
Energy Average		48.4	Average:		53.3	52.9	52.1	51.6	49.0	45.4	40.5	40.2	39.1	24-Hour CNEL (dBA)		
Night	Min	35.5	38.2	33.9	37.9	37.5	36.9	36.6	35.4	34.7	34.1	34.0	33.9			
	Max	44.5	49.6	39.8	48.9	48.5	47.8	47.3	45.7	43.5	41.0	40.7	40.1			
Energy Average		39.3	Average:		42.8	42.2	41.0	40.4	38.7	37.6	36.3	36.2	35.9	24-Hour CNEL (dBA)		
49.6																



24-Hour Noise Level Measurement Summary

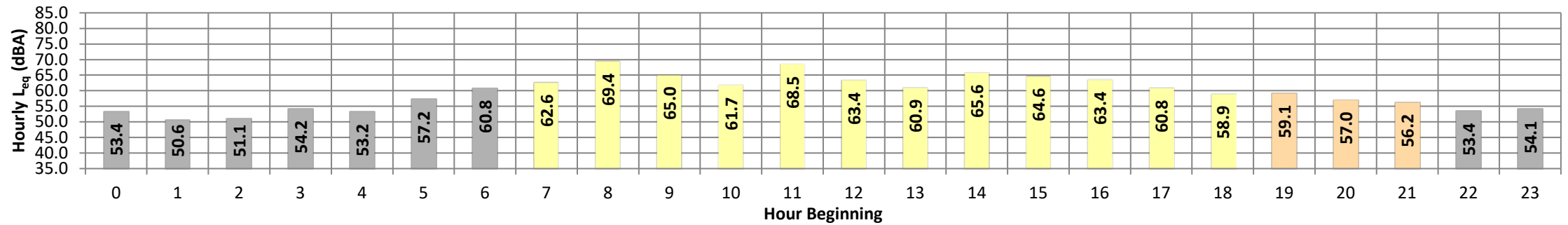
Date: Wednesday, June 24, 2020
Project: Towne Centre View

Location: L4 - Located west of the Project site near Scripps Health
Campus Point A at 10140 Campus Point Drive.

Meter: Piccolo II

JN: 13564
Analyst: P. Mara

Hourly L_{eq} dBA Readings (unadjusted)



Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L_{eq}	Adj.	Adj. L_{eq}
Night	0	53.4	66.3	41.3	66.0	65.1	61.4	58.3	45.8	42.6	41.7	41.6	41.4	53.4	10.0	63.4
	1	50.6	62.8	41.7	62.6	61.8	58.6	55.1	45.7	43.7	42.2	42.0	41.8	50.6	10.0	60.6
	2	51.1	60.0	43.7	59.6	58.8	55.9	53.7	51.3	49.6	45.8	45.0	44.1	51.1	10.0	61.1
	3	54.2	65.7	45.2	65.3	64.7	61.0	57.6	52.2	50.4	47.1	46.4	45.7	54.2	10.0	64.2
	4	53.2	64.5	43.0	64.1	63.3	60.1	57.8	51.3	48.3	44.7	44.1	43.4	53.2	10.0	63.2
	5	57.2	67.8	46.5	67.4	66.5	63.8	62.0	56.3	52.8	48.7	47.9	47.0	57.2	10.0	67.2
Day	6	60.8	71.8	47.4	71.4	70.8	67.8	65.6	59.6	55.1	49.8	49.0	47.9	60.8	10.0	70.8
	7	62.6	73.2	50.4	72.6	71.9	69.7	68.3	61.5	56.7	51.8	51.2	50.6	62.6	0.0	62.6
	8	69.4	77.6	51.5	76.7	76.2	74.8	73.9	70.7	66.7	59.8	58.7	57.5	69.4	0.0	69.4
	9	65.0	75.5	50.3	75.0	74.1	71.7	70.1	64.7	59.4	53.3	52.3	51.1	65.0	0.0	65.0
	10	61.7	73.0	47.0	72.6	71.6	69.2	67.3	60.1	53.4	47.8	47.4	47.1	61.7	0.0	61.7
	11	68.5	79.0	48.5	78.6	78.2	76.4	75.5	66.4	55.4	49.8	49.2	48.6	68.5	0.0	68.5
	12	63.4	74.1	50.4	73.4	72.7	70.7	68.4	62.1	56.0	51.3	50.9	50.5	63.4	0.0	63.4
	13	60.9	71.8	49.8	71.2	70.2	67.5	65.9	60.3	55.6	51.5	50.9	50.0	60.9	0.0	60.9
	14	65.6	75.7	53.8	75.0	74.0	71.6	69.9	66.4	61.6	56.4	54.9	54.0	65.6	0.0	65.6
	15	64.6	78.0	46.8	77.2	76.0	69.5	67.6	61.1	54.1	47.9	47.4	46.9	64.6	0.0	64.6
	16	63.4	77.4	46.0	76.2	74.8	70.9	68.2	62.5	55.4	47.3	46.6	46.2	63.4	0.0	63.4
	17	60.8	71.4	46.2	70.9	70.0	67.8	66.5	60.4	54.2	47.5	46.8	46.3	60.8	0.0	60.8
Evening	18	58.9	70.2	44.7	69.8	68.9	66.7	64.7	56.9	50.6	45.3	45.1	44.8	58.9	0.0	58.9
	19	59.1	73.3	44.7	72.6	71.1	66.2	62.7	53.2	48.4	45.4	45.1	44.8	59.1	5.0	64.1
	20	57.0	67.3	44.9	66.8	65.8	63.3	61.6	57.8	52.2	46.4	45.6	45.1	57.0	5.0	62.0
Night	21	56.2	68.1	43.2	67.6	66.4	63.0	61.0	55.6	48.8	43.7	43.5	43.3	56.2	5.0	61.2
	22	53.4	66.5	43.2	66.0	64.8	60.9	57.8	48.3	44.4	43.5	43.5	43.3	53.4	10.0	63.4
	23	54.1	67.0	42.4	66.7	65.7	62.0	59.0	48.5	43.9	42.7	42.6	42.5	54.1	10.0	64.1
Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L_{eq} (dBA)		
Day	Min	58.9	70.2	44.7	69.8	68.9	66.7	64.7	56.9	50.6	45.3	45.1	44.8	24-Hour	Daytime	Nighttime
	Max	69.4	79.0	53.8	78.6	78.2	76.4	75.5	70.7	66.7	59.8	58.7	57.5			
Energy Average		64.8	Average:		74.1	73.2	70.5	68.8	62.8	56.6	50.8	50.1	49.5	62.4		
Evening	Min	56.2	67.3	43.2	66.8	65.8	63.0	61.0	53.2	48.4	43.7	43.5	43.3	24-Hour CNEL (dBA)		
	Max	59.1	73.3	44.9	72.6	71.1	66.2	62.7	57.8	52.2	46.4	45.6	45.1	64.1		
Energy Average		57.7	Average:		69.0	67.8	64.2	61.7	55.5	49.8	45.2	44.7	44.4	64.8		
Night	Min	50.6	60.0	41.3	59.6	58.8	55.9	53.7	45.7	42.6	41.7	41.6	41.4			
	Max	60.8	71.8	47.4	71.4	70.8	67.8	65.6	59.6	55.1	49.8	49.0	47.9			
Energy Average		55.4	Average:		65.5	64.6	61.3	58.5	51.0	47.9	45.1	44.7	44.1			



APPENDIX 7.1:
OFF-SITE TRAFFIC NOISE LEVEL CALCULATIONS

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Model Input

Project Name	Towne Centre View		
Project Number	13564		
Modeling Scenario	Existing		
Site Absorption	Soft	Peak Hour Ratio	10
Descriptor	CNEL	Traffic Volume	ADT

Segment Number	Roadway	Segment		Traffic Volume	Speed (mph)	Distance to Centerline	Vehicle Classification Mix (%)					24-Hour Traffic Distribution (%)			K-Factor	
		From	To				Automobiles	Motorcycles	Bus	Medium Trucks	Heavy Trucks	Day	Evening	Night		
1	Towne Centre Drive	Westerra Court	Towne Centre Court	9,322	40	50	97.42				1.84	0.74	77.7	12.68	9.62	
2	Towne Centre Drive	Towne Centre Court	Eastgate Mall	9,262	40	50	97.42				1.84	0.74	77.7	12.68	9.62	
3	Towne Centre Drive	Eastgate Mall	Executive Drive	15,274	40	50	97.42				1.84	0.74	77.7	12.68	9.62	
4	Towne Centre Drive	Executive Drive	Towne Centre Drive	21,886	40	50	97.42				1.84	0.74	77.7	12.68	9.62	
5	Towne Centre Drive	Towne Centre Drive	La Jolla Village Drive	21,886	40	50	97.42				1.84	0.74	77.7	12.68	9.62	
6	Judicial Drive	Eastgate Mall	Executive Drive	5,454	30	50	97.42				1.84	0.74	77.7	12.68	9.62	
7	Judicial Drive	Executive Drive	Judicial Driveway	9,028	30	50	97.42				1.84	0.74	77.7	12.68	9.62	
8	Judicial Drive	Judicial Driveway	Golden Haven Drive /	9,320	30	50	97.42				1.84	0.74	77.7	12.68	9.62	
9	Judicial Drive	Golden Haven Drive /	Sydney Court	9,047	30	50	97.42				1.84	0.74	77.7	12.68	9.62	
10	Judicial Drive	Sydney Court	Illumina Way	9,047	30	50	97.42				1.84	0.74	77.7	12.68	9.62	
11	Judicial Drive	Illumina Way	Nobel Drive	13,263	30	50	97.42				1.84	0.74	77.7	12.68	9.62	
12	Nobel Drive	Judicial Drive	I-805 SB On-Ramp	26,336	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
13	Nobel Drive	I-805 SB On-Ramp	I-805 NB Off-Ramp	18,794	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
14	Eastgate Mall	Regents Road	Genesee Avenue	6,400	35	50	97.42				1.84	0.74	77.7	12.68	9.62	
15	Eastgate Mall	Genesee Avenue	Easter Way	14,817	35	50	97.42				1.84	0.74	77.7	12.68	9.62	
16	Eastgate Mall	Easter Way	Towne Center Drive	14,981	35	50	97.42				1.84	0.74	77.7	12.68	9.62	
17	Eastgate Mall	Towne Centre Drive	Judicial Drive	13,445	35	50	97.42				1.84	0.74	77.7	12.68	9.62	
18	Eastgate Mall	Judicial Drive	Eastgate Drive	11,580	35	50	97.42				1.84	0.74	77.7	12.68	9.62	
19	Eastgate Mall	Eastgate Drive	Olson Drive	14,490	35	50	97.42				1.84	0.74	77.7	12.68	9.62	
20	Eastgate Mall	Olson Drive	Autoport Mall	14,449	35	50	97.42				1.84	0.74	77.7	12.68	9.62	
21	Eastgate Mall	Autoport Mall	Miramar Road	14,449	35	50	97.42				1.84	0.74	77.7	12.68	9.62	
22	Miramar Road	I-805 NB Ramps	I-805 SB Ramps	55,961	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
23	Miramar Road	Eastgate Mall	Miramar Mall	70,291	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
24	Miramar Road	Miramar Mall	Miramar Place	70,601	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
25	Miramar Road	Miramar Place	Camino Santa Fe / Frc	70,489	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
26	Miramar Road	Camino Santa Fe / Fro	Commerce Avenue	57,908	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
27	Miramar Road	Commerce Avenue	Production Avenue	57,712	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
28	Miramar Road	Production Avenue	Distribution Avenue	52,845	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
29	Miramar Road	Distribution Avenue	Miramar Way	50,685	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
30	Miramar Road	Miramar Way	Carrroll Road	50,632	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
31	Genesee Avenue	I-5 SB Ramps	I-5 NB Ramps	48,876	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
32	Genesee Avenue	I-5 NB Ramps	Scripps Hospital Drive	32,786	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
33	Genesee Avenue	Scripps Hospital Drive	Campus Point Drive	33,045	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
34	Genesee Avenue	Campus Point Drive	Regents Road	28,312	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
35	Genesee Avenue	Regents Road	Eastgate Mall	27,810	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
36	Genesee Avenue	Eastgate Mall	Executive Drive	28,533	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
37	La Jolla Village Drive	I-5 NB Ramps	Lebon Drive	52,675	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
38	La Jolla Village Drive	Lebon Drive	Regents Road	46,711	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
39	La Jolla Village Drive	I-805 SB Ramps	Towne Centre Drive	63,799	45	50	97.42				1.84	0.74	77.7	12.68	9.62	

Model Results

Project Name	Towne Centre View
Project Number	13564
Modeling Scenario	Existing

Segment Number	Roadway	Segment		Noise Levels (dB) CNEL					
		From	To	Automobiles	Motorcycles	Bus	Medium Trucks	Heavy Trucks	Total
1	Towne Centre Drive	Westerra Court	Towne Centre Court	62.3	0.0	0.0	52.0	52.8	63.1
2	Towne Centre Drive	Towne Centre Court	Eastgate Mall	62.2	0.0	0.0	51.9	52.8	63.1
3	Towne Centre Drive	Eastgate Mall	Executive Drive	64.4	0.0	0.0	54.1	55.0	65.2
4	Towne Centre Drive	Executive Drive	Towne Centre Drive	66.0	0.0	0.0	55.7	56.5	66.8
5	Towne Centre Drive	Towne Centre Drivewa	La Jolla Village Drive	66.0	0.0	0.0	55.7	56.5	66.8
6	Judicial Drive	Eastgate Mall	Executive Drive	59.0	0.0	0.0	49.1	50.4	60.0
7	Judicial Drive	Executive Drive	Judicial Driveway	61.2	0.0	0.0	51.2	52.6	62.1
8	Judicial Drive	Judicial Driveway	Golden Haven Drive /	61.4	0.0	0.0	51.4	52.7	62.3
9	Judicial Drive	Golden Haven Drive /	Sydney Court	61.2	0.0	0.0	51.3	52.6	62.2
10	Judicial Drive	Sydney Court	Illumina Way	61.2	0.0	0.0	51.3	52.6	62.2
11	Judicial Drive	Illumina Way	Nobel Drive	62.9	0.0	0.0	52.9	54.3	63.8
12	Nobel Drive	Judicial Drive	I-805 SB On-Ramp	67.6	0.0	0.0	57.0	57.7	68.3
13	Nobel Drive	I-805 SB On-Ramp	I-805 NB Off-Ramp	66.1	0.0	0.0	55.5	56.2	66.9
14	Eastgate Mall	Regents Road	Genesee Avenue	60.0	0.0	0.0	49.9	51.0	60.9
15	Eastgate Mall	Genesee Avenue	Easter Way	63.7	0.0	0.0	53.6	54.7	64.6
16	Eastgate Mall	Easter Way	Towne Center Drive	63.2	0.0	0.0	53.2	54.3	64.1
17	Eastgate Mall	Towne Centre Drive	Judicial Drive	62.6	0.0	0.0	52.5	53.6	63.5
18	Eastgate Mall	Judicial Drive	Eastgate Drive	63.6	0.0	0.0	53.5	54.6	64.4
19	Eastgate Mall	Eastgate Drive	Olson Drive	63.6	0.0	0.0	53.5	54.6	64.4
20	Eastgate Mall	Olson Drive	Autoport Mall	63.6	0.0	0.0	53.5	54.6	64.4
21	Eastgate Mall	Autoport Mall	Miramar Road	70.9	0.0	0.0	60.3	61.0	71.6
22	Miramar Road	I-805 NB Ramps	I-805 SB Ramps	71.8	0.0	0.0	61.3	62.0	72.6
23	Miramar Road	Eastgate Mall	Miramar Mall	71.9	0.0	0.0	61.3	62.0	72.6
24	Miramar Road	Miramar Mall	Miramar Place	71.9	0.0	0.0	61.3	62.0	72.6
25	Miramar Road	Miramar Place	Camino Santa Fe / Frc	71.0	0.0	0.0	60.4	61.1	71.7
26	Miramar Road	Camino Santa Fe / Fro	Commerce Avenue	71.0	0.0	0.0	60.4	61.1	71.7
27	Miramar Road	Commerce Avenue	Production Avenue	70.6	0.0	0.0	60.0	60.7	71.4
28	Miramar Road	Production Avenue	Distribution Avenue	70.4	0.0	0.0	59.9	60.5	71.2
29	Miramar Road	Distribution Avenue	Miramar Way	70.4	0.0	0.0	59.9	60.5	71.2
30	Miramar Road	Miramar Way	Carroll Road	70.3	0.0	0.0	59.7	60.4	71.0
31	Genesee Avenue	I-5 SB Ramps	I-5 NB Ramps	68.5	0.0	0.0	58.0	58.6	69.3
32	Genesee Avenue	I-5 NB Ramps	Scripps Hospital Drive	68.6	0.0	0.0	58.0	58.7	69.3
33	Genesee Avenue	Scripps Hospital Drive	Campus Point Drive	67.9	0.0	0.0	57.3	58.0	68.6
34	Genesee Avenue	Campus Point Drive	Regents Road	67.8	0.0	0.0	57.3	57.9	68.6
35	Genesee Avenue	Regents Road	Eastgate Mall	67.9	0.0	0.0	57.4	58.0	68.7
36	Genesee Avenue	Eastgate Mall	Executive Drive	70.6	0.0	0.0	60.0	60.7	71.3
37	La Jolla Village Drive	I-5 NB Ramps	Lebon Drive	70.1	0.0	0.0	59.5	60.2	70.8
38	La Jolla Village Drive	Lebon Drive	Regents Road	71.4	0.0	0.0	60.9	61.5	72.2
39	La Jolla Village Drive	I-805 SB Ramps	Towne Centre Drive						

Distance to Traffic Noise Contours (feet)				
70 dB	65 dB	60 dB	55 dB	50 dB
17	37	80	173	372
17	37	80	172	371
24	52	112	240	518
31	66	142	305	658
31	66	142	305	658
11	23	50	107	231
15	32	70	150	323
15	33	71	153	330
15	32	70	150	323
15	32	70	150	323
19	42	90	194	417
39	83	180	387	834
31	67	144	309	666
12	27	57	124	267
22	47	101	217	467
22	47	101	218	470
20	44	94	203	437
18	40	85	184	396
21	46	99	213	460
21	46	99	213	459
21	46	99	213	459
64	138	297	640	1,379
75	161	346	745	1,605
75	161	347	747	1,610
75	161	346	746	1,608
65	141	304	655	1,411
65	141	303	653	1,407
62	133	286	616	1,327
60	129	278	599	1,291
60	129	278	599	1,290
58	126	271	585	1,260
45	97	208	448	965
45	97	209	450	971
41	88	189	406	875
40	87	186	402	865
41	88	190	408	880
61	132	285	615	1,324
57	122	263	567	1,222
70	150	324	698	1,505

Model Input

Project Name	Towne Centre View		
Project Number	13564		
Modeling Scenario	Existing+Project		
Site Absorption	Soft	Peak Hour Ratio	10
Descriptor	CNEL	Traffic Volume	ADT

Segment Number	Roadway	Segment		Traffic Volume	Speed (mph)	Distance to Centerline	Vehicle Classification Mix (%)					24-Hour Traffic Distribution (%)			K-Factor	
		From	To				Automobiles	Motorcycles	Bus	Medium Trucks	Heavy Trucks	Day	Evening	Night		
1	Towne Centre Drive	Westerra Court	Towne Centre Court	15,783	40	50	97.42				1.84	0.74	77.7	12.68	9.62	
2	Towne Centre Drive	Towne Centre Court	Eastgate Mall	15,723	40	50	97.42				1.84	0.74	77.7	12.68	9.62	
3	Towne Centre Drive	Eastgate Mall	Executive Drive	17,794	40	50	97.42				1.84	0.74	77.7	12.68	9.62	
4	Towne Centre Drive	Executive Drive	Towne Centre Drive	24,277	40	50	97.42				1.84	0.74	77.7	12.68	9.62	
5	Towne Centre Drive	Towne Centre Drive	La Jolla Village Drive	24,277	40	50	97.42				1.84	0.74	77.7	12.68	9.62	
6	Judicial Drive	Eastgate Mall	Executive Drive	6,294	30	50	97.42				1.84	0.74	77.7	12.68	9.62	
7	Judicial Drive	Executive Drive	Judicial Driveway	9,803	30	50	97.42				1.84	0.74	77.7	12.68	9.62	
8	Judicial Drive	Judicial Driveway	Golden Haven Drive /	10,095	30	50	97.42				1.84	0.74	77.7	12.68	9.62	
9	Judicial Drive	Golden Haven Drive /	Sydney Court	9,758	30	50	97.42				1.84	0.74	77.7	12.68	9.62	
10	Judicial Drive	Sydney Court	Illumina Way	9,758	30	50	97.42				1.84	0.74	77.7	12.68	9.62	
11	Judicial Drive	Illumina Way	Nobel Drive	13,974	30	50	97.42				1.84	0.74	77.7	12.68	9.62	
12	Nobel Drive	Judicial Drive	I-805 SB On-Ramp	27,047	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
13	Nobel Drive	I-805 SB On-Ramp	I-805 NB Off-Ramp	19,182	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
14	Eastgate Mall	Regents Road	Genesee Avenue	7,563	35	50	97.42				1.84	0.74	77.7	12.68	9.62	
15	Eastgate Mall	Genesee Avenue	Easter Way	16,949	35	50	97.42				1.84	0.74	77.7	12.68	9.62	
16	Eastgate Mall	Easter Way	Towne Center Drive	17,113	35	50	97.42				1.84	0.74	77.7	12.68	9.62	
17	Eastgate Mall	Towne Centre Drive	Judicial Drive	15,254	35	50	97.42				1.84	0.74	77.7	12.68	9.62	
18	Eastgate Mall	Judicial Drive	Eastgate Drive	12,549	35	50	97.42				1.84	0.74	77.7	12.68	9.62	
19	Eastgate Mall	Eastgate Drive	Olson Drive	15,459	35	50	97.42				1.84	0.74	77.7	12.68	9.62	
20	Eastgate Mall	Olson Drive	Autoport Mall	15,418	35	50	97.42				1.84	0.74	77.7	12.68	9.62	
21	Eastgate Mall	Autoport Mall	Miramar Road	15,418	35	50	97.42				1.84	0.74	77.7	12.68	9.62	
22	Miramar Road	I-805 NB Ramps	I-805 SB Ramps	58,093	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
23	Miramar Road	Eastgate Mall	Miramar Mall	71,260	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
24	Miramar Road	Miramar Mall	Miramar Place	71,506	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
25	Miramar Road	Miramar Place	Camino Santa Fe / Frc	71,394	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
26	Miramar Road	Camino Santa Fe / Fro	Commerce Avenue	58,489	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
27	Miramar Road	Commerce Avenue	Production Avenue	58,293	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
28	Miramar Road	Production Avenue	Distribution Avenue	53,362	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
29	Miramar Road	Distribution Avenue	Miramar Way	51,202	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
30	Miramar Road	Miramar Way	Carrroll Road	51,149	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
31	Genesee Avenue	I-5 SB Ramps	I-5 NB Ramps	49,264	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
32	Genesee Avenue	I-5 NB Ramps	Scripps Hospital Drive	33,238	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
33	Genesee Avenue	Scripps Hospital Drive	Campus Point Drive	33,562	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
34	Genesee Avenue	Campus Point Drive	Regents Road	29,152	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
35	Genesee Avenue	Regents Road	Eastgate Mall	28,650	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
36	Genesee Avenue	Eastgate Mall	Executive Drive	29,244	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
37	La Jolla Village Drive	I-5 NB Ramps	Lebon Drive	53,192	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
38	La Jolla Village Drive	Lebon Drive	Regents Road	47,292	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
39	La Jolla Village Drive	I-805 SB Ramps	Towne Centre Drive	66,060	45	50	97.42				1.84	0.74	77.7	12.68	9.62	

Model Results

Project Name	Towne Centre View
Project Number	13564
Modeling Scenario	Existing+Project

Segment Number	Roadway	Segment		Noise Levels (dB) CNEL					
		From	To	Automobiles	Motorcycles	Bus	Medium Trucks	Heavy Trucks	Total
1	Towne Centre Drive	Westerra Court	Towne Centre Court	64.5	0.0	0.0	54.3	55.1	65.4
2	Towne Centre Drive	Towne Centre Court	Eastgate Mall	64.5	0.0	0.0	54.2	55.1	65.4
3	Towne Centre Drive	Eastgate Mall	Executive Drive	65.1	0.0	0.0	54.8	55.6	65.9
4	Towne Centre Drive	Executive Drive	Towne Centre Drive	66.4	0.0	0.0	56.1	57.0	67.2
5	Towne Centre Drive	Towne Centre Drivewa	La Jolla Village Drive	66.4	0.0	0.0	56.1	57.0	67.2
6	Judicial Drive	Eastgate Mall	Executive Drive	59.7	0.0	0.0	49.7	51.0	60.6
7	Judicial Drive	Executive Drive	Judicial Driveway	61.6	0.0	0.0	51.6	53.0	62.5
8	Judicial Drive	Judicial Driveway	Golden Haven Drive /	61.7	0.0	0.0	51.7	53.1	62.6
9	Judicial Drive	Golden Haven Drive /	Sydney Court	61.6	0.0	0.0	51.6	52.9	62.5
10	Judicial Drive	Sydney Court	Illumina Way	61.6	0.0	0.0	51.6	52.9	62.5
11	Judicial Drive	Illumina Way	Nobel Drive	63.1	0.0	0.0	53.1	54.5	64.0
12	Nobel Drive	Judicial Drive	I-805 SB On-Ramp	67.7	0.0	0.0	57.1	57.8	68.5
13	Nobel Drive	I-805 SB On-Ramp	I-805 NB Off-Ramp	66.2	0.0	0.0	55.6	56.3	67.0
14	Eastgate Mall	Regents Road	Genesee Avenue	60.7	0.0	0.0	50.7	51.8	61.6
15	Eastgate Mall	Genesee Avenue	Easter Way	64.3	0.0	0.0	54.2	55.3	65.1
16	Eastgate Mall	Easter Way	Towne Center Drive	64.3	0.0	0.0	54.2	55.3	65.2
17	Eastgate Mall	Towne Centre Drive	Judicial Drive	63.8	0.0	0.0	53.7	54.8	64.7
18	Eastgate Mall	Judicial Drive	Eastgate Drive	62.9	0.0	0.0	52.9	54.0	63.8
19	Eastgate Mall	Eastgate Drive	Olson Drive	63.9	0.0	0.0	53.8	54.9	64.7
20	Eastgate Mall	Olson Drive	Autoport Mall	63.8	0.0	0.0	53.8	54.9	64.7
21	Eastgate Mall	Autoport Mall	Miramar Road	63.8	0.0	0.0	53.8	54.9	64.7
22	Miramar Road	I-805 NB Ramps	I-805 SB Ramps	71.0	0.0	0.0	60.5	61.1	71.8
23	Miramar Road	Eastgate Mall	Miramar Mall	71.9	0.0	0.0	61.3	62.0	72.7
24	Miramar Road	Miramar Mall	Miramar Place	71.9	0.0	0.0	61.4	62.0	72.7
25	Miramar Road	Miramar Place	Camino Santa Fe / Fro	71.9	0.0	0.0	61.3	62.0	72.7
26	Miramar Road	Camino Santa Fe / Fro	Commerce Avenue	71.0	0.0	0.0	60.5	61.2	71.8
27	Miramar Road	Commerce Avenue	Production Avenue	71.0	0.0	0.0	60.5	61.1	71.8
28	Miramar Road	Production Avenue	Distribution Avenue	70.6	0.0	0.0	60.1	60.8	71.4
29	Miramar Road	Distribution Avenue	Miramar Way	70.5	0.0	0.0	59.9	60.6	71.2
30	Miramar Road	Miramar Way	Carroll Road	70.5	0.0	0.0	59.9	60.6	71.2
31	Genesee Avenue	I-5 SB Ramps	I-5 NB Ramps	70.3	0.0	0.0	59.7	60.4	71.1
32	Genesee Avenue	I-5 NB Ramps	Scripps Hospital Drive	68.6	0.0	0.0	58.0	58.7	69.3
33	Genesee Avenue	Scripps Hospital Drive	Campus Point Drive	68.6	0.0	0.0	58.1	58.7	69.4
34	Genesee Avenue	Campus Point Drive	Regents Road	68.0	0.0	0.0	57.5	58.1	68.8
35	Genesee Avenue	Regents Road	Eastgate Mall	67.9	0.0	0.0	57.4	58.1	68.7
36	Genesee Avenue	Eastgate Mall	Executive Drive	68.0	0.0	0.0	57.5	58.2	68.8
37	La Jolla Village Drive	I-5 NB Ramps	Lebon Drive	70.6	0.0	0.0	60.1	60.7	71.4
38	La Jolla Village Drive	Lebon Drive	Regents Road	70.1	0.0	0.0	59.6	60.2	70.9
39	La Jolla Village Drive	I-805 SB Ramps	Towne Centre Drive	71.6	0.0	0.0	61.0	61.7	72.3

Distance to Traffic Noise Contours (feet)				
70 dB	65 dB	60 dB	55 dB	50 dB
25	53	114	246	529
24	53	114	245	528
27	57	123	266	573
33	70	152	327	705
33	70	152	327	705
12	25	55	118	254
16	34	73	158	341
16	35	75	161	348
16	34	73	158	340
16	34	73	158	340
20	43	93	200	432
39	85	183	394	849
31	68	145	313	675
14	30	64	138	298
24	51	110	237	510
24	51	111	238	514
22	48	102	221	476
19	42	90	194	418
22	48	103	223	480
22	48	103	222	479
22	48	103	222	479
66	141	305	656	1,414
75	162	349	752	1,620
75	162	350	754	1,624
75	162	349	753	1,622
66	142	306	659	1,420
66	142	305	658	1,417
62	134	288	620	1,336
60	130	280	603	1,300
60	130	280	603	1,299
59	127	273	588	1,267
45	97	210	452	974
46	98	211	455	981
41	89	192	414	893
41	88	190	410	882
42	89	193	415	895
62	133	287	619	1,333
57	123	266	572	1,233
71	154	332	715	1,540

Towne Centre JN 13564

Model Input

Project Name	Towne Centre View		
Project Number	13564		
Modeling Scenario	Opening Year 2023		
Site Absorption	Soft	Peak Hour Ratio	10
Descriptor	CNEL	Traffic Volume	ADT

Segment Number	Roadway	Segment		Traffic Volume	Speed (mph)	Distance to Centerline	Vehicle Classification Mix (%)					24-Hour Traffic Distribution (%)			K-Factor	
		From	To				Automobiles	Motorcycles	Bus	Medium Trucks	Heavy Trucks	Day	Evening	Night		
1	Towne Centre Drive	Westerra Court	Towne Centre Court	9,998	40	50	97.42				1.84	0.74	77.7	12.68	9.62	
2	Towne Centre Drive	Towne Centre Court	Eastgate Mall	9,908	40	50	97.42				1.84	0.74	77.7	12.68	9.62	
3	Towne Centre Drive	Eastgate Mall	Executive Drive	17,063	40	50	97.42				1.84	0.74	77.7	12.68	9.62	
4	Towne Centre Drive	Executive Drive	Towne Centre Drive	24,487	40	50	97.42				1.84	0.74	77.7	12.68	9.62	
5	Towne Centre Drive	Towne Centre Drive	La Jolla Village Drive	24,537	40	50	97.42				1.84	0.74	77.7	12.68	9.62	
6	Judicial Drive	Eastgate Mall	Executive Drive	6,090	30	50	97.42				1.84	0.74	77.7	12.68	9.62	
7	Judicial Drive	Executive Drive	Judicial Driveway	10,179	30	50	97.42				1.84	0.74	77.7	12.68	9.62	
8	Judicial Drive	Judicial Driveway	Golden Haven Drive /	10,342	30	50	97.42				1.84	0.74	77.7	12.68	9.62	
9	Judicial Drive	Golden Haven Drive /	Sydney Court	9,861	30	50	97.42				1.84	0.74	77.7	12.68	9.62	
10	Judicial Drive	Sydney Court	Illumina Way	9,861	30	50	97.42				1.84	0.74	77.7	12.68	9.62	
11	Judicial Drive	Illumina Way	Nobel Drive	14,140	30	50	97.42				1.84	0.74	77.7	12.68	9.62	
12	Nobel Drive	Judicial Drive	I-805 SB On-Ramp	27,791	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
13	Nobel Drive	I-805 SB On-Ramp	I-805 NB Off-Ramp	19,784	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
14	Eastgate Mall	Regents Road	Genesee Avenue	6,578	35	50	97.42				1.84	0.74	77.7	12.68	9.62	
15	Eastgate Mall	Genesee Avenue	Easter Way	16,436	35	50	97.42				1.84	0.74	77.7	12.68	9.62	
16	Eastgate Mall	Easter Way	Towne Center Drive	16,661	35	50	97.42				1.84	0.74	77.7	12.68	9.62	
17	Eastgate Mall	Towne Centre Drive	Judicial Drive	14,231	35	50	97.42				1.84	0.74	77.7	12.68	9.62	
18	Eastgate Mall	Judicial Drive	Eastgate Drive	12,406	35	50	97.42				1.84	0.74	77.7	12.68	9.62	
19	Eastgate Mall	Eastgate Drive	Olson Drive	14,707	35	50	97.42				1.84	0.74	77.7	12.68	9.62	
20	Eastgate Mall	Olson Drive	Autoport Mall	14,666	35	50	97.42				1.84	0.74	77.7	12.68	9.62	
21	Eastgate Mall	Autoport Mall	Miramar Road	14,666	35	50	97.42				1.84	0.74	77.7	12.68	9.62	
22	Miramar Road	I-805 NB Ramps	I-805 SB Ramps	58,360	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
23	Miramar Road	Eastgate Mall	Miramar Mall	71,595	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
24	Miramar Road	Miramar Mall	Miramar Place	71,660	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
25	Miramar Road	Miramar Place	Camino Santa Fe / Frc	71,546	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
26	Miramar Road	Camino Santa Fe / Fro	Commerce Avenue	58,777	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
27	Miramar Road	Commerce Avenue	Production Avenue	58,578	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
28	Miramar Road	Production Avenue	Distribution Avenue	53,638	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
29	Miramar Road	Distribution Avenue	Miramar Way	51,445	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
30	Miramar Road	Miramar Way	Carrroll Road	51,391	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
31	Genesee Avenue	I-5 SB Ramps	I-5 NB Ramps	51,751	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
32	Genesee Avenue	I-5 NB Ramps	Scripps Hospital Drive	35,655	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
33	Genesee Avenue	Scripps Hospital Drive	Campus Point Drive	35,823	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
34	Genesee Avenue	Campus Point Drive	Regents Road	31,054	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
35	Genesee Avenue	Regents Road	Eastgate Mall	30,482	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
36	Genesee Avenue	Eastgate Mall	Executive Drive	30,411	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
37	La Jolla Village Drive	I-5 NB Ramps	Lebon Drive	53,965	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
38	La Jolla Village Drive	Lebon Drive	Regents Road	47,812	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
39	La Jolla Village Drive	I-805 SB Ramps	Towne Centre Drive	66,545	45	50	97.42				1.84	0.74	77.7	12.68	9.62	

Towne Centre JN 13564

Model Results

Project Name	Towne Centre View
Project Number	13564
Modeling Scenario	Opening Year 2023

Segment Number	Roadway	Segment		Noise Levels (dB) CNEL					
		From	To	Automobiles	Motorcycles	Bus	Medium Trucks	Heavy Trucks	Total
1	Towne Centre Drive	Westerra Court	Towne Centre Court	62.6	0.0	0.0	52.3	53.1	63.4
2	Towne Centre Drive	Towne Centre Court	Eastgate Mall	62.5	0.0	0.0	52.2	53.1	63.3
3	Towne Centre Drive	Eastgate Mall	Executive Drive	64.9	0.0	0.0	54.6	55.5	65.7
4	Towne Centre Drive	Executive Drive	Towne Centre Drivewa	66.5	0.0	0.0	56.2	57.0	67.3
5	Towne Centre Drive	Towne Centre Drivewa	La Jolla Village Drive	66.5	0.0	0.0	56.2	57.0	67.3
6	Judicial Drive	Eastgate Mall	Executive Drive	59.5	0.0	0.0	49.5	50.9	60.4
7	Judicial Drive	Executive Drive	Judicial Driveway	61.7	0.0	0.0	51.8	53.1	62.7
8	Judicial Drive	Judicial Driveway	Golden Haven Drive /	61.8	0.0	0.0	51.8	53.2	62.7
9	Judicial Drive	Golden Haven Drive /	Sydney Court	61.6	0.0	0.0	51.6	53.0	62.5
10	Judicial Drive	Sydney Court	Illumina Way	61.6	0.0	0.0	51.6	53.0	62.5
11	Judicial Drive	Illumina Way	Nobel Drive	63.2	0.0	0.0	53.2	54.6	64.1
12	Nobel Drive	Judicial Drive	I-805 SB On-Ramp	67.8	0.0	0.0	57.2	57.9	68.6
13	Nobel Drive	I-805 SB On-Ramp	I-805 NB Off-Ramp	66.3	0.0	0.0	55.8	56.5	67.1
14	Eastgate Mall	Regents Road	Genesee Avenue	60.1	0.0	0.0	50.1	51.2	61.0
15	Eastgate Mall	Genesee Avenue	Easter Way	64.1	0.0	0.0	54.0	55.1	65.0
16	Eastgate Mall	Easter Way	Towne Center Drive	64.2	0.0	0.0	54.1	55.2	65.1
17	Eastgate Mall	Towne Centre Drive	Judicial Drive	63.5	0.0	0.0	53.4	54.5	64.4
18	Eastgate Mall	Judicial Drive	Eastgate Drive	62.9	0.0	0.0	52.8	53.9	63.8
19	Eastgate Mall	Eastgate Drive	Olson Drive	63.6	0.0	0.0	53.6	54.7	64.5
20	Eastgate Mall	Olson Drive	Autoport Mall	63.6	0.0	0.0	53.5	54.6	64.5
21	Eastgate Mall	Autoport Mall	Miramar Road	63.6	0.0	0.0	53.5	54.6	64.5
22	Miramar Road	I-805 NB Ramps	I-805 SB Ramps	71.0	0.0	0.0	60.5	61.2	71.8
23	Miramar Road	Eastgate Mall	Miramar Mall	71.9	0.0	0.0	61.4	62.0	72.7
24	Miramar Road	Miramar Mall	Miramar Place	71.9	0.0	0.0	61.4	62.0	72.7
25	Miramar Road	Miramar Place	Camino Santa Fe / Frc	71.9	0.0	0.0	61.4	62.0	72.7
26	Miramar Road	Camino Santa Fe / Fro	Commerce Avenue	71.1	0.0	0.0	60.5	61.2	71.8
27	Miramar Road	Commerce Avenue	Production Avenue	71.0	0.0	0.0	60.5	61.2	71.8
28	Miramar Road	Production Avenue	Distribution Avenue	70.7	0.0	0.0	60.1	60.8	71.4
29	Miramar Road	Distribution Avenue	Miramar Way	70.5	0.0	0.0	59.9	60.6	71.2
30	Miramar Road	Miramar Way	Carroll Road	70.5	0.0	0.0	59.9	60.6	71.2
31	Genesee Avenue	I-5 SB Ramps	I-5 NB Ramps	70.5	0.0	0.0	59.9	60.6	71.3
32	Genesee Avenue	I-5 NB Ramps	Scripps Hospital Drive	68.9	0.0	0.0	58.3	59.0	69.7
33	Genesee Avenue	Scripps Hospital Drive	Campus Point Drive	68.9	0.0	0.0	58.4	59.0	69.7
34	Genesee Avenue	Campus Point Drive	Regents Road	68.3	0.0	0.0	57.7	58.4	69.1
35	Genesee Avenue	Regents Road	Eastgate Mall	68.2	0.0	0.0	57.7	58.3	69.0
36	Genesee Avenue	Eastgate Mall	Executive Drive	68.2	0.0	0.0	57.6	58.3	69.0
37	La Jolla Village Drive	I-5 NB Ramps	Lebon Drive	70.7	0.0	0.0	60.1	60.8	71.5
38	La Jolla Village Drive	Lebon Drive	Regents Road	70.2	0.0	0.0	59.6	60.3	70.9
39	La Jolla Village Drive	I-805 SB Ramps	Towne Centre Drive	71.6	0.0	0.0	61.0	61.7	72.4

Distance to Traffic Noise Contours (feet)				
70 dB	65 dB	60 dB	55 dB	50 dB
18	39	84	181	390
18	39	84	180	388
26	56	120	259	557
33	71	153	329	709
33	71	153	330	710
12	25	53	115	248
16	35	75	162	350
16	35	76	164	353
16	34	74	159	342
16	34	74	159	342
20	44	94	202	435
40	86	186	401	865
32	69	149	320	689
13	27	58	126	271
23	50	108	232	500
23	50	109	234	504
21	45	98	211	454
19	41	89	192	414
22	46	100	215	464
22	46	100	215	463
22	46	100	215	463
66	142	306	658	1,418
75	163	350	754	1,625
75	163	350	755	1,626
75	162	350	754	1,624
66	142	307	661	1,425
66	142	306	660	1,422
62	134	289	622	1,340
61	130	281	605	1,304
60	130	281	605	1,303
61	131	282	608	1,309
47	102	220	474	1,021
48	102	221	475	1,024
43	93	201	432	931
43	92	198	427	920
43	92	198	426	918
62	135	290	625	1,346
58	124	267	576	1,242
72	155	333	718	1,548

Model Input

Project Name	Towne Centre View		
Project Number	13564		
Modeling Scenario	Opening Year 2023 + Project		
Site Absorption	Soft	Peak Hour Ratio	10
Descriptor	CNEL	Traffic Volume	ADT

Segment Number	Roadway	Segment		Traffic Volume	Speed (mph)	Distance to Centerline	Vehicle Classification Mix (%)					24-Hour Traffic Distribution (%)			K-Factor	
		From	To				Automobiles	Motorcycles	Bus	Medium Trucks	Heavy Trucks	Day	Evening	Night		
1	Towne Centre Drive	Westerra Court	Towne Centre Court	16,459	40	50	97.42				1.84	0.74	77.7	12.68	9.62	
2	Towne Centre Drive	Towne Centre Court	Eastgate Mall	16,369	40	50	97.42				1.84	0.74	77.7	12.68	9.62	
3	Towne Centre Drive	Eastgate Mall	Executive Drive	19,583	40	50	97.42				1.84	0.74	77.7	12.68	9.62	
4	Towne Centre Drive	Executive Drive	Towne Centre Drive	26,878	40	50	97.42				1.84	0.74	77.7	12.68	9.62	
5	Towne Centre Drive	Towne Centre Drive	La Jolla Village Drive	26,928	40	50	97.42				1.84	0.74	77.7	12.68	9.62	
6	Judicial Drive	Eastgate Mall	Executive Drive	6,930	30	50	97.42				1.84	0.74	77.7	12.68	9.62	
7	Judicial Drive	Executive Drive	Judicial Driveway	10,955	30	50	97.42				1.84	0.74	77.7	12.68	9.62	
8	Judicial Drive	Judicial Driveway	Golden Haven Drive /	11,117	30	50	97.42				1.84	0.74	77.7	12.68	9.62	
9	Judicial Drive	Golden Haven Drive /	Sydney Court	10,571	30	50	97.42				1.84	0.74	77.7	12.68	9.62	
10	Judicial Drive	Sydney Court	Illumina Way	10,571	30	50	97.42				1.84	0.74	77.7	12.68	9.62	
11	Judicial Drive	Illumina Way	Nobel Drive	14,851	30	50	97.42				1.84	0.74	77.7	12.68	9.62	
12	Nobel Drive	Judicial Drive	I-805 SB On-Ramp	28,502	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
13	Nobel Drive	I-805 SB On-Ramp	I-805 NB Off-Ramp	20,172	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
14	Eastgate Mall	Regents Road	Genesee Avenue	7,741	35	50	97.42				1.84	0.74	77.7	12.68	9.62	
15	Eastgate Mall	Genesee Avenue	Easter Way	18,568	35	50	97.42				1.84	0.74	77.7	12.68	9.62	
16	Eastgate Mall	Easter Way	Towne Center Drive	18,793	35	50	97.42				1.84	0.74	77.7	12.68	9.62	
17	Eastgate Mall	Towne Centre Drive	Judicial Drive	16,040	35	50	97.42				1.84	0.74	77.7	12.68	9.62	
18	Eastgate Mall	Judicial Drive	Eastgate Drive	13,375	35	50	97.42				1.84	0.74	77.7	12.68	9.62	
19	Eastgate Mall	Eastgate Drive	Olson Drive	15,677	35	50	97.42				1.84	0.74	77.7	12.68	9.62	
20	Eastgate Mall	Olson Drive	Autoport Mall	15,635	35	50	97.42				1.84	0.74	77.7	12.68	9.62	
21	Eastgate Mall	Autoport Mall	Miramar Road	15,635	35	50	97.42				1.84	0.74	77.7	12.68	9.62	
22	Miramar Road	I-805 NB Ramps	I-805 SB Ramps	60,493	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
23	Miramar Road	Eastgate Mall	Miramar Mall	72,565	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
24	Miramar Road	Miramar Mall	Miramar Place	72,565	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
25	Miramar Road	Miramar Place	Camino Santa Fe / Frc	72,451	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
26	Miramar Road	Camino Santa Fe / Fro	Commerce Avenue	59,358	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
27	Miramar Road	Commerce Avenue	Production Avenue	59,159	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
28	Miramar Road	Production Avenue	Distribution Avenue	54,155	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
29	Miramar Road	Distribution Avenue	Miramar Way	51,962	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
30	Miramar Road	Miramar Way	Carrroll Road	51,908	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
31	Genesee Avenue	I-5 SB Ramps	I-5 NB Ramps	52,139	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
32	Genesee Avenue	I-5 NB Ramps	Scripps Hospital Drive	36,107	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
33	Genesee Avenue	Scripps Hospital Drive	Campus Point Drive	36,340	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
34	Genesee Avenue	Campus Point Drive	Regents Road	31,894	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
35	Genesee Avenue	Regents Road	Eastgate Mall	31,322	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
36	Genesee Avenue	Eastgate Mall	Executive Drive	31,122	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
37	La Jolla Village Drive	I-5 NB Ramps	Lebon Drive	54,482	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
38	La Jolla Village Drive	Lebon Drive	Regents Road	48,393	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
39	La Jolla Village Drive	I-805 SB Ramps	Towne Centre Drive	68,806	45	50	97.42				1.84	0.74	77.7	12.68	9.62	

Model Results

Project Name	Towne Centre View
Project Number	13564
Modeling Scenario	Opening Year 2023 + Project

Segment Number	Roadway	Segment		Noise Levels (dB) CNEL					
		From	To	Automobiles	Motorcycles	Bus	Medium Trucks	Heavy Trucks	Total
1	Towne Centre Drive	Westerra Court	Towne Centre Court	64.7	0.0	0.0	54.4	55.3	65.5
2	Towne Centre Drive	Towne Centre Court	Eastgate Mall	64.7	0.0	0.0	54.4	55.3	65.5
3	Towne Centre Drive	Eastgate Mall	Executive Drive	65.5	0.0	0.0	55.2	56.1	66.3
4	Towne Centre Drive	Executive Drive	Towne Centre Drivewa	66.9	0.0	0.0	56.6	57.4	67.7
5	Towne Centre Drive	Towne Centre Drivewa	La Jolla Village Drive	66.9	0.0	0.0	56.6	57.4	67.7
6	Judicial Drive	Eastgate Mall	Executive Drive	60.1	0.0	0.0	50.1	51.5	61.0
7	Judicial Drive	Executive Drive	Judicial Driveway	62.1	0.0	0.0	52.1	53.4	63.0
8	Judicial Drive	Judicial Driveway	Golden Haven Drive /	62.1	0.0	0.0	52.2	53.5	63.1
9	Judicial Drive	Golden Haven Drive /	Sydney Court	61.9	0.0	0.0	51.9	53.3	62.8
10	Judicial Drive	Sydney Court	Illumina Way	61.9	0.0	0.0	51.9	53.3	62.8
11	Judicial Drive	Illumina Way	Nobel Drive	63.4	0.0	0.0	53.4	54.8	64.3
12	Nobel Drive	Judicial Drive	I-805 SB On-Ramp	67.9	0.0	0.0	57.4	58.0	68.7
13	Nobel Drive	I-805 SB On-Ramp	I-805 NB Off-Ramp	66.4	0.0	0.0	55.9	56.5	67.2
14	Eastgate Mall	Regents Road	Genesee Avenue	60.8	0.0	0.0	50.8	51.9	61.7
15	Eastgate Mall	Genesee Avenue	Easter Way	64.6	0.0	0.0	54.6	55.7	65.5
16	Eastgate Mall	Easter Way	Towne Center Drive	64.7	0.0	0.0	54.6	55.7	65.6
17	Eastgate Mall	Towne Centre Drive	Judicial Drive	64.0	0.0	0.0	53.9	55.0	64.9
18	Eastgate Mall	Judicial Drive	Eastgate Drive	63.2	0.0	0.0	53.1	54.2	64.1
19	Eastgate Mall	Eastgate Drive	Olson Drive	63.9	0.0	0.0	53.8	54.9	64.8
20	Eastgate Mall	Olson Drive	Autoport Mall	63.9	0.0	0.0	53.8	54.9	64.8
21	Eastgate Mall	Autoport Mall	Miramar Road	63.9	0.0	0.0	53.8	54.9	64.8
22	Miramar Road	I-805 NB Ramps	I-805 SB Ramps	71.2	0.0	0.0	60.6	61.3	71.9
23	Miramar Road	Eastgate Mall	Miramar Mall	72.0	0.0	0.0	61.4	62.1	72.7
24	Miramar Road	Miramar Mall	Miramar Place	72.0	0.0	0.0	61.4	62.1	72.7
25	Miramar Road	Miramar Place	Camino Santa Fe / Frc	72.0	0.0	0.0	61.4	62.1	72.7
26	Miramar Road	Camino Santa Fe / Fro	Commerce Avenue	71.1	0.0	0.0	60.5	61.2	71.9
27	Miramar Road	Commerce Avenue	Production Avenue	71.1	0.0	0.0	60.5	61.2	71.8
28	Miramar Road	Production Avenue	Distribution Avenue	70.7	0.0	0.0	60.1	60.8	71.5
29	Miramar Road	Distribution Avenue	Miramar Way	70.5	0.0	0.0	60.0	60.6	71.3
30	Miramar Road	Miramar Way	Carroll Road	70.5	0.0	0.0	60.0	60.6	71.3
31	Genesee Avenue	I-5 SB Ramps	I-5 NB Ramps	70.5	0.0	0.0	60.0	60.7	71.3
32	Genesee Avenue	I-5 NB Ramps	Scripps Hospital Drive	68.9	0.0	0.0	58.4	59.1	69.7
33	Genesee Avenue	Scripps Hospital Drive	Campus Point Drive	69.0	0.0	0.0	58.4	59.1	69.7
34	Genesee Avenue	Campus Point Drive	Regents Road	68.4	0.0	0.0	57.8	58.5	69.2
35	Genesee Avenue	Regents Road	Eastgate Mall	68.3	0.0	0.0	57.8	58.4	69.1
36	Genesee Avenue	Eastgate Mall	Executive Drive	68.3	0.0	0.0	57.7	58.4	69.1
37	La Jolla Village Drive	I-5 NB Ramps	Lebon Drive	70.7	0.0	0.0	60.2	60.9	71.5
38	La Jolla Village Drive	Lebon Drive	Regents Road	70.2	0.0	0.0	59.7	60.3	71.0
39	La Jolla Village Drive	I-805 SB Ramps	Towne Centre Drive	71.7	0.0	0.0	61.2	61.9	72.5

Distance to Traffic Noise Contours (feet)				
70 dB	65 dB	60 dB	55 dB	50 dB
25	54	117	252	544
25	54	117	252	542
28	61	132	284	611
35	75	163	350	754
35	76	163	351	755
13	27	58	126	271
17	37	79	170	367
17	37	80	172	371
17	36	77	166	359
17	36	77	166	359
21	45	97	209	450
41	88	189	408	879
32	70	150	324	698
14	30	65	140	303
25	54	117	252	542
25	55	118	254	547
23	49	106	228	492
20	44	94	202	436
22	48	104	225	484
22	48	104	224	484
22	48	104	224	484
67	145	313	674	1,452
76	164	353	761	1,640
76	164	353	761	1,640
76	164	353	760	1,638
67	143	309	666	1,434
66	143	308	664	1,431
63	135	291	626	1,349
61	131	283	609	1,312
61	131	283	609	1,311
61	132	283	611	1,315
48	103	222	478	1,030
48	103	223	480	1,034
44	95	204	440	948
43	94	202	435	936
43	93	201	433	932
63	135	292	629	1,354
58	125	270	581	1,252
73	158	341	735	1,583

Model Input

Project Name	Towne Centre View		
Project Number	13564		
Modeling Scenario	Horizon Year 2050		
Site Absorption	Soft	Peak Hour Ratio	10
Descriptor	CNEL	Traffic Volume	ADT

Segment Number	Roadway	Segment		Traffic Volume	Speed (mph)	Distance to Centerline	Vehicle Classification Mix (%)					24-Hour Traffic Distribution (%)			K-Factor	
		From	To				Automobiles	Motorcycles	Bus	Medium Trucks	Heavy Trucks	Day	Evening	Night		
1	Towne Centre Drive	Westerra Court	Towne Centre Court	12,162	40	50	97.42				1.84	0.74	77.7	12.68	9.62	
2	Towne Centre Drive	Towne Centre Court	Eastgate Mall	9,442	40	50	97.42				1.84	0.74	77.7	12.68	9.62	
3	Towne Centre Drive	Eastgate Mall	Executive Drive	18,089	40	50	97.42				1.84	0.74	77.7	12.68	9.62	
4	Towne Centre Drive	Executive Drive	Towne Centre Drive	28,014	40	50	97.42				1.84	0.74	77.7	12.68	9.62	
5	Towne Centre Drive	Towne Centre Drive	La Jolla Village Drive	28,014	40	50	97.42				1.84	0.74	77.7	12.68	9.62	
6	Judicial Drive	Eastgate Mall	Executive Drive	8,066	30	50	97.42				1.84	0.74	77.7	12.68	9.62	
7	Judicial Drive	Executive Drive	Judicial Driveway	13,105	30	50	97.42				1.84	0.74	77.7	12.68	9.62	
8	Judicial Drive	Judicial Driveway	Golden Haven Drive /	13,372	30	50	97.42				1.84	0.74	77.7	12.68	9.62	
9	Judicial Drive	Golden Haven Drive /	Sydney Court	14,451	30	50	97.42				1.84	0.74	77.7	12.68	9.62	
10	Judicial Drive	Sydney Court	Illumina Way	18,164	30	50	97.42				1.84	0.74	77.7	12.68	9.62	
11	Judicial Drive	Illumina Way	Nobel Drive	17,408	30	50	97.42				1.84	0.74	77.7	12.68	9.62	
12	Nobel Drive	Judicial Drive	I-805 SB On-Ramp	35,890	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
13	Nobel Drive	I-805 SB On-Ramp	I-805 NB Off-Ramp	24,414	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
14	Eastgate Mall	Regents Road	Genesee Avenue	8,357	35	50	97.42				1.84	0.74	77.7	12.68	9.62	
15	Eastgate Mall	Genesee Avenue	Easter Way	15,584	35	50	97.42				1.84	0.74	77.7	12.68	9.62	
16	Eastgate Mall	Easter Way	Towne Center Drive	17,104	35	50	97.42				1.84	0.74	77.7	12.68	9.62	
17	Eastgate Mall	Towne Centre Drive	Judicial Drive	16,035	35	50	97.42				1.84	0.74	77.7	12.68	9.62	
18	Eastgate Mall	Judicial Drive	Eastgate Drive	13,373	35	50	97.42				1.84	0.74	77.7	12.68	9.62	
19	Eastgate Mall	Eastgate Drive	Olson Drive	15,197	35	50	97.42				1.84	0.74	77.7	12.68	9.62	
20	Eastgate Mall	Olson Drive	Autoport Mall	17,086	35	50	97.42				1.84	0.74	77.7	12.68	9.62	
21	Eastgate Mall	Autoport Mall	Miramar Road	17,086	35	50	97.42				1.84	0.74	77.7	12.68	9.62	
22	Miramar Road	I-805 NB Ramps	I-805 SB Ramps	58,649	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
23	Miramar Road	Eastgate Mall	Miramar Mall	73,348	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
24	Miramar Road	Miramar Mall	Miramar Place	74,555	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
25	Miramar Road	Miramar Place	Camino Santa Fe / Frc	73,706	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
26	Miramar Road	Camino Santa Fe / Fro	Commerce Avenue	56,294	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
27	Miramar Road	Commerce Avenue	Production Avenue	54,840	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
28	Miramar Road	Production Avenue	Distribution Avenue	49,427	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
29	Miramar Road	Distribution Avenue	Miramar Way	47,623	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
30	Miramar Road	Miramar Way	Carrroll Road	47,280	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
31	Genesee Avenue	I-5 SB Ramps	I-5 NB Ramps	49,762	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
32	Genesee Avenue	I-5 NB Ramps	Scripps Hospital Drive	33,013	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
33	Genesee Avenue	Scripps Hospital Drive	Campus Point Drive	34,028	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
34	Genesee Avenue	Campus Point Drive	Regents Road	29,472	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
35	Genesee Avenue	Regents Road	Eastgate Mall	30,223	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
36	Genesee Avenue	Eastgate Mall	Executive Drive	33,706	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
37	La Jolla Village Drive	I-5 NB Ramps	Lebon Drive	56,398	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
38	La Jolla Village Drive	Lebon Drive	Regents Road	55,181	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
39	La Jolla Village Drive	I-805 SB Ramps	Towne Centre Drive	69,043	45	50	97.42				1.84	0.74	77.7	12.68	9.62	

Model Results

Project Name	Towne Centre View
Project Number	13564
Modeling Scenario	Horizon Year 2050

Segment Number	Roadway	Segment		Noise Levels (dB) CNEL					
		From	To	Automobiles	Motorcycles	Bus	Medium Trucks	Heavy Trucks	Total
1	Towne Centre Drive	Westerra Court	Towne Centre Court	63.4	0.0	0.0	53.1	54.0	64.2
2	Towne Centre Drive	Towne Centre Court	Eastgate Mall	62.3	0.0	0.0	52.0	52.9	63.1
3	Towne Centre Drive	Eastgate Mall	Executive Drive	65.1	0.0	0.0	54.9	55.7	66.0
4	Towne Centre Drive	Executive Drive	Towne Centre Drive	67.0	0.0	0.0	56.8	57.6	67.9
5	Towne Centre Drive	Towne Centre Drive	La Jolla Village Drive	67.0	0.0	0.0	56.8	57.6	67.9
6	Judicial Drive	Eastgate Mall	Executive Drive	60.7	0.0	0.0	50.8	52.1	61.7
7	Judicial Drive	Executive Drive	Judicial Driveway	62.8	0.0	0.0	52.9	54.2	63.8
8	Judicial Drive	Judicial Driveway	Golden Haven Drive /	62.9	0.0	0.0	53.0	54.3	63.9
9	Judicial Drive	Golden Haven Drive /	Sydney Court	63.3	0.0	0.0	53.3	54.6	64.2
10	Judicial Drive	Sydney Court	Illumina Way	64.3	0.0	0.0	54.3	55.6	65.2
11	Judicial Drive	Illumina Way	Nobel Drive	64.1	0.0	0.0	54.1	55.5	65.0
12	Nobel Drive	Judicial Drive	I-805 SB On-Ramp	68.9	0.0	0.0	58.4	59.0	69.7
13	Nobel Drive	I-805 SB On-Ramp	I-805 NB Off-Ramp	67.2	0.0	0.0	56.7	57.4	68.0
14	Eastgate Mall	Regents Road	Genesee Avenue	61.2	0.0	0.0	51.1	52.2	62.1
15	Eastgate Mall	Genesee Avenue	Easter Way	63.9	0.0	0.0	53.8	54.9	64.8
16	Eastgate Mall	Easter Way	Towne Center Drive	64.3	0.0	0.0	54.2	55.3	65.2
17	Eastgate Mall	Towne Centre Drive	Judicial Drive	64.0	0.0	0.0	53.9	55.0	64.9
18	Eastgate Mall	Judicial Drive	Eastgate Drive	63.2	0.0	0.0	53.1	54.2	64.1
19	Eastgate Mall	Eastgate Drive	Olson Drive	63.8	0.0	0.0	53.7	54.8	64.7
20	Eastgate Mall	Olson Drive	Autoport Mall	64.3	0.0	0.0	54.2	55.3	65.2
21	Eastgate Mall	Autoport Mall	Miramar Road	64.3	0.0	0.0	54.2	55.3	65.2
22	Miramar Road	I-805 NB Ramps	I-805 SB Ramps	71.1	0.0	0.0	60.5	61.2	71.8
23	Miramar Road	Eastgate Mall	Miramar Mall	72.0	0.0	0.0	61.5	62.1	72.8
24	Miramar Road	Miramar Mall	Miramar Place	72.1	0.0	0.0	61.5	62.2	72.9
25	Miramar Road	Miramar Place	Camino Santa Fe / Fro	72.0	0.0	0.0	61.5	62.2	72.8
26	Miramar Road	Camino Santa Fe / Fro	Commerce Avenue	70.9	0.0	0.0	60.3	61.0	71.6
27	Miramar Road	Commerce Avenue	Production Avenue	70.8	0.0	0.0	60.2	60.9	71.5
28	Miramar Road	Production Avenue	Distribution Avenue	70.3	0.0	0.0	59.7	60.4	71.1
29	Miramar Road	Distribution Avenue	Miramar Way	70.1	0.0	0.0	59.6	60.3	70.9
30	Miramar Road	Miramar Way	Carroll Road	70.1	0.0	0.0	59.6	60.2	70.9
31	Genesee Avenue	I-5 SB Ramps	I-5 NB Ramps	70.3	0.0	0.0	59.8	60.5	71.1
32	Genesee Avenue	I-5 NB Ramps	Scripps Hospital Drive	68.6	0.0	0.0	58.0	58.7	69.3
33	Genesee Avenue	Scripps Hospital Drive	Campus Point Drive	68.7	0.0	0.0	58.1	58.8	69.4
34	Genesee Avenue	Campus Point Drive	Regents Road	68.1	0.0	0.0	57.5	58.2	68.8
35	Genesee Avenue	Regents Road	Eastgate Mall	68.2	0.0	0.0	57.6	58.3	68.9
36	Genesee Avenue	Eastgate Mall	Executive Drive	68.6	0.0	0.0	58.1	58.8	69.4
37	La Jolla Village Drive	I-5 NB Ramps	Lebon Drive	70.9	0.0	0.0	60.3	61.0	71.6
38	La Jolla Village Drive	Lebon Drive	Regents Road	70.8	0.0	0.0	60.2	60.9	71.5
39	La Jolla Village Drive	I-805 SB Ramps	Towne Centre Drive	71.8	0.0	0.0	61.2	61.9	72.5

Distance to Traffic Noise Contours (feet)				
70 dB	65 dB	60 dB	55 dB	50 dB
21	44	96	206	445
17	38	81	174	376
27	58	125	269	579
36	78	167	360	775
36	78	167	360	775
14	30	64	139	299
19	41	89	192	414
19	42	90	195	419
20	44	95	205	442
24	51	111	239	514
23	50	108	232	500
48	103	221	476	1,025
37	79	171	368	793
15	32	69	148	318
22	48	104	224	482
24	51	111	238	513
23	49	106	228	492
20	44	94	202	436
22	47	102	220	474
24	51	111	238	513
24	51	111	238	513
66	142	307	660	1,423
77	165	356	767	1,651
77	167	360	775	1,670
77	166	357	769	1,657
64	138	298	643	1,384
63	136	293	631	1,360
59	127	273	589	1,269
57	124	267	575	1,238
57	123	265	572	1,232
59	128	275	592	1,275
45	97	209	450	970
46	99	213	459	990
42	90	194	417	899
42	91	197	424	914
46	98	212	456	983
64	139	299	643	1,386
63	137	294	634	1,366
74	159	342	736	1,586

Model Input

Project Name	Towne Centre View		
Project Number	13564		
Modeling Scenario	Horizon Year 2050 + Project		
Site Absorption	Soft	Peak Hour Ratio	10
Descriptor	CNEL	Traffic Volume	ADT

Segment Number	Roadway	Segment		Traffic Volume	Speed (mph)	Distance to Centerline	Vehicle Classification Mix (%)					24-Hour Traffic Distribution (%)			K-Factor	
		From	To				Automobiles	Motorcycles	Bus	Medium Trucks	Heavy Trucks	Day	Evening	Night		
1	Towne Centre Drive	Westerra Court	Towne Centre Court	18,623	40	50	97.42				1.84	0.74	77.7	12.68	9.62	
2	Towne Centre Drive	Towne Centre Court	Eastgate Mall	15,903	40	50	97.42				1.84	0.74	77.7	12.68	9.62	
3	Towne Centre Drive	Eastgate Mall	Executive Drive	20,609	40	50	97.42				1.84	0.74	77.7	12.68	9.62	
4	Towne Centre Drive	Executive Drive	Towne Centre Drive	30,404	40	50	97.42				1.84	0.74	77.7	12.68	9.62	
5	Towne Centre Drive	Towne Centre Drive	La Jolla Village Drive	30,404	40	50	97.42				1.84	0.74	77.7	12.68	9.62	
6	Judicial Drive	Eastgate Mall	Executive Drive	8,906	30	50	97.42				1.84	0.74	77.7	12.68	9.62	
7	Judicial Drive	Executive Drive	Judicial Driveway	13,881	30	50	97.42				1.84	0.74	77.7	12.68	9.62	
8	Judicial Drive	Judicial Driveway	Golden Haven Drive /	14,147	30	50	97.42				1.84	0.74	77.7	12.68	9.62	
9	Judicial Drive	Golden Haven Drive /	Sydney Court	15,161	30	50	97.42				1.84	0.74	77.7	12.68	9.62	
10	Judicial Drive	Sydney Court	Illumina Way	18,875	30	50	97.42				1.84	0.74	77.7	12.68	9.62	
11	Judicial Drive	Illumina Way	Nobel Drive	18,119	30	50	97.42				1.84	0.74	77.7	12.68	9.62	
12	Nobel Drive	Judicial Drive	I-805 SB On-Ramp	36,601	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
13	Nobel Drive	I-805 SB On-Ramp	I-805 NB Off-Ramp	24,802	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
14	Eastgate Mall	Regents Road	Genesee Avenue	9,520	35	50	97.42				1.84	0.74	77.7	12.68	9.62	
15	Eastgate Mall	Genesee Avenue	Easter Way	17,716	35	50	97.42				1.84	0.74	77.7	12.68	9.62	
16	Eastgate Mall	Easter Way	Towne Center Drive	19,236	35	50	97.42				1.84	0.74	77.7	12.68	9.62	
17	Eastgate Mall	Towne Centre Drive	Judicial Drive	17,844	35	50	97.42				1.84	0.74	77.7	12.68	9.62	
18	Eastgate Mall	Judicial Drive	Eastgate Drive	14,343	35	50	97.42				1.84	0.74	77.7	12.68	9.62	
19	Eastgate Mall	Eastgate Drive	Olson Drive	16,166	35	50	97.42				1.84	0.74	77.7	12.68	9.62	
20	Eastgate Mall	Olson Drive	Autoport Mall	18,056	35	50	97.42				1.84	0.74	77.7	12.68	9.62	
21	Eastgate Mall	Autoport Mall	Miramar Road	18,056	35	50	97.42				1.84	0.74	77.7	12.68	9.62	
22	Miramar Road	I-805 NB Ramps	I-805 SB Ramps	60,781	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
23	Miramar Road	Eastgate Mall	Miramar Mall	74,318	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
24	Miramar Road	Miramar Mall	Miramar Place	75,460	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
25	Miramar Road	Miramar Place	Camino Santa Fe / Frc	74,610	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
26	Miramar Road	Camino Santa Fe / Fro	Commerce Avenue	56,876	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
27	Miramar Road	Commerce Avenue	Production Avenue	55,422	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
28	Miramar Road	Production Avenue	Distribution Avenue	49,944	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
29	Miramar Road	Distribution Avenue	Miramar Way	48,140	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
30	Miramar Road	Miramar Way	Carrroll Road	47,797	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
31	Genesee Avenue	I-5 SB Ramps	I-5 NB Ramps	50,149	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
32	Genesee Avenue	I-5 NB Ramps	Scripps Hospital Drive	33,465	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
33	Genesee Avenue	Scripps Hospital Drive	Campus Point Drive	34,545	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
34	Genesee Avenue	Campus Point Drive	Regents Road	30,312	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
35	Genesee Avenue	Regents Road	Eastgate Mall	31,063	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
36	Genesee Avenue	Eastgate Mall	Executive Drive	34,417	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
37	La Jolla Village Drive	I-5 NB Ramps	Lebon Drive	56,915	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
38	La Jolla Village Drive	Lebon Drive	Regents Road	55,763	45	50	97.42				1.84	0.74	77.7	12.68	9.62	
39	La Jolla Village Drive	I-805 SB Ramps	Towne Centre Drive	71,304	45	50	97.42				1.84	0.74	77.7	12.68	9.62	

Model Results

Project Name	Towne Centre View
Project Number	13564
Modeling Scenario	Horizon Year 2050 + Project

Segment Number	Roadway	Segment		Noise Levels (dB) CNEL					
		From	To	Automobiles	Motorcycles	Bus	Medium Trucks	Heavy Trucks	Total
1	Towne Centre Drive	Westerra Court	Towne Centre Court	65.3	0.0	0.0	55.0	55.8	66.1
2	Towne Centre Drive	Towne Centre Court	Eastgate Mall	64.6	0.0	0.0	54.3	55.2	65.4
3	Towne Centre Drive	Eastgate Mall	Executive Drive	65.7	0.0	0.0	55.4	56.3	66.5
4	Towne Centre Drive	Executive Drive	Towne Centre Drive	67.4	0.0	0.0	57.1	58.0	68.2
5	Towne Centre Drive	Towne Centre Drivewa	La Jolla Village Drive	67.4	0.0	0.0	57.1	58.0	68.2
6	Judicial Drive	Eastgate Mall	Executive Drive	61.2	0.0	0.0	51.2	52.5	62.1
7	Judicial Drive	Executive Drive	Judicial Driveway	63.1	0.0	0.0	53.1	54.5	64.0
8	Judicial Drive	Judicial Driveway	Golden Haven Drive /	63.2	0.0	0.0	53.2	54.6	64.1
9	Judicial Drive	Golden Haven Drive /	Sydney Court	63.5	0.0	0.0	53.5	54.9	64.4
10	Judicial Drive	Sydney Court	Illumina Way	64.4	0.0	0.0	54.4	55.8	65.4
11	Judicial Drive	Illumina Way	Nobel Drive	64.2	0.0	0.0	54.3	55.6	65.2
12	Nobel Drive	Judicial Drive	I-805 SB On-Ramp	69.0	0.0	0.0	58.4	59.1	69.8
13	Nobel Drive	I-805 SB On-Ramp	I-805 NB Off-Ramp	67.3	0.0	0.0	56.8	57.4	68.1
14	Eastgate Mall	Regents Road	Genesee Avenue	61.7	0.0	0.0	51.7	52.8	62.6
15	Eastgate Mall	Genesee Avenue	Easter Way	64.4	0.0	0.0	54.4	55.5	65.3
16	Eastgate Mall	Easter Way	Towne Center Drive	64.8	0.0	0.0	54.7	55.8	65.7
17	Eastgate Mall	Towne Centre Drive	Judicial Drive	64.5	0.0	0.0	54.4	55.5	65.4
18	Eastgate Mall	Judicial Drive	Eastgate Drive	63.5	0.0	0.0	53.4	54.5	64.4
19	Eastgate Mall	Eastgate Drive	Olson Drive	64.0	0.0	0.0	54.0	55.1	64.9
20	Eastgate Mall	Olson Drive	Autoport Mall	64.5	0.0	0.0	54.4	55.5	65.4
21	Eastgate Mall	Autoport Mall	Miramar Road	64.5	0.0	0.0	54.4	55.5	65.4
22	Miramar Road	I-805 NB Ramps	I-805 SB Ramps	71.2	0.0	0.0	60.6	61.3	72.0
23	Miramar Road	Eastgate Mall	Miramar Mall	72.1	0.0	0.0	61.5	62.2	72.8
24	Miramar Road	Miramar Mall	Miramar Place	72.1	0.0	0.0	61.6	62.3	72.9
25	Miramar Road	Miramar Place	Camino Santa Fe / Frc	72.1	0.0	0.0	61.5	62.2	72.9
26	Miramar Road	Camino Santa Fe / Fro	Commerce Avenue	70.9	0.0	0.0	60.4	61.0	71.7
27	Miramar Road	Commerce Avenue	Production Avenue	70.8	0.0	0.0	60.2	60.9	71.6
28	Miramar Road	Production Avenue	Distribution Avenue	70.4	0.0	0.0	59.8	60.5	71.1
29	Miramar Road	Distribution Avenue	Miramar Way	70.2	0.0	0.0	59.6	60.3	71.0
30	Miramar Road	Miramar Way	Carroll Road	70.2	0.0	0.0	59.6	60.3	70.9
31	Genesee Avenue	I-5 SB Ramps	I-5 NB Ramps	70.4	0.0	0.0	59.8	60.5	71.1
32	Genesee Avenue	I-5 NB Ramps	Scripps Hospital Drive	68.6	0.0	0.0	58.1	58.7	69.4
33	Genesee Avenue	Scripps Hospital Drive	Campus Point Drive	68.8	0.0	0.0	58.2	58.9	69.5
34	Genesee Avenue	Campus Point Drive	Regents Road	68.2	0.0	0.0	57.6	58.3	68.9
35	Genesee Avenue	Regents Road	Eastgate Mall	68.3	0.0	0.0	57.7	58.4	69.1
36	Genesee Avenue	Eastgate Mall	Executive Drive	68.7	0.0	0.0	58.2	58.9	69.5
37	La Jolla Village Drive	I-5 NB Ramps	Lebon Drive	70.9	0.0	0.0	60.4	61.0	71.7
38	La Jolla Village Drive	Lebon Drive	Regents Road	70.8	0.0	0.0	60.3	61.0	71.6
39	La Jolla Village Drive	I-805 SB Ramps	Towne Centre Drive	71.9	0.0	0.0	61.3	62.0	72.7

Distance to Traffic Noise Contours (feet)				
70 dB	65 dB	60 dB	55 dB	50 dB
27	59	127	274	591
25	53	115	247	532
29	63	136	293	632
38	82	176	380	819
38	82	176	380	819
15	32	69	148	320
20	43	93	200	430
20	44	94	202	435
21	46	98	212	456
24	53	114	245	528
24	51	111	238	514
48	104	224	482	1,039
37	80	173	372	802
16	35	75	161	347
24	53	113	244	526
26	56	120	258	555
25	53	114	245	528
21	46	98	212	457
23	49	107	229	494
25	53	115	247	532
25	53	115	247	532
68	146	314	676	1,457
77	167	359	773	1,666
78	168	363	781	1,683
78	167	360	775	1,670
65	139	300	647	1,394
64	137	295	636	1,370
59	128	275	593	1,278
58	125	269	579	1,247
58	124	267	576	1,241
59	128	276	595	1,282
45	98	211	454	979
46	100	215	464	1,000
43	92	197	425	916
43	93	201	432	931
46	100	215	463	997
65	139	300	647	1,395
64	138	296	639	1,376
75	162	349	752	1,621

APPENDIX 10.1:
CADNAA OPERATIONAL NOISE MODEL INPUTS

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13564 - Towne Centre View Operation Noise Assessment

CadnaA Noise Prediction Model: 13564-01_Compliance.cna

Date: 16.02.21

Analyst: B. Maddux

Calculation Configuration

Configuration	
Parameter	Value
General	
Country	(user defined)
Max. Error (dB)	0.00
Max. Search Radius (#(Unit,LEN))	2000.00
Min. Dist Src to Rcvr	0.00
Partition	
Raster Factor	0.50
Max. Length of Section (#(Unit,LEN))	1000.00
Min. Length of Section (#(Unit,LEN))	1.00
Min. Length of Section (%)	0.00
Proj. Line Sources	On
Proj. Area Sources	On
Ref. Time	
Reference Time Day (min)	960.00
Reference Time Night (min)	480.00
Daytime Penalty (dB)	0.00
Recr. Time Penalty (dB)	5.00
Night-time Penalty (dB)	10.00
DTM	
Standard Height (m)	0.00
Model of Terrain	Triangulation
Reflection	
max. Order of Reflection	2
Search Radius Src	100.00
Search Radius Rcvr	100.00
Max. Distance Source - Rcvr	1000.00 1000.00
Min. Distance Rcvr - Reflector	1.00 1.00
Min. Distance Source - Reflector	0.10
Industrial (ISO 9613)	
Lateral Diffraction	some Obj
Obst. within Area Src do not shield	On
Screening	
	Incl. Ground Att. over Barrier
	Dz with limit (20/25)
Barrier Coefficients C1,2,3	3.0 20.0 0.0
Temperature (#(Unit,TEMP))	10
rel. Humidity (%)	70
Ground Absorption G	0.66
Wind Speed for Dir. (#(Unit,SPEED))	3.0
Roads (TNM)	
Railways (FTA/FRA)	
Aircraft (???)	
Strictly acc. to AzB	

Receiver Noise Levels

Name	M.	ID	Level Lr				Limit. Value				Land Use			Height	Coordinates			
			Daytime	Evening	Night	CNEL	Daytime	Evening	Night	CNEL	Type	Auto	Noise Type		X	Y	Z	
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)				(m)	(m)	(m)	(m)		
R03		R3	54.2	27.5	24.4	51.2	75.0	75.0	65.0	75.0				1.54	a	1909427.80	580186.21	1.54
R04		R4	50.6	26.9	23.8	47.7	75.0	75.0	65.0	75.0				1.54	a	1909399.81	580205.01	1.54
R05		R5	49.8	26.9	23.8	46.9	75.0	75.0	65.0	75.0				1.54	a	1909402.94	580404.12	1.54
R06		R6	39.3	35.4	30.1	39.8	75.0	75.0	65.0	75.0				1.54	a	1909648.51	580400.39	1.54
R01		R1	26.2	24.2	21.1	29.0	65.0	62.5	60.0	65.0				1.54	a	1909953.06	579764.86	1.54
R02		R2	29.2	23.6	20.5	29.7	65.0	62.5	60.0	65.0				1.54	a	1909362.25	579816.76	1.54
R07		R7	50.4	44.6	38.3	49.6	75.0	75.0	65.0	75.0				1.54	a	1909685.67	580306.38	1.54

Point Source(s)

Name	M.	ID	Result. PWL			Lw / Li		Operating Time			KO	Height	Coordinates			
			Day	Evening	Night	Type	Value	norm.	Day	Special			Night	X	Y	Z
			(dBA)	(dBA)	(dBA)		dB(A)	(min)	(min)	(min)	(dB)	(m)	(m)	(m)		
POINT_AH		AH35	88.9	88.9	88.9	Lw	88.9	480.00	120.00	180.00	0.0	31.50	a	1909538.50	580233.37	31.50
POINT_AH		AH34	88.9	88.9	88.9	Lw	88.9	480.00	120.00	180.00	0.0	31.50	a	1909542.10	580232.74	31.50
POINT_AH		AH33	88.9	88.9	88.9	Lw	88.9	480.00	120.00	180.00	0.0	31.50	a	1909541.25	580227.87	31.50
POINT_AH		AH32	88.9	88.9	88.9	Lw	88.9	480.00	120.00	180.00	0.0	31.50	a	1909537.87	580228.29	31.50
POINT_AH		AH31	88.9	88.9	88.9	Lw	88.9	480.00	120.00	180.00	0.0	31.50	a	1909451.51	580240.36	31.50
POINT_AH		AH30	88.9	88.9	88.9	Lw	88.9	480.00	120.00	180.00	0.0	31.50	a	1909458.70	580240.36	31.50
POINT_AH		AH29	88.9	88.9	88.9	Lw	88.9	480.00	120.00	180.00	0.0	31.50	a	1909467.38	580240.15	31.50
POINT_AH		AH28	88.9	88.9	88.9	Lw	88.9	480.00	120.00	180.00	0.0	31.50	a	1909473.94	580240.15	31.50
POINT_AH		AH27	88.9	88.9	88.9	Lw	88.9	480.00	120.00	180.00	0.0	31.50	a	1909638.41	580209.46	31.50
POINT_AH		AH26	88.9	88.9	88.9	Lw	88.9	480.00	120.00	180.00	0.0	31.50	a	1909643.28	580208.40	31.50

Name	M.	ID	Result. PWL			Lw / Li		Operating Time			KO	Height	Coordinates				
			Day	Evening	Night	Type	Value	norm.	Day	Special			Night	X	Y	Z	
			(dBA)	(dBA)	(dBA)		dB(A)		(min)	(min)			(min)	(m)	(m)	(m)	
POINT_AH		AH25	88.9	88.9	88.9	Lw	88.9		480.00	120.00	180.00	0.0	31.50	a	1909648.57	580207.34	31.50
POINT_AH		AH24	88.9	88.9	88.9	Lw	88.9		480.00	120.00	180.00	0.0	31.50	a	1909653.44	580206.70	31.50
POINT_AH		AH23	88.9	88.9	88.9	Lw	88.9		480.00	120.00	180.00	0.0	31.50	a	1909713.13	580212.42	31.50
POINT_AH		AH22	88.9	88.9	88.9	Lw	88.9		480.00	120.00	180.00	0.0	31.50	a	1909717.36	580212.42	31.50
POINT_AH		AH21	88.9	88.9	88.9	Lw	88.9		480.00	120.00	180.00	0.0	31.50	a	1909717.99	580209.03	31.50
POINT_AH		AH20	88.9	88.9	88.9	Lw	88.9		480.00	120.00	180.00	0.0	31.50	a	1909713.55	580208.61	31.50
POINT_AH		AH19	88.9	88.9	88.9	Lw	88.9		480.00	120.00	180.00	0.0	31.50	a	1909638.83	580270.42	31.50
POINT_AH		AH18	88.9	88.9	88.9	Lw	88.9		480.00	120.00	180.00	0.0	31.50	a	1909643.28	580268.51	31.50
POINT_AH		AH17	88.9	88.9	88.9	Lw	88.9		480.00	120.00	180.00	0.0	31.50	a	1909641.37	580264.91	31.50
POINT_AH		AH16	88.9	88.9	88.9	Lw	88.9		480.00	120.00	180.00	0.0	31.50	a	1909636.71	580266.61	31.50
POINT_AH		AH15	88.9	88.9	88.9	Lw	88.9		480.00	120.00	180.00	0.0	31.50	a	1909577.66	580294.97	31.50
POINT_AH		AH14	88.9	88.9	88.9	Lw	88.9		480.00	120.00	180.00	0.0	31.50	a	1909573.64	580297.30	31.50
POINT_AH		AH13	88.9	88.9	88.9	Lw	88.9		480.00	120.00	180.00	0.0	31.50	a	1909562.00	580305.34	31.50
POINT_AH		AH12	88.9	88.9	88.9	Lw	88.9		480.00	120.00	180.00	0.0	31.50	a	1909558.19	580307.67	31.50
POINT_AH		AH11	88.9	88.9	88.9	Lw	88.9		480.00	120.00	180.00	0.0	31.50	a	1909476.69	580332.22	31.50
POINT_AH		AH10	88.9	88.9	88.9	Lw	88.9		480.00	120.00	180.00	0.0	31.50	a	1909481.14	580333.28	31.50
POINT_AH		AH09	88.9	88.9	88.9	Lw	88.9		480.00	120.00	180.00	0.0	31.50	a	1909478.81	580340.05	31.50
POINT_AH		AH08	88.9	88.9	88.9	Lw	88.9		480.00	120.00	180.00	0.0	31.50	a	1909474.37	580339.21	31.50
POINT_AH		AH07	88.9	88.9	88.9	Lw	88.9		480.00	120.00	180.00	0.0	31.50	a	1909466.75	580399.53	31.50
POINT_AH		AH06	88.9	88.9	88.9	Lw	88.9		480.00	120.00	180.00	0.0	31.50	a	1909466.53	580405.88	31.50
POINT_AH		AH05	88.9	88.9	88.9	Lw	88.9		480.00	120.00	180.00	0.0	31.50	a	1909463.78	580437.63	31.50
POINT_AH		AH04	88.9	88.9	88.9	Lw	88.9		480.00	120.00	180.00	0.0	31.50	a	1909463.99	580431.71	31.50
POINT_AH		AH03	88.9	88.9	88.9	Lw	88.9		480.00	120.00	180.00	0.0	31.50	a	1909843.72	580288.62	31.50
POINT_AH		AH02	88.9	88.9	88.9	Lw	88.9		480.00	120.00	180.00	0.0	31.50	a	1909840.97	580301.32	31.50
POINT_AH		AH01	88.9	88.9	88.9	Lw	88.9		480.00	120.00	180.00	0.0	31.50	a	1909816.00	580245.65	31.50
POINT_GEN		GEN01	105.2	105.2	105.2	Lw	105.2		30.00	0.00	0.00	0.0	2.44	a	1909417.14	580200.54	2.44
POINT_GEN		GEN02	105.2	105.2	105.2	Lw	105.2		30.00	0.00	0.00	0.0	2.44	a	1909422.56	580200.54	2.44
POINT_GEN		GEN03	105.2	105.2	105.2	Lw	105.2		30.00	0.00	0.00	0.0	2.44	a	1909429.88	580200.31	2.44
POINT_GEN		GEN04	105.2	105.2	105.2	Lw	105.2		30.00	0.00	0.00	0.0	2.44	a	1909435.11	580200.15	2.44
POINT_GEN		GEN05	106.0	106.0	106.0	Lw	106		30.00	0.00	0.00	0.0	2.44	a	1909659.27	580304.61	2.44
POINT_GEN		GEN06	106.0	106.0	106.0	Lw	106		30.00	0.00	0.00	0.0	2.44	a	1909664.03	580302.71	2.44
POINT_GEN		GEN07	105.2	105.2	105.2	Lw	105.2		30.00	0.00	0.00	0.0	2.44	a	1909422.10	580406.85	2.44
POINT_GEN		GEN08	105.2	105.2	105.2	Lw	105.2		30.00	0.00	0.00	0.0	2.44	a	1909422.41	580401.92	2.44

Area Source(s)

Name	M.	ID	Result. PWL			Result. PWL"			Lw / Li		Operating Time			Height (ft)	
			Day (dBA)	Evening (dBA)	Night (dBA)	Day (dBA)	Evening (dBA)	Night (dBA)	Type	Value dB(A)	norm.	Day (min)	Special (min)		Night (min)
AREASOURCE		Park01	94.0	94.0	94.0	63.0	63.0	63.0	Lw"	63		540.00	135.00	90.00	0.
AREASOURCE		Park02	93.1	93.1	93.1	63.0	63.0	63.0	Lw"	63		540.00	135.00	90.00	0.

Name	Height		Coordinates			
	Begin (m)	End (m)	x (m)	y (m)	z (m)	Ground (m)
AREASOURCE	0.00	a	1909549.56	580357.73	0.00	0.00
			1909612.43	580319.20	0.00	0.00
			1909603.75	580304.60	0.00	0.00
			1909540.67	580343.12	0.00	0.00
AREASOURCE	0.00	a	1909623.64	580313.28	0.00	0.00
			1909680.37	580293.17	0.00	0.00
			1909675.93	580277.08	0.00	0.00
			1909617.51	580297.61	0.00	0.00

Barrier(s)

Name	M.	ID	Absorption		Z-Ext. (m)	Cantilever		Height		Coordinates					
			left	right		horz. (m)	vert. (m)	Begin (m)	End (m)	x (m)	y (m)	z (m)	Ground (m)		
BARRIER		B01						3.05	a			1909442.44	580208.24	3.05	0.00
												1909442.44	580194.06	3.05	0.00
												1909409.42	580193.85	3.05	0.00
												1909409.85	580208.66	3.05	0.00
												1909442.43	580208.30	3.05	0.00
BARRIER		B02						3.05	a			1909655.70	580313.14	3.05	0.00
												1909671.04	580307.72	3.05	0.00
												1909666.39	580293.33	3.05	0.00
												1909651.15	580298.62	3.05	0.00
												1909655.59	580313.23	3.05	0.00
BARRIER		B03						3.05	a			1909427.87	580412.25	3.05	0.00
												1909414.05	580412.09	3.05	0.00
												1909414.28	580397.41	3.05	0.00
												1909427.95	580397.36	3.05	0.00
												1909427.94	580412.16	3.05	0.00
Parapet01		P01										1909416.81	580258.24	35.48	0.00
												1909506.76	580256.97	35.48	0.00
												1909577.67	580240.25	35.48	0.00

Name	M.	ID	Absorption		Z-Ext. (m)	Cantilever		Height		Coordinates				
			left	right		horz.	vert.	Begin	End	x	y	z	Ground	
						(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)
											1909569.63	580206.17	35.48	0.00
											1909501.68	580220.99	35.48	0.00
											1909416.94	580222.34	35.48	0.00
											1909417.07	580258.37	35.48	0.00
Parapet02		P02									1909753.57	580232.63	35.48	0.00
											1909757.38	580197.07	35.48	0.00
											1909673.77	580189.24	35.48	0.00
											1909614.50	580195.80	35.48	0.00
											1909617.68	580231.57	35.48	0.00
											1909674.83	580225.01	35.48	0.00
											1909753.40	580232.70	35.48	0.00
Parapet03		P03									1909532.59	580344.18	35.48	0.00
											1909612.39	580296.34	35.48	0.00
											1909683.93	580270.73	35.48	0.00
											1909672.50	580237.50	35.48	0.00
											1909597.57	580263.54	35.48	0.00
											1909514.60	580313.70	35.48	0.00
											1909532.85	580344.15	35.48	0.00
Parapet04		P04									1909479.19	580479.04	35.48	0.00
											1909490.04	580362.63	35.48	0.00
											1909506.97	580306.80	35.48	0.00
											1909473.37	580296.22	35.48	0.00
											1909455.91	580353.63	35.48	0.00
											1909454.05	580358.39	35.48	0.00
											1909443.74	580476.13	35.48	0.00
											1909479.19	580479.04	35.48	0.00

Building(s)

Name	M.	ID	RB	Residents	Absorption	Height	Coordinates				
							Begin	x	y	z	Ground
							(m)	(m)	(m)	(m)	(m)
BUILDING		Bldg1	x	0	30.48	a	1909479.19	580479.04	30.48	0.00	
							1909490.04	580362.63	30.48	0.00	
							1909506.97	580306.80	30.48	0.00	
							1909473.37	580296.22	30.48	0.00	
							1909455.91	580353.63	30.48	0.00	
							1909454.05	580358.39	30.48	0.00	
							1909443.74	580476.13	30.48	0.00	
BUILDING		Bldg2	x	0	30.48	a	1909532.59	580344.18	30.48	0.00	
							1909612.39	580296.34	30.48	0.00	
							1909683.93	580270.73	30.48	0.00	
							1909672.50	580237.50	30.48	0.00	
							1909597.57	580263.54	30.48	0.00	
							1909514.60	580313.70	30.48	0.00	
BUILDING		Bldg3	x	0	30.48	a	1909416.81	580258.24	30.48	0.00	
							1909506.76	580256.97	30.48	0.00	
							1909577.67	580240.25	30.48	0.00	
							1909569.63	580206.17	30.48	0.00	
							1909501.68	580220.99	30.48	0.00	
							1909416.81	580222.47	30.48	0.00	
BUILDING		Bldg4	x	0	30.48	a	1909753.57	580232.63	30.48	0.00	
							1909757.38	580197.07	30.48	0.00	
							1909673.77	580189.24	30.48	0.00	
							1909614.50	580195.80	30.48	0.00	
							1909617.68	580231.57	30.48	0.00	
							1909674.83	580225.01	30.48	0.00	
BUILDING		Bldg5	x	0	30.48	a	1909840.35	580323.86	30.48	0.00	
							1909852.20	580280.89	30.48	0.00	
							1909834.64	580276.66	30.48	0.00	
							1909830.19	580321.53	30.48	0.00	
BUILDING		Bldg6	x	0	30.48	a	1909850.51	580258.67	30.48	0.00	
							1909866.17	580195.17	30.48	0.00	
							1909826.38	580187.55	30.48	0.00	
							1909808.60	580248.72	30.48	0.00	

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APPENDIX 10.2:
GENERATOR SPECIFICATION SHEETS

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TECHNICAL INFORMATION BULLETIN

Generator Set Sound Data Sheet

Generator Set Model	Hz	Load	Sound Pressure Data in dB(A)				
			Raw Exhaust	Open Unit, Isolated Exhaust	Weather Enclosure	Level 1 Sound Enclosure	Level 2 Sound Enclosure
2000REOZMD	60	100% Load	126.3	100.8	98.9	87.5	81.1
		No Load	113.6	95.1	93.2	84.7	79.3

Note: Sound pressure data is the logarithmic average of eight perimeter measurement points at a distance of 7 m (23 ft.), except Raw Exhaust data which is a single measurement point at 1 m (3.3 ft.) from the mouth of a straight pipe exhaust.

2000REOZMD		60 Hz		Sound Pressure Levels, dB(A)								
Load	Distance, m (ft)	Enclosure	Measurement Clock Position	Octave Band Center Frequency (Hz)								Overall Level
				63	125	250	500	1000	2000	4000	8000	
100% Load	7 (23)	Level 2 Sound	3:00	59.6	68.7	70.3	75.4	77.4	76.5	66.5	61.2	82.0
			1:30	60.2	68.7	71.9	68.7	72.3	69.1	61.2	55.7	77.6
			12:00-Engine	59.8	63.8	67.1	64.3	61.0	61.5	53.8	44.4	71.5
			10:30	57.3	68.7	72.8	67.2	71.3	69.1	60.6	50.9	77.4
			9:00	55.4	66.7	76.6	69.3	71.4	70.8	65.0	57.1	79.5
			7:30	58.1	73.2	78.5	73.0	72.2	72.2	65.7	57.2	81.8
			6:00-Alternator	61.7	63.3	81.6	66.5	68.5	64.1	55.1	43.0	82.1
			4:30	61.9	77.5	79.4	80.7	75.2	75.3	64.5	56.9	85.2
			8-pos. log avg.	59.7	71.3	77.0	74.0	72.9	72.0	63.3	56.3	81.1

				Sound Pressure Levels, dB(A)								
Load	Distance, m (ft)	Enclosure	Measurement Clock Position	Octave Band Center Frequency (Hz)								Overall Level
				63	125	250	500	1000	2000	4000	8000	
100% Load	7 (23)	Level 1 Sound	3:00	63.5	74.4	76.7	81.5	84.3	83.7	74.9	70.2	88.9
			1:30	63.3	72.2	76.5	75.3	79.2	77.0	69.9	65.7	83.9
			12:00-Engine	63.5	69.9	73.6	71.7	69.6	69.8	63.2	54.1	78.5
			10:30	61.2	75.0	78.3	74.5	79.2	77.8	70.0	61.7	84.5
			9:00	60.3	73.7	82.9	76.6	79.3	79.2	73.7	66.9	86.7
			7:30	62.2	78.7	84.4	79.7	80.1	80.7	74.4	66.4	88.4
			6:00-Alternator	65.0	69.8	87.0	74.4	77.2	73.5	65.1	54.0	87.9
			4:30	64.7	82.7	84.7	86.4	82.5	82.9	73.5	66.7	91.2
			8-pos. log avg.	66.3	85.8	91.7	91.2	95.0	95.9	90.7	86.7	87.5

				Sound Pressure Levels, dB(A)								
Load	Distance, m (ft)	Enclosure	Measurement Clock Position	3:00	1:30	12:00 Eng.	10:30	9:00	7:30	6:00 Alt.	4:30	8-pos. log avg.
				100% Load	7 (23)	Weather	Overall Levels	100.1	95.7	91.4	98.1	

				Sound Pressure Levels, dB(A)								
Load	Distance, m (ft)	Enclosure	Measurement Clock Position	Octave Band Center Frequency (Hz)								Overall Level
				63	125	250	500	1000	2000	4000	8000	
100% Load	7 (23)	Open Unit, Isolated Exhaust	3:00	67.3	83.7	88.0	91.8	97.1	97.5	92.3	89.1	102.0
			1:30	64.5	74.8	82.3	87.2	91.9	92.7	88.1	87.7	97.6
			12:00-Engine	66.7	80.4	85.0	85.8	87.5	86.8	83.5	75.3	93.3
			10:30	64.8	86.0	86.8	88.5	94.9	95.8	90.2	86.2	100.0
			9:00	67.2	86.9	94.0	90.6	95.1	96.5	92.0	88.4	101.5
			7:30	66.6	87.2	94.2	91.9	96.0	98.2	92.7	86.1	102.5
			6:00-Alternator	66.8	81.4	95.3	90.0	95.4	93.9	87.2	79.0	100.4
			4:30	65.2	90.4	92.5	95.6	96.3	97.6	92.7	88.3	102.9
			8-pos. log avg.	66.3	85.8	91.7	91.2	95.0	95.9	90.7	86.7	100.8

Load	Distance, m (ft)	Exhaust	Sound Pressure Levels, dB(A)								Overall Level
			Octave Band Center Frequency (Hz)								
			63	125	250	500	1000	2000	4000	8000	
100% Load	1 (3.3)	Raw Exhaust (No Silencer)	92.0	115.9	115.6	118.3	118.2	120.8	118.4	113.7	126.3

2000REOZMD		60 Hz		Sound Pressure Levels, dB(A)								
Load	Distance, m (ft)	Enclosure	Measurement Clock Position	Octave Band Center Frequency (Hz)								Overall Level
				63	125	250	500	1000	2000	4000	8000	
				No Load	7 (23)	Level 2 Sound	3:00	60.0	72.0	71.3	75.3	
1:30	60.6	71.0	71.0				72.4	71.9	66.3	59.0	53.2	78.1
12:00-Engine	59.2	65.9	69.9				67.8	64.5	63.5	55.9	47.7	74.2
10:30	56.9	73.0	72.0				70.2	71.2	65.0	57.4	49.3	78.0
9:00	58.8	71.1	66.4				69.0	69.1	66.4	61.6	56.7	76.1
7:30	60.7	77.4	73.1				71.7	68.3	66.2	63.5	59.8	80.2
6:00-Alternator	64.3	65.8	72.7				67.5	63.9	59.6	52.6	46.9	75.4
4:30	61.2	80.7	77.8				73.4	73.2	71.2	64.2	61.3	83.8
8-pos. log avg.	60.7	74.8	72.9	71.7	70.5	67.8	61.0	57.0	79.3			

Load	Distance, m (ft)	Enclosure	Measurement Clock Position	Sound Pressure Levels, dB(A)								Overall Level
				Octave Band Center Frequency (Hz)								
				63	125	250	500	1000	2000	4000	8000	
No Load	7 (23)	Level 1 Sound	3:00	63.0	77.1	76.7	81.0	79.3	78.6	70.3	66.3	86.0
			1:30	62.9	73.8	74.9	77.6	78.3	73.5	66.7	60.7	83.2
			12:00-Engine	62.7	71.4	75.4	74.7	72.5	71.1	64.4	55.9	80.6
			10:30	60.4	78.3	76.6	76.4	78.3	73.2	66.1	57.9	84.0
			9:00	63.2	77.0	72.5	75.3	76.3	74.3	69.5	64.4	82.7
			7:30	63.9	81.6	77.8	77.5	75.7	74.0	70.8	67.0	85.4
			6:00-Alternator	67.0	70.7	77.7	74.2	71.7	68.0	61.1	55.4	81.0
			4:30	64.1	85.0	81.7	79.3	79.6	78.0	71.7	68.3	88.6
8-pos. log avg.	63.8	79.3	77.4	77.6	77.3	74.9	68.7	64.3	84.7			

Load	Distance, m (ft)	Enclosure	Measurement Clock Position	Sound Pressure Levels, dB(A)								8-pos. log avg.
				3:00	1:30	12:00 Eng.	10:30	9:00	7:30	6:00 Alt.	4:30	
No Load	7 (23)	Weather	Overall Levels	94.4	91.2	91.5	94.0	93.5	93.4	90.5	95.1	93.2

Load	Distance, m (ft)	Open Unit, Isolated Exhaust	Measurement Clock Position	Sound Pressure Levels, dB(A)								Overall Level
				Octave Band Center Frequency (Hz)								
				63	125	250	500	1000	2000	4000	8000	
No Load	7 (23)		3:00	64.0	84.3	84.8	90.0	90.9	90.4	85.0	79.1	96.3
			1:30	61.7	74.4	78.6	85.3	89.5	87.0	82.0	75.4	93.1
			12:00-Engine	65.2	80.0	84.1	87.4	88.5	85.8	81.9	72.7	93.4
			10:30	63.1	86.3	82.3	87.2	91.6	89.9	84.4	75.7	95.9
			9:00	68.4	86.6	82.9	86.2	90.0	89.9	85.1	79.6	95.4
			7:30	65.5	86.4	83.9	87.0	89.8	89.3	84.9	80.7	95.3
			6:00-Alternator	67.3	77.6	84.8	86.5	87.1	85.2	78.8	72.9	92.4
			4:30	64.9	89.9	85.5	88.9	90.9	90.4	86.4	81.5	97.0
8-pos. log avg.	65.5	85.4	83.8	87.6	90.0	88.9	84.1	78.3	95.1			

Load	Distance, m (ft)	Exhaust	Sound Pressure Levels, dB(A)								Overall Level
			Octave Band Center Frequency (Hz)								
			63	125	250	500	1000	2000	4000	8000	
No Load	1 (3.3)	Raw Exhaust (No Silencer)	83.3	100.6	101.7	108.0	108.1	107.6	101.8	95.7	113.6

TECHNICAL INFORMATION BULLETIN

Generator Set Sound Data Sheet

Generator Set Model	Hz	Load	Sound Pressure Data in dB(A)				
			Raw Exhaust	Open Unit, Isolated Exhaust	Weather Enclosure	Level 1 Sound Enclosure	Level 2 Sound Enclosure
1600REOZMD	60	100% Load	126.7	101.6	99.7	86.3	80.3
		No Load	113.4	95.0	93.1	83.0	79.2

Note: Sound pressure data is the logarithmic average of eight perimeter measurement points at a distance of 7 m (23 ft.), except Raw Exhaust data which is a single measurement point at 1 m (3.3 ft.) from the mouth of a straight pipe exhaust.

1600REOZMD		60 Hz		Sound Pressure Levels, dB(A)								
Load	Distance, m (ft)	Enclosure	Measurement Clock Position	Octave Band Center Frequency (Hz)								Overall Level
				63	125	250	500	1000	2000	4000	8000	
100% Load	7 (23)	Level 2 Sound	3:00	46.3	55.4	69.7	65.6	66.2	72.2	70.4	59.2	76.6
			1:30	39.9	60.6	68.8	67.5	69.3	69.3	67.5	57.6	75.7
			12:00-Engine	48.4	57.6	62.6	61.7	64.4	61.5	61.5	54.3	69.9
			10:30	45.9	59.6	72.1	67.7	66.5	70.3	67.0	51.2	76.4
			9:00	44.7	55.1	73.9	70.1	67.9	68.5	64.9	53.0	77.1
			7:30	40.2	59.7	77.2	82.6	71.5	69.3	69.1	55.8	84.3
			6:00-Alternator	45.0	56.8	73.6	79.6	66.6	64.1	58.9	42.6	80.9
			4:30	44.8	57.1	82.8	77.5	71.5	71.8	70.2	60.7	84.6
			8-pos. log avg.	45.2	58.2	76.1	76.5	68.7	69.5	67.5	56.5	80.3

				Sound Pressure Levels, dB(A)								
Load	Distance, m (ft)	Enclosure	Measurement Clock Position	Octave Band Center Frequency (Hz)								Overall Level
				63	125	250	500	1000	2000	4000	8000	
100% Load	7 (23)	Level 1 Sound	3:00	49.5	61.0	75.7	71.8	73.4	80.4	79.8	69.9	84.6
			1:30	44.0	64.0	73.2	72.8	76.0	77.2	76.3	67.5	82.6
			12:00-Engine	51.4	62.9	68.6	68.0	71.6	70.1	69.9	63.7	77.2
			10:30	49.3	64.2	77.1	73.2	74.0	79.0	76.6	63.2	83.6
			9:00	48.4	60.9	79.4	76.5	75.5	77.6	75.1	64.8	84.2
			7:30	43.5	64.8	82.2	87.6	80.0	78.3	78.7	67.6	90.0
			6:00-Alternator	47.6	62.6	78.6	84.6	74.5	73.8	69.8	56.2	86.3
			4:30	47.7	62.1	86.8	83.1	79.1	80.1	79.7	71.7	89.9
			8-pos. log avg.	52.1	72.5	88.7	91.5	93.9	97.9	99.7	94.9	86.3

				Sound Pressure Levels, dB(A)									
Load	Distance, m (ft)	Enclosure	Measurement Clock Position	3:00	1:30	12:00 Eng.	10:30	9:00	7:30	6:00 Alt.	4:30	8-pos. log avg.	
				100% Load	7 (23)	Weather	Overall Levels	100.2	95.8	90.0	98.5		99.2

				Sound Pressure Levels, dB(A)								
Load	Distance, m (ft)	Enclosure	Measurement Clock Position	Octave Band Center Frequency (Hz)								Overall Level
				63	125	250	500	1000	2000	4000	8000	
100% Load	7 (23)	Open Unit, Isolated Exhaust	3:00	50.0	68.9	84.7	81.3	86.1	95.9	99.2	93.2	102.1
			1:30	47.5	65.3	77.4	79.7	87.1	92.0	93.6	88.4	97.7
			12:00-Engine	51.4	70.0	77.7	78.0	84.2	86.8	86.0	83.1	91.9
			10:30	50.7	69.2	83.0	80.8	87.5	96.0	96.4	90.3	100.4
			9:00	50.6	69.3	87.1	86.6	89.5	96.0	96.8	91.2	101.1
			7:30	44.6	71.3	88.2	93.8	96.4	96.5	98.5	94.2	104.2
			6:00-Alternator	46.5	71.2	84.5	90.5	89.3	93.9	93.4	88.2	99.2
			4:30	47.5	68.3	89.7	91.1	92.8	95.9	99.1	95.6	105.1
			8-pos. log avg.	49.1	69.5	85.7	88.5	90.9	94.9	96.7	91.9	101.6

Load	Distance, m (ft)	Exhaust	Sound Pressure Levels, dB(A)								Overall Level
			Octave Band Center Frequency (Hz)								
			63	125	250	500	1000	2000	4000	8000	
100% Load	1 (3.3)	Raw Exhaust (No Silencer)	91.3	111.3	113.2	115.7	118.4	121.5	120.8	117.7	126.7

1600REOZMD		60 Hz		Sound Pressure Levels, dB(A)								
Load	Distance, m (ft)	Enclosure	Measurement Clock Position	Octave Band Center Frequency (Hz)								Overall Level
				63	125	250	500	1000	2000	4000	8000	
				No Load	7 (23)	Level 2 Sound	3:00	56.0	68.6	66.4	64.2	
1:30	56.5	62.6	71.1				70.5	66.5	64.3	57.5	49.6	75.3
12:00-Engine	66.5	61.8	55.7				65.9	65.4	57.6	55.6	45.7	71.7
10:30	61.7	69.1	68.4				75.8	69.6	63.1	55.3	45.6	78.2
9:00	57.9	69.5	68.0				68.9	66.1	63.0	54.2	47.1	74.8
7:30	66.5	76.2	80.4				78.8	62.2	60.5	56.0	46.3	83.7
6:00-Alternator	70.5	67.5	69.3				72.7	61.7	55.6	50.7	36.6	76.6
4:30	64.1	74.2	81.1				74.7	67.8	67.9	63.7	52.9	83.1
8-pos. log avg.	65.1	71.0	75.4	73.7	66.7	64.5	58.7	49.4	79.2			

Load	Distance, m (ft)	Enclosure	Measurement Clock Position	Sound Pressure Levels, dB(A)								Overall Level
				Octave Band Center Frequency (Hz)								
				63	125	250	500	1000	2000	4000	8000	
No Load	7 (23)	Level 1 Sound	3:00	59.2	73.0	70.8	69.3	74.3	75.1	68.7	61.6	80.4
			1:30	59.1	66.3	73.2	74.4	72.1	70.5	64.5	57.4	79.3
			12:00-Engine	67.9	66.3	61.2	71.0	70.9	64.6	62.6	53.3	76.2
			10:30	64.0	73.3	71.7	79.1	75.2	70.4	63.3	54.4	82.2
			9:00	61.2	73.8	71.3	73.7	72.5	70.5	62.4	55.9	79.7
			7:30	68.4	79.7	83.4	82.8	69.6	68.3	64.4	55.0	87.3
			6:00-Alternator	71.2	72.0	73.4	76.3	68.1	63.3	59.0	46.0	80.2
			4:30	65.9	78.2	83.5	79.4	73.8	74.4	70.9	60.5	86.5
8-pos. log avg.	66.5	75.0	78.2	77.7	72.6	71.2	66.0	57.4	83.0			

Load	Distance, m (ft)	Enclosure	Measurement Clock Position	Sound Pressure Levels, dB(A)								
				3:00	1:30	12:00 Eng.	10:30	9:00	7:30	6:00 Alt.	4:30	8-pos. log avg.
No Load	7 (23)	Weather	Overall Levels	93.6	89.8	88.2	92.8	93.0	95.6	89.7	95.9	93.1

Load	Distance, m (ft)	Open Unit, Isolated Exhaust	Measurement Clock Position	Sound Pressure Levels, dB(A)								Overall Level
				Octave Band Center Frequency (Hz)								
				63	125	250	500	1000	2000	4000	8000	
No Load	7 (23)		3:00	66.5	83.9	81.5	82.2	89.4	91.6	87.2	83.0	95.5
			1:30	64.6	75.1	77.2	83.6	86.6	86.5	83.0	78.4	91.7
			12:00-Engine	69.8	77.4	75.2	84.0	85.0	83.0	81.0	73.7	90.1
			10:30	68.4	83.5	79.2	86.5	89.5	89.7	84.9	78.5	94.7
			9:00	68.8	84.4	78.7	85.7	89.2	90.5	84.7	79.8	94.9
			7:30	71.5	87.8	90.0	92.4	89.3	89.1	87.3	78.6	97.5
			6:00-Alternator	70.9	83.2	83.1	84.8	85.0	84.0	81.4	71.6	91.6
			4:30	68.7	87.9	88.3	91.1	89.4	91.5	90.2	81.0	97.8
8-pos. log avg.	69.1	84.5	84.5	87.8	88.3	89.2	86.0	79.2	95.0			

Load	Distance, m (ft)	Exhaust	Sound Pressure Levels, dB(A)								Overall Level
			Octave Band Center Frequency (Hz)								
			63	125	250	500	1000	2000	4000	8000	
No Load	1 (3.3)	Raw Exhaust (No Silencer)	80.6	100.9	104.3	107.4	107.5	106.8	101.7	97.0	113.4

APPENDIX 11.1:
CADNAA CONSTRUCTION NOISE MODEL INPUTS

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13656 - Epoca Village Neighborhood "J"

CadnaA Noise Prediction Model: 13564-01_Construction.cna

Date: 16.02.21

Analyst: B. Lawson

Calculation Configuration

Configuration	
Parameter	Value
General	
Country	(user defined)
Max. Error (dB)	0.00
Max. Search Radius #(Unit,LEN)	2000.01
Min. Dist Src to Rcvr	0.00
Partition	
Raster Factor	0.50
Max. Length of Section #(Unit,LEN)	999.99
Min. Length of Section #(Unit,LEN)	1.01
Min. Length of Section (%)	0.00
Proj. Line Sources	On
Proj. Area Sources	On
Ref. Time	
Reference Time Day (min)	960.00
Reference Time Night (min)	480.00
Daytime Penalty (dB)	0.00
Recr. Time Penalty (dB)	5.00
Night-time Penalty (dB)	10.00
DTM	
Standard Height (m)	0.00
Model of Terrain	Triangulation
Reflection	
max. Order of Reflection	2
Search Radius Src	100.00
Search Radius Rcvr	100.00
Max. Distance Source - Rcvr	1000.00 1000.00
Min. Distance Rcvr - Reflector	1.00 1.00
Min. Distance Source - Reflector	0.10
Industrial (ISO 9613)	
Lateral Diffraction	some Obj
Obst. within Area Src do not shield	On
Screening	
	Incl. Ground Att. over Barrier
	Dz with limit (20/25)
Barrier Coefficients C1,2,3	3.0 20.0 0.0
Temperature #(Unit,TEMP)	10
rel. Humidity (%)	70
Ground Absorption G	0.66
Wind Speed for Dir. #(Unit,SPEED)	3.0
Roads (TNM)	
Railways (FTA/FRA)	
Aircraft (???)	
Strictly acc. to AzB	

Receiver Noise Levels

Name	M.	ID	Level Lr			Limit. Value			Land Use			Height	Coordinates			
			Day	Night	CNEL	Day	Night	CNEL	Type	Auto	Noise Type		X	Y	Z	
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)				(m)	(m)	(m)	(m)	
RECEIVERS		R1	38.2	38.2	44.9	75.0	0.0	0.0				0.00	a	1909953.06	579764.86	0.00
RECEIVERS		R2	38.9	38.9	45.6	75.0	0.0	0.0				0.00	a	1909362.25	579816.76	0.00

Area Source(s)

Name	M.	ID	Result. PWL			Result. PWL''			Lw / Li		Operating Time			Height
			Day	Evening	Night	Day	Evening	Night	Type	Value	norm.	Day	Special	
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)		dB(A)	(min)	(min)	(min)	(ft)
CONSTRUCTION_AREA		0	124.6	124.6	124.6	75.3	75.3	75.3	Lw''	75.3				0

Name	Height		Coordinates			
	Begin	End	x	y	z	Ground
	(m)	(m)	(m)	(m)	(m)	(m)
CONSTRUCTION_AREA	0.00	a	1909884.18	580179.49	0.00	0.00
			1909679.79	580183.46	0.00	0.00
			1909680.45	580162.96	0.00	0.00
			1909617.61	580162.96	0.00	0.00
			1909597.11	580166.92	0.00	0.00
			1909564.69	580180.15	0.00	0.00
			1909552.79	580187.43	0.00	0.00
			1909494.58	580196.03	0.00	0.00
			1909480.69	580198.67	0.00	0.00
			1909466.80	580194.04	0.00	0.00

Name	Height		Coordinates			
	Begin	End	x	y	z	Ground
	(m)	(m)	(m)	(m)	(m)	(m)
			1909451.59	580193.38	0.00	0.00
			1909443.65	580193.38	0.00	0.00
			1909433.73	580189.41	0.00	0.00
			1909399.99	580190.08	0.00	0.00
			1909401.31	580281.36	0.00	0.00
			1909442.99	580321.71	0.00	0.00
			1909442.33	580340.89	0.00	0.00
			1909437.69	580364.70	0.00	0.00
			1909426.45	580373.30	0.00	0.00
			1909413.88	580378.59	0.00	0.00
			1909404.62	580388.51	0.00	0.00
			1909409.25	580461.93	0.00	0.00
			1909414.54	580499.64	0.00	0.00
			1909425.13	580524.11	0.00	0.00
			1909435.05	580532.71	0.00	0.00
			1909450.92	580534.69	0.00	0.00
			1909466.14	580532.71	0.00	0.00
			1909477.38	580524.77	0.00	0.00
			1909481.35	580510.22	0.00	0.00
			1909500.53	580491.70	0.00	0.00
			1909502.52	580457.30	0.00	0.00
			1909517.07	580436.80	0.00	0.00
			1909531.62	580421.59	0.00	0.00
			1909544.85	580414.31	0.00	0.00
			1909560.06	580407.03	0.00	0.00
			1909568.00	580396.45	0.00	0.00
			1909572.63	580397.77	0.00	0.00
			1909575.94	580406.37	0.00	0.00
			1909585.20	580405.71	0.00	0.00
			1909593.14	580395.79	0.00	0.00
			1909595.78	580377.93	0.00	0.00
			1909634.15	580377.93	0.00	0.00
			1909648.04	580369.99	0.00	0.00
			1909678.47	580305.17	0.00	0.00
			1909786.94	580217.86	0.00	0.00
			1909831.26	580260.85	0.00	0.00
			1909812.08	580349.49	0.00	0.00
			1909834.57	580354.12	0.00	0.00