FOREST LAWN - CATHEDRAL CITY SPECIFIC PLAN

NOISE AND VIBRATION ANALYSIS

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TABLE OF CONTENTS

EXECUTIVE SUMMARY 7
1 INTRODUCTION 9
1.1 Site Location 9
1.2 Project Description 9
2 FUNDAMENTALS 13
2.1 Range of Noise 13
2.2 Noise Descriptors 14
2.3 Sound Propagation 14
2.4 Noise Control 15
2.5 Noise Barrier Attenuation 15
2.6 Land Use Compatibility With Noise 15
2.7 Community Response to Noise 16
2.8 Vibration 16
3 REGULATORY SETTING 19
3.1 California Noise Requirements 19
3.2 City of Cathedral City General Plan 19
3.3 Construction Noise Standards 21
3.4 Construction Vibration Standards 22
3.5 Palm Springs Airport Land Use Compatibility 22
4 SIGNIFICANCE CRITERIA 25
4.1 Noise Level Increases (Threshold A) 25
4.2 Vibration (Threshold B) 27
4.3 CEQA Guidelines Not Further Analyzed (Threshold C) 27
4.4 Significance Criteria Summary 28
5 EXISTING NOISE LEVEL MEASUREMENTS 29
5.1 Measurement Procedure and Criteria 29
5.2 Noise Measurement Locations 29
5.3 Noise Measurement Results 31
6 OFF-SITE TRANSPORTATION NOISE IMPACTS 33
7 RECEIVER LOCATIONS 35
8 OPERATIONAL NOISE ANALYSIS 37
8.1 Operational Noise Sources 37
8.2 Reference Noise Levels 37
8.3 Project Operational Noise Levels 39
8.4 Project Operational Noise Level Compliance 40
8.5 Project Operational Noise Level Increases 40
9 CONSTRUCTION IMPACTS 43
9.1 Construction Noise Levels 43
9.2 Construction Reference Noise Levels 43
9.3 Construction Noise Analysis 45
9.4 Project Site Construction Noise Level Compliance 46
9.5 Construction Vibration Analysis 47
9.6 Construction Vibration Impacts Mitigation 48

10 REFERENCES 51
11 CERTIFICATION 53

APPENDICES

APPENDIX 3.1: CITY OF CATHEDRAL CITY MUNICIPAL CODE
APPENDIX 5.1: STUDY AREA PHOTOS
APPENDIX 5.2: NOISE LEVEL MEASUREMENT WORKSHEETS
APPENDIX 8.1: CADNAA OPERATIONAL NOISE CALCULATIONS
APPENDIX 9.1: UNMITIGATED CONSTRUCTION NOISE CALCULATIONS

LIST OF EXHIBITS

EXHIBIT ES-1: SUMMARY OF RECOMMENDATIONS 8
EXHIBIT 1-1: PROJECT LOCATION 10
EXHIBIT 2-2: PRELIMINARY CONCEPTUAL SITE PLAN 12
EXHIBIT 2-1: TYPICAL NOISE LEVELS 13
EXHIBIT 2-2: NOISE LEVEL INCREASE PERCEPTION 16
EXHIBIT 2-3: TYPICAL LEVELS OF GROUND-BORNE VIBRATION 18
EXHIBIT 3-1: LAND USE COMPATIBILITY FOR COMMUNITY NOISE EXPOSURE 21
EXHIBIT 3-2: RC ALUCP SUPPORTING COMPATIBILITY CRITERIA: NOISE 23
EXHIBIT 3-3: PSP AIRPORT NOISE CONTOURS 24
EXHIBIT 5-1: NOISE MEASUREMENT LOCATIONS 30
EXHIBIT 7-1: RECEIVER LOCATIONS 36
EXHIBIT 8-1: OPERATIONAL NOISE SOURCE LOCATIONS 38
EXHIBIT 9-1: CONSTRUCTION NOISE SOURCE LOCATIONS 44

LIST OF TABLES

TABLE ES-1: SUMMARY OF CEQA SIGNIFICANCE FINDINGS 7
TABLE 4-1: SIGNIFICANCE CRITERIA SUMMARY 28
TABLE 5-1: AMBIENT NOISE LEVEL MEASUREMENTS 31
TABLE 8-1: REFERENCE NOISE LEVEL MEASUREMENTS 37
TABLE 8-2: DAYTIME PROJECT OPERATIONAL NOISE LEVELS 39
TABLE 8-3: NIGHTTIME PROJECT OPERATIONAL NOISE LEVELS 40
TABLE 8-4: OPERATIONAL NOISE LEVEL COMPLIANCE 40
TABLE 8-5: DAYTIME PROJECT OPERATIONAL NOISE LEVEL INCREASES 41
TABLE 8-6: NIGHTTIME OPERATIONAL NOISE LEVEL INCREASES 42
TABLE 9-1: CONSTRUCTION REFERENCE NOISE LEVELS 45
TABLE 9-2: CONSTRUCTION EQUIPMENT NOISE LEVEL SUMMARY 46
TABLE 9-3: CONSTRUCTION NOISE LEVEL COMPLIANCE 46
TABLE 9-4: VIBRATION SOURCE LEVELS FOR CONSTRUCTION EQUIPMENT 47
TABLE 9-5: PROJECT CONSTRUCTION VIBRATION LEVELS – UNMITIGATED 48
TABLE 9-6: PROJECT CONSTRUCTION VIBRATION LEVELS – MITIGATED 49

LIST OF ABBREVIATED TERMS

(1)	Reference
ANSI	American National Standards Institute
Calveno	California Vehicle Noise
CEQA	California Environmental Quality Act
CNEL	Community Noise Equivalent Level
dBA	A-weighted decibels
EIR	Environmental Impact Report
EPA	Environmental Protection Agency
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
INCE	Institute of Noise Control Engineering
Leq	Equivalent continuous (average) sound level
Lmax	Maximum level measured over the time interval
mph	Miles per hour
PPV	Peak Particle Velocity
Project	Forest Lawn - Cathedral City Specific Plan
REMEL	Reference Energy Mean Emission Level
RMS	Root-mean-square
sf	square feet
VdB	Vibration Decibels

EXECUTIVE SUMMARY

Urban Crossroads, Inc. has prepared this noise study to determine the potential noise impacts resulting from the proposed Forest Lawn - Cathedral City Specific Plan (Project) in the City of Cathedral City, and to identify mitigation measures to reduce these impacts. A detailed description of the Project is provided in Section 1.2 of this report. The proposed Specific Plan area includes the existing cemetery in the northern portion, which would remain, and a former self-storage facility in the southern portion that would be redeveloped with cemetery uses. In summary, the proposed Forest Lawn – Cathedral City Specific Plan Project (Project) would provide a regulatory framework for the cemetery development. The Project would allow for the construction of up to approximately 12,000 square feet (sf) of floor area for new structures (for such uses as reception areas, a chapel, restrooms, storage, multi-purpose and support areas) and up to approximately 275,000 sf of new non-occupied floor area (for such uses as wall crypts, columbaria, and burial and cremation garden structures) in the southern portion of the proposed Specific Plan area. This noise study evaluates potential impacts associated with the construction and operation of the new cemetery uses proposed in the southern portion of the proposed Specific Plan area and has been prepared to satisfy applicable City of Cathedral City noise standards and significance criteria based on Appendix G of the California Environmental Quality Act (CEQA) Guidelines. (1)

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

TABLE ES-1: SUMMARY OF CEQA SIGNIFICANCE FINDINGS

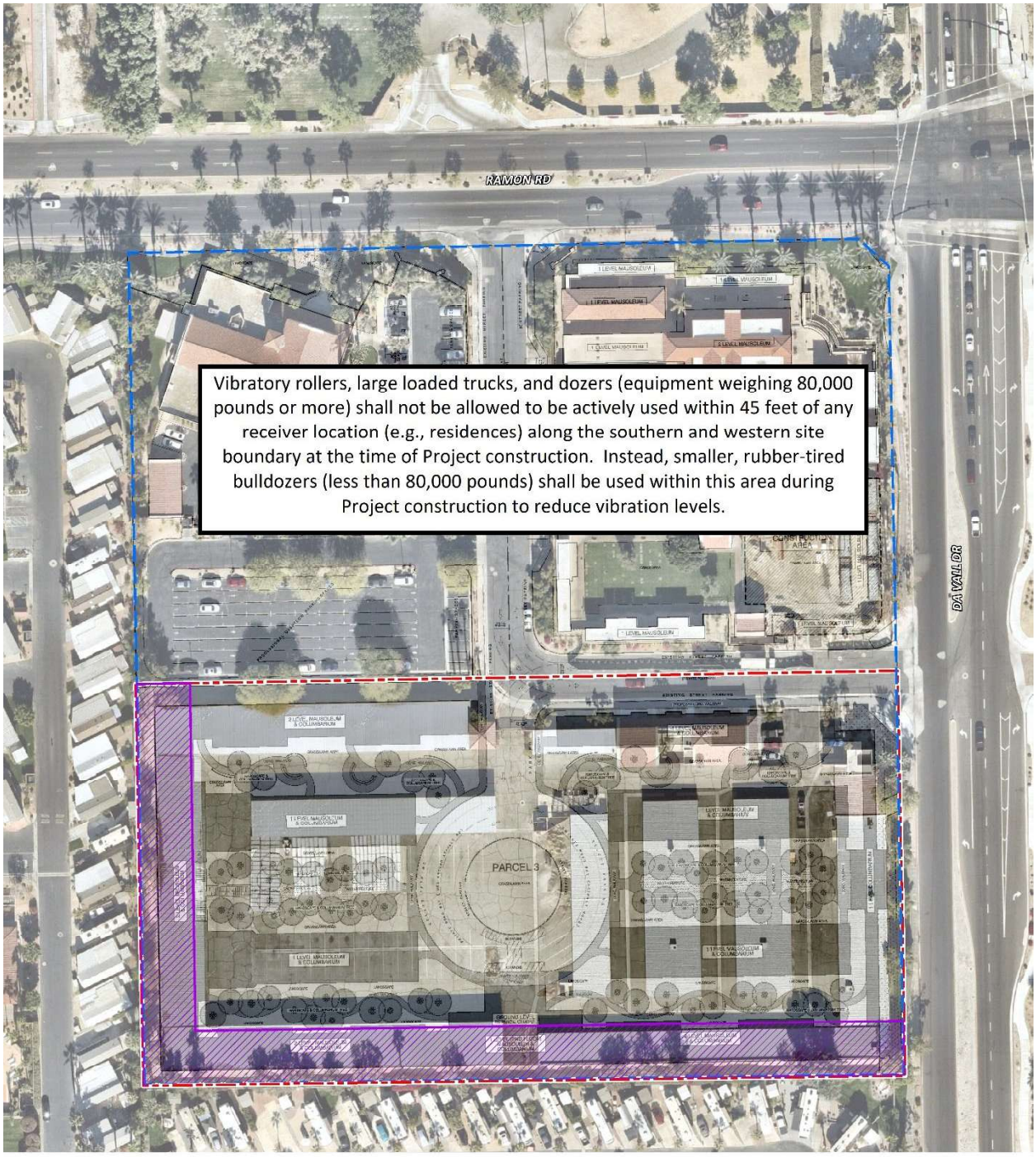
Analysis	Report Section	Significance Findings	
		Unmitigated	Mitigated
Airport Noise	4	*Less Than Significant*	-
Off-Site Traffic Noise	8	*Less Than Significant*	-
Operational Noise	10	*Less Than Significant*	-
Project Construction Noise	11	*Less Than Significant*	-
Construction Vibration	11	*Significant*	*Less Than Significant*

Construction Vibration Mitigation

NOI-1: Vibratory rollers, large loaded trucks, and dozers (equipment weighing 80,000 pounds or more) shall not be allowed to be actively used within 45 feet of residences along the southern and western site boundary at the time of Project construction. Instead, smaller, rubber-tired bulldozers (less than 80,000 pounds) shall be used within this area during Project construction to reduce vibration levels.

With the recommended vibration measure identified in this analysis and shown in ES-1, the vibration-related impacts will be reduced to *less than significant*.

EXHIBIT ES-1: SUMMARY OF RECOMMENDATIONS



1 INTRODUCTION

This Noise and Vibration Analysis has been completed to evaluate potential noise impacts associated with the development of the proposed Forest Lawn - Cathedral City Specific Plan ("Project"). This noise and vibration analysis briefly describes the Project, provides information regarding noise fundamentals, sets out the local regulatory setting, presents the study methods and procedures for noise analysis, evaluates potential off-site traffic impacts, the Project-related long-term stationary-source operational noise, and the Project-related short-term construction noise and vibration impacts.

1.1 SITE LOCATION

The Project site is located at 69855 Ramon Road (south of Ramon Road and east of Da Vall Drive) in the City of Cathedral City. The Project's location is shown in Exhibit 1-1. The proposed Specific Plan site includes the existing cemetery in the northern portion and a former self-storage facility in the southern portion that would be redeveloped with cemetery uses.

1.2 PROJECT DESCRIPTION

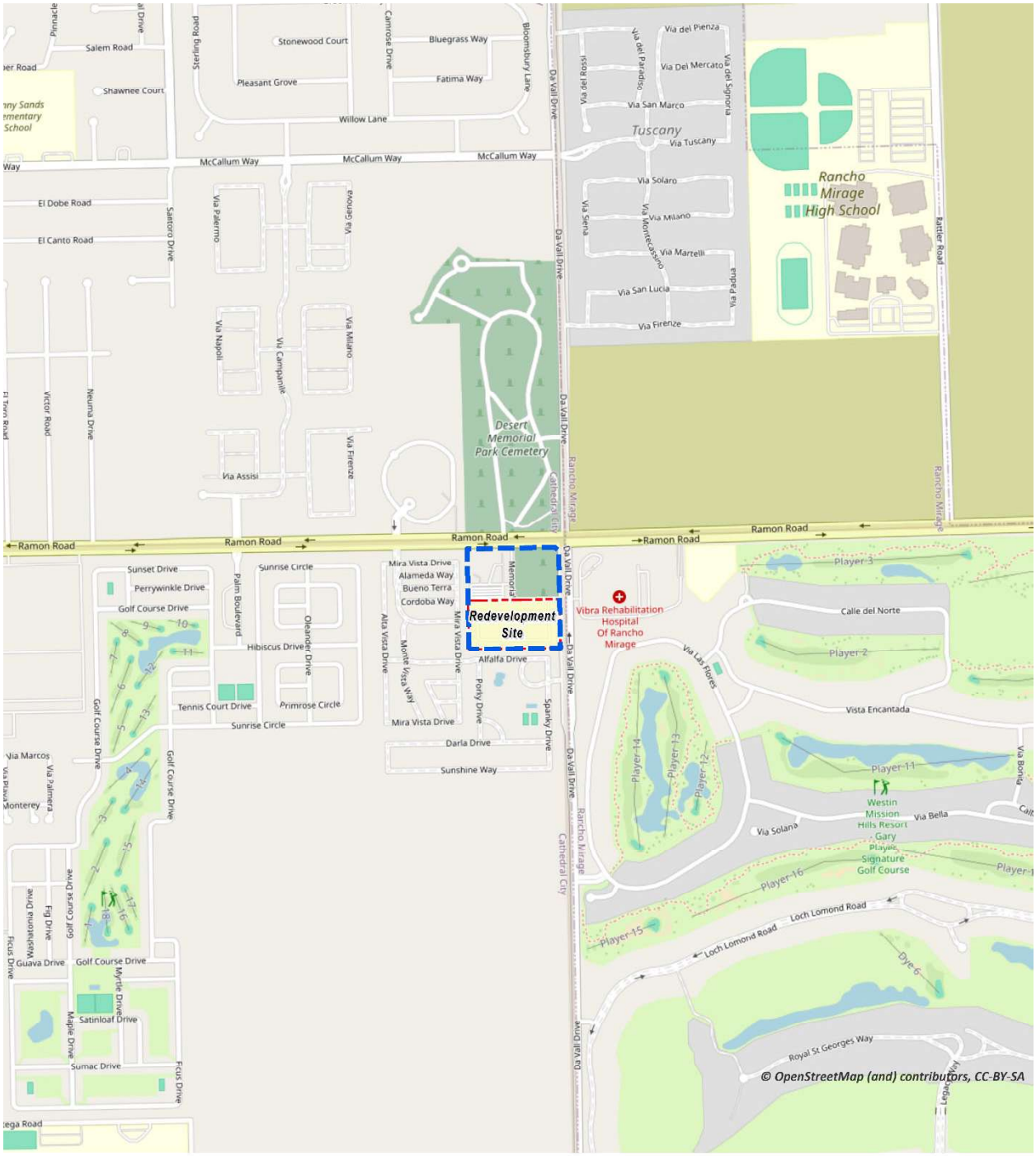
The existing cemetery in the northern portion of the proposed Specific Plan site includes an existing mortuary with a chapel, mausoleums, wall crypts, crematorium, columbaria, and lawn crypts, as well as associated office space, storage, surface parking areas, and walkways. The existing development consists of approximately 18,000 square feet (sf) of occupied building area and approximately 35,000 sf of non-occupied floor area, including approximately 11,500 interment spaces. Additional mausoleums, wall crypts, and lawn crypts (approximately 5,000 sf of non-occupied floor area) are currently under construction in the southeast portion of the existing cemetery property pursuant to prior approvals and will provide an additional approximately 2,500 interment spaces.

The southern portion of the proposed Specific Plan site, which is also referred to herein as the "Project site" for purposes of this analysis, is currently developed with a former self-storage facility, which consists of 577 storage units in approximately 75,500 sf of non-occupied floor area, approximately 4,000 sf of occupied floor area, and surface parking, including spaces for recreational vehicles and trailers. The former self-storage facility gradually ceased operations over the last couple of years, in anticipation of this application for much-needed cemetery property development.

The existing cemetery encompasses approximately 5.2 acres and is located at 69855 Ramon Road (south of Ramon Road and east of Da Vall Drive). There are existing residential uses to the west, and the former self-storage facility owned by Forest Lawn-Cathedral City to the south. The former self-storage facility is located on approximately 4.8 acres and is proposed to be redeveloped with additional cemetery uses as part of the proposed Project.

In addition to the adoption of the proposed Specific Plan for the existing and proposed cemetery uses, the Project includes a General Plan Amendment to change the land use designation for the project site from CG General Commercial to Neighborhood Commercial, and a Zone Change to change the zoning designation from PCC. Planned Community Commercial to NBP Neighborhood Business Park.

EXHIBIT 1-1: PROJECT LOCATION



LEGEND:

N

Redevelopment Site Boundary

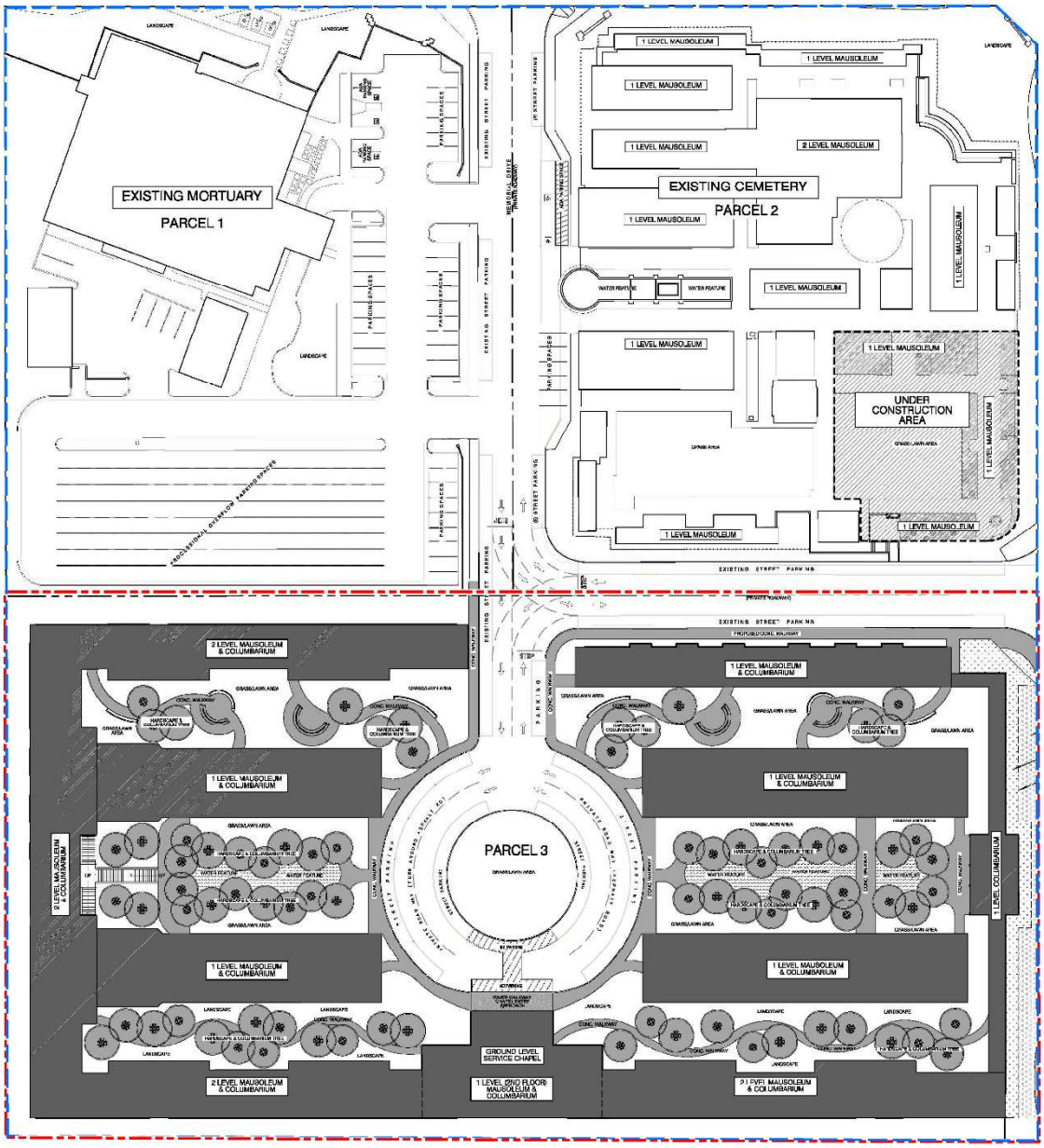
Specific Plan

Proposed Forest Lawn – Cathedral City Specific Plan

The proposed Forest Lawn – Cathedral City Specific Plan would provide a regulatory framework for this cemetery development. The Project would allow for the construction of up to approximately 12,000 sf of floor area for new structures (for such uses as reception areas, a chapel, restrooms, storage, multi-purpose and support areas) and up to approximately 275,000 sf of new non-occupied floor area (for such uses as wall crypts, columbaria, and burial and cremation garden structures). With the proposed removal of the former storage facility, this would result in a net increase of approximately 199,500 sf of non-occupied floor area. The new development would provide an additional approximately 70,000 interment spaces to help meet local and regional demand for interment. Cemetery structures such as burial gardens and mausoleums would be developed in stages, with incremental amounts of development occurring as needed to meet the demand for interment spaces. The Project would generally retain existing landscaping, add additional cemetery landscaping and garden areas, with a resulting increase in pervious area on the project site.

Accounting for existing uses to remain, cemetery uses currently under construction, and proposed future development within the southern portion of the Specific Plan site (former self-storage facility site), the Project would allow a total of approximately 30,000 sf of occupied floor area, approximately 315,000 sf of non-occupied floor area, and approximately 84,000 interment spaces within the entire Project site. A preliminary conceptual site plan is shown on Exhibit 1-2. Actual development would be governed by the proposed Specific Plan.

EXHIBIT 2-2: PRELIMINARY CONCEPTUAL SITE PLAN



LEGEND:

N

Redevelopment Site Boundary

Specific Plan

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 sources 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 2-1 presents a summary of the typical noise levels and their subjective loudness and effects that are described in more detail below.

EXHIBIT 2-1: 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	
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		SPEECH INTERFERENCE
NOISY URBAN AREA, DAYTIME	VACUUM CLEANER AT 3m (10 ft)	70	LOUD	
HEAVY TRAFFIC AT 90m (300 ft)	NORMAL SPEECH AT 1m (3 ft)	60		
QUIET URBAN DAYTIME	LARGE BUSINESS OFFICE	50	MODERATE	SLEEP DISTURBANCE
QUIET URBAN NIGHTTIME	THEATER, LARGE CONFERENCE ROOM (BACKGROUND)	40		
QUIET SUBURBAN NIGHTTIME	LIBRARY	30	FAINT	NO EFFECT
QUIET RURAL NIGHTTIME	BEDROOM AT NIGHT, CONCERT HALL (BACKGROUND)	20		
	BROADCAST/RECORDING STUDIO	10	VERY FAINT	
LOWEST THRESHOLD OF HUMAN HEARING	LOWEST THRESHOLD OF HUMAN HEARING	0		

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

2.1 RANGE OF NOISE

Since the range of intensities that the human ear can detect is so large, the scale frequently used to measure intensity is a scale based on multiples of 10, the logarithmic scale. The scale for measuring intensity is the decibel scale. Each interval of 10 decibels indicates a sound energy ten times greater than before, which is perceived by the human ear as being roughly twice as loud. (2) The most common sounds vary between 40 dBA (very quiet) to 100 dBA (very loud). Normal conversation at three feet is roughly at 60 dBA, while loud jet engine noises equate to 110 dBA at approximately 1,000 feet, which can cause serious discomfort. (3) Another important aspect of noise is the duration of the sound and the way it is described and distributed in time.

2.2 NOISE DESCRIPTORS

Environmental noise descriptors are generally based on averages, rather than instantaneous noise levels. The most used metric is the equivalent level (Leq). 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 (Leq) represents a steady state sound level containing the same total energy as a time-varying signal over a given sample period and is commonly used to describe the "average" noise levels within the environment.

Peak hour or average noise levels, while useful, do not completely describe a given noise environment. Noise levels lower than peak hour may be disturbing if they occur during times when quiet is most desirable, namely evening and nighttime (sleeping) hours. To account for this, the Community Noise Equivalent Level (CNEL), representing a composite 24-hour noise level, is utilized. The CNEL is the weighted average of the intensity of a sound, with corrections for time of day, and averaged over 24 hours. The time-of-day corrections require the addition of 5 decibels to dBA Leq sound levels in the evening from 7:00 p.m. to 10:00 p.m., and the addition of 10 decibels to dBA Leq sound levels at night between 10:00 p.m. and 7:00 a.m. These additions are made to account for the noise-sensitive time periods during the evening and night hours when noise can become more intrusive. CNEL does not represent the actual sound level heard at any time, but rather represents the total sound exposure. The City of Cathedral City 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. The Federal Highway Administration (FHWA) does not consider the planting of vegetation to be a noise abatement measure. (5)

2.4 Noise Control

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

2.5 Noise Barrier Attenuation

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

2.6 Land Use Compatibility With Noise

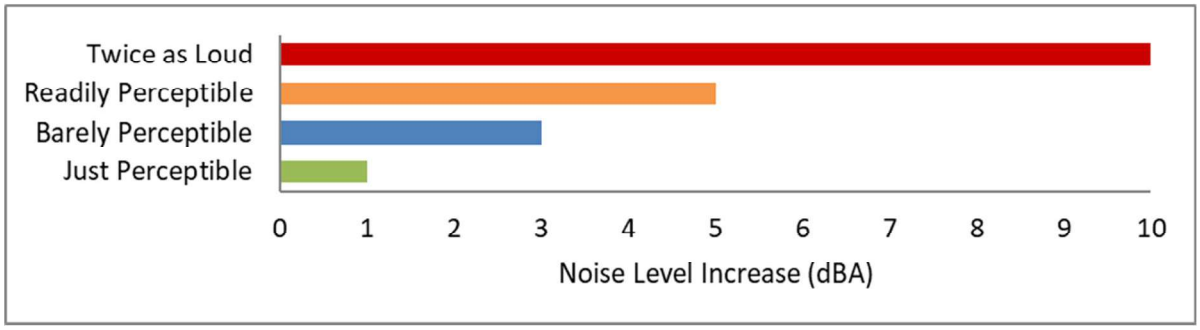
Some land uses are more tolerant of noise than others. For example, schools, hospitals, churches, and residences are more sensitive to noise intrusion than commercial or industrial developments and related activities. As ambient noise levels affect the perceived amenity or livability of a development, 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 governments to regulate land development in such a way that noise-sensitive land uses are either prohibited from being located adjacent to a highway, or that the developments are planned, designed, and constructed in such a way that noise impacts are minimized. (6)

2.7 COMMUNITY RESPONSE TO NOISE

Approximately sixteen percent of the population has a very low tolerance for noise and will object to any noise not of their own making. Consequently, even in the quietest environment, some complaints may occur. Twenty to thirty percent of the population will not complain even in very severe noise environments. (7 pp. 8-6) Thus, a variety of reactions can be expected from people exposed to any given noise environment.

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

EXHIBIT 2-2: NOISE LEVEL INCREASE PERCEPTION



2.8 VIBRATION

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

Additionally, in contrast to airborne noise, ground-borne vibration outdoors is not a common environmental problem, and annoyance from ground-borne vibration is almost exclusively an indoor phenomenon (8). Therefore, the effects of vibrations should only be evaluated at a structure, and the effects of the building structure on the vibration should be considered. Wood-frame buildings, such as typical residential structures, are more easily excited by ground vibration than heavier buildings. In contrast, large masonry buildings with spread footings have a low response to ground vibration (8). In general, the heavier a building is, the lower the response will be to the incident vibration energy. However, all structures reduce vibration levels due to the coupling of the building to the soil.

There are several methods used to quantify vibration levels. Peak Particle Velocity (PPV) is defined as the maximum instantaneous peak of a vibration signal and is most commonly used to evaluate the impact of vibration on buildings (9) (8). However, PPV is not always suitable for assessing human response (e.g., annoyance), as the human body does not respond instantly to vibration signals. Instead, it responds to the average amplitude, more accurately represented by the Root Mean Square (RMS) value of the vibration (8).

RMS is defined as the square root of the average of the squared signal amplitude and is commonly used to evaluate human exposure to vibration. RMS and PPV are mathematically related—RMS is typically about 70% of the PPV for certain waveforms (10) (11). However, deriving RMS from PPV requires knowing the full waveform or making assumptions (e.g., sinusoidal or steady-state signals). Without this information, converting PPV to RMS introduces uncertainty and provides limited insight, especially in cases involving transient or impact vibrations (12).

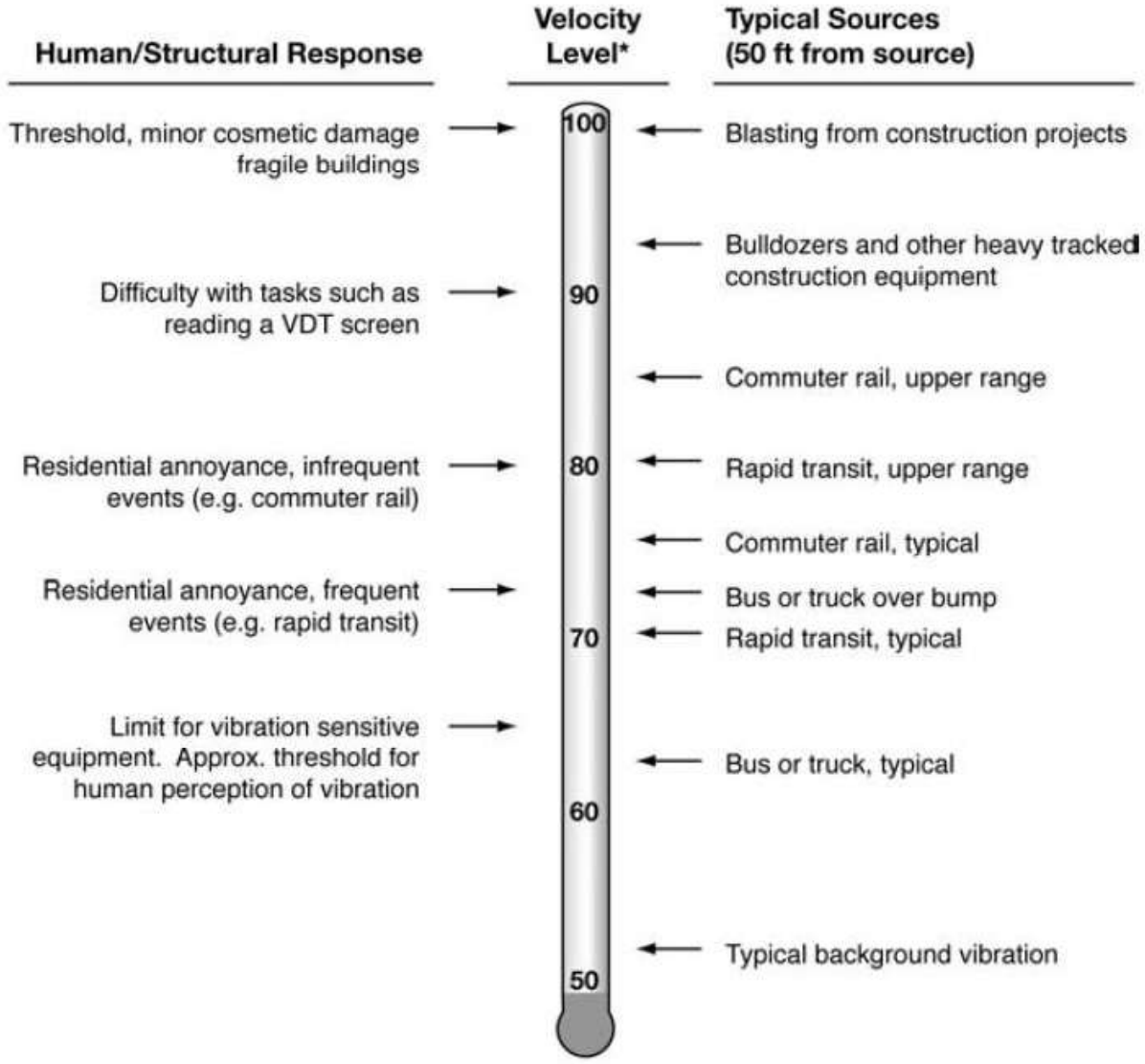
This distinction is important because human annoyance to vibration is often triggered by abrupt, intermittent events, rather than sustained energy levels. Construction-related vibrations are typically impulsive and broadband, in contrast to the continuous, tonal vibrations associated with transit systems. The FTA's RMS-based criteria were developed with train activity in mind and are not well-suited for construction vibration, where perception is driven by factors like suddenness, impact, and repetition (8).

In essence, RMS tends to average out short-duration, high-intensity events—the very events that people find most disturbing. Therefore, for construction activities, PPV-based thresholds, such as those recommended by Caltrans, are more appropriate for assessing potential human annoyance and structural impact (11).

While not universally accepted, vibration decibel notation (VdB) is another RMS-based vibration notation developed and used by the FTA in their guidance manual to describe vibration levels and provide a background of common vibration levels and set vibration limits (8). Decibel notation (VdB) serves to reduce the range of numbers used to describe vibration levels and is used in this report to describe vibration levels.

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

EXHIBIT 2-3: TYPICAL LEVELS OF GROUND-BORNE VIBRATION



** RMS Vibration Velocity Level in VdB relative to 10^{-6} inches/second*

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

3 REGULATORY SETTING

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

3.1 CALIFORNIA NOISE REQUIREMENTS

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 Land Use and Climate Innovation (LCI) (13) The purpose of the Noise Element is to limit the exposure of the community to excessive noise levels. In addition, the California Environmental Quality Act (CEQA) requires that all known environmental effects of a project be analyzed, including environmental noise impacts.

3.2 CITY OF CATHEDRAL CITY GENERAL PLAN

The City of Cathedral City has adopted a Safety Element of the General Plan which contains a Noise Sub Element to control and abate environmental noise, and to protect the citizens of the City of Cathedral City from excessive exposure to noise. (14) The Safety Element specifies the maximum allowable exterior noise levels for new developments impacted by transportation noise sources such as arterial roads, freeways, airports, and railroads. In addition, the Noise Element identifies several polices to minimize the impacts of excessive noise levels throughout the community and establishes noise level requirements for all land uses. To protect City of Cathedral City residents from excessive noise, the Safety Element contains the following policies:

Policy 1: Protect noise-sensitive land uses, including residential neighborhoods, schools, hospitals and assisted living facilities, libraries, churches, resorts and community open space, from high noise levels generated along major transportation corridors..

Policy 2: The relationship between land use designations in the Land Use Element and changes in the circulation pattern of the City, as well as individual developments, shall be monitored and mitigated.

Policy 3: Private sector project proposals shall include measures that assure that noise exposures levels comply with State of California noise insulation standards as defined in Title 25 (California Noise Insulation Standards).

Policy 4: Maintain a circulation map which ensures low levels of traffic within residential neighborhoods, and assigns truck routes to major roadways only.

Policy 5: Maintain an ongoing contact with the Palm Springs Airport to ensure that flight paths and airport improvements and operations do not impact or extend noise contours into the City.

Policy 6: Coordinate with adjoining municipalities to ensure noise-compatible land uses across jurisdictional boundaries.

Policy 7: The City shall restrict grading and construction activities that may impact residential neighborhoods to specified days of the week and times of day as set forth in the City Noise Ordinance.

Policy 8: The City shall evaluate and condition all development and other construction projects that have the potential to impact sensitive nearby land uses.

To ensure noise-sensitive land uses are protected from high levels of noise (Policy 1), Table S-6 of the Safety Element identifies guidelines to evaluate proposed developments based on exterior and interior noise level limits for land uses and requires a noise analysis to determine needed mitigation measures if necessary.

3.2.1 Land Use Compatibility Guidelines

The noise criteria identified in the City of Cathedral City Safety Element (Noise Sub-Element) (Table S-6) are guidelines to evaluate the land use compatibility of transportation-related noise. The compatibility criteria, shown in Exhibit 3-1, provide the City with a planning tool to gauge the compatibility of land uses relative to existing and future exterior noise levels. The *Land Use Compatibility for Community Noise Environments* matrix describes categories of compatibility and not specific noise standards. Cemetery use is considered *normally acceptable* with unmitigated exterior noise levels of less than 75 dBA CNEL based on the *Golf Courses, Riding Stables, Water Recreation and Cemeteries* land use compatibility criteria shown on Exhibit 3-1. Parks are considered *normally acceptable* with unmitigated exterior noise levels of less than 70 dBA CNEL. Noise-sensitive residential designated land uses are considered *normally acceptable* with exterior noise levels below 60 dBA CNEL, and *conditionally acceptable* with exterior noise levels of up to 70 dBA CNEL. For *normally unacceptable* exterior noise levels of up to 80 dBA CNEL, new construction of cemetery use land uses *is discouraged; however, if new construction does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.*[1] (14)

3.2.2 City of Cathedral City

The City of Cathedral City has set stationary-source hourly average L_{eq} exterior noise limits to control outdoor activity and roof-top air conditioning. These facility-related noises, as projected to any portion of any surrounding property containing a *habitable dwelling, hospital, school, library or nursing home*, must not exceed the following noise levels.

The City of Cathedral City Municipal Code Chapter 11.96.030 sets a stationary-source average L_{eq} exterior noise limit not to be exceeded of 65 dBA L_{eq} for daytime hours of 7:00 a.m. to 10:00 p.m., and 50 dBA L_{eq} during the noise-sensitive nighttime hours of 10:00 p.m. to 7:00 a.m. and in the event the ambient noise level exceeds these levels, no person shall produce, suffer or allow to be produced noise or sounds in excess of the ambient noise level. (15)

[1] In the description for *normally unacceptable* land use, in Table S-6 of the City of Cathedral City Safety Element (Noise Sub-Element), there is an error where the plan text says, *if new construction does not proceed.* In the description below, the error has been corrected to *if new construction does proceed.*

EXHIBIT 3-1: LAND USE COMPATIBILITY FOR COMMUNITY NOISE EXPOSURE

Land Uses	CNEL (dBA)						
	50	55	60	65	70	75	80
Residential - Single Family Dwellings, Duplex, Mobile Homes	A	A	B	B	C	D	D
Residential – Multiple Family	A	A	B	B	C	D	D
Transient Lodging: Hotels and Motels	A	A	B	B	C	C	D
School Classrooms, Libraries, Churches, Hospitals, Nursing Homes and Convalescent Hospitals	A	A	B	B	C	C	D
Auditoriums, Concert Halls, Amphitheaters	B	B	B	C	C	C	D
Sports Arenas, Outdoor Spectator Sports	B	B	B	C	C	C	D
Playgrounds, Neighborhood Parks	A	A	A	C	C	D	D
Golf Courses, Riding Stables, Water Recreation, Cemeteries	A	A	A	C	C	C	D
Office Buildings, Business, Commercial and Professional	A	A	A	B	B	D	D
Industrial, Manufacturing, Utilities, Agriculture	A	A	A	B	B	D	D

Source: *California Department of Health Services, "Guidelines for the Preparation and Content of the Noise Element of the General Plan,"* 1990

A - Normally Acceptable: With no special noise reduction requirements assuming standard constructions.

B - Conditionally Acceptable: New construction or development should be undertaken only after a detailed analysis of the noise reduction requirement is made and needed noise insulation features included in the design.

C - Normally Unacceptable: New construction is discouraged. If new construction does not proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

D - Clearly Unacceptable: New construction or development should generally not be undertaken.

Source: City of Cathedral City General Plan Safety Element, Table S-6.

3.3 CONSTRUCTION NOISE STANDARDS

The City of Cathedral City General Plan Safety Element (Noise Sub Element), Policy 8, Program 8.A 8-hour construction noise level standards of 80 dBA L_{eq} for residential land uses and 85 dBA L_{eq} for commercial uses In addition, the City of Cathedral City municipal code Section 11.96.070(B) indicates that noise associated with any private construction activity is permitted Monday through Friday from 7:00 a.m. to 5:30 p.m. and from 8:00 a.m. to 5:00 p.m. on Saturday from October 1st through April 30th, Monday through Friday from 6:00 a.m. to 7:00 p.m. and 8:00 a.m. to 5:00 p.m. from May 1st through September 30th, and is not permissible on Sunday or any State holiday. (16) Therefore, an 80 dBA L_{eq} construction noise level threshold for nearby residential uses was used for this analysis.

3.4 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 is generally associated with pile driving and rock blasting. Other construction equipment, such as air compressors, light trucks, hydraulic loaders, etc., generates little or no ground vibration. Occasionally, large bulldozers and loaded trucks can cause perceptible vibration levels at close proximity. The City of Cathedral City General Plan, Safety Element (Noise Sub-Element), Policy 8, Program 8.A, sets a vibration threshold of 0.01 (in/sec) RMS for sensitive uses. (14)

3.5 PALM SPRINGS AIRPORT LAND USE COMPATIBILITY

The Palm Springs Airport (PSP) is located approximately 3 miles northwest of the Project site. The *Riverside County Airport Land Use Compatibility Plan Policy Document* (RC ALUCP) includes the policies for determining the land use compatibility of proposed projects. The Table 2B *Supporting Compatibility Criteria: Noise* matrix is shown on Exhibit 3-2 and indicates that *clearly acceptable* public cemetery land uses experience exterior noise levels below 65 dBA CNEL, *normally acceptable* exterior noise levels below 70 dBA CNEL, and *marginally acceptable exterior noise levels below 75 dBA CNEL*. For *marginally acceptable* noise levels, *the indicated noise exposure will cause moderate interference with outdoor activities and with indoor activities when windows are open. The land use is acceptable on the conditions that outdoor activities are minimal and construction features which provide sufficient noise attenuation are used (e.g., installation of air conditioning so that windows can be kept closed). Under other circumstances, the land use should be discouraged*. (17)

The noise contour boundaries used to determine the potential aircraft-related noise impacts at the Project site are found on Exhibit PS-3 of the RC ALUCP and are presented on Exhibit 3-3 of this report. Based on the RC ALUCP noise level contours for PSP, the Project is entirely located outside the 60 dBA CNEL noise level contour boundaries and is considered *clearly acceptable.* . (17)

EXHIBIT 3-2: RC ALUCP SUPPORTING COMPATIBILITY CRITERIA: NOISE

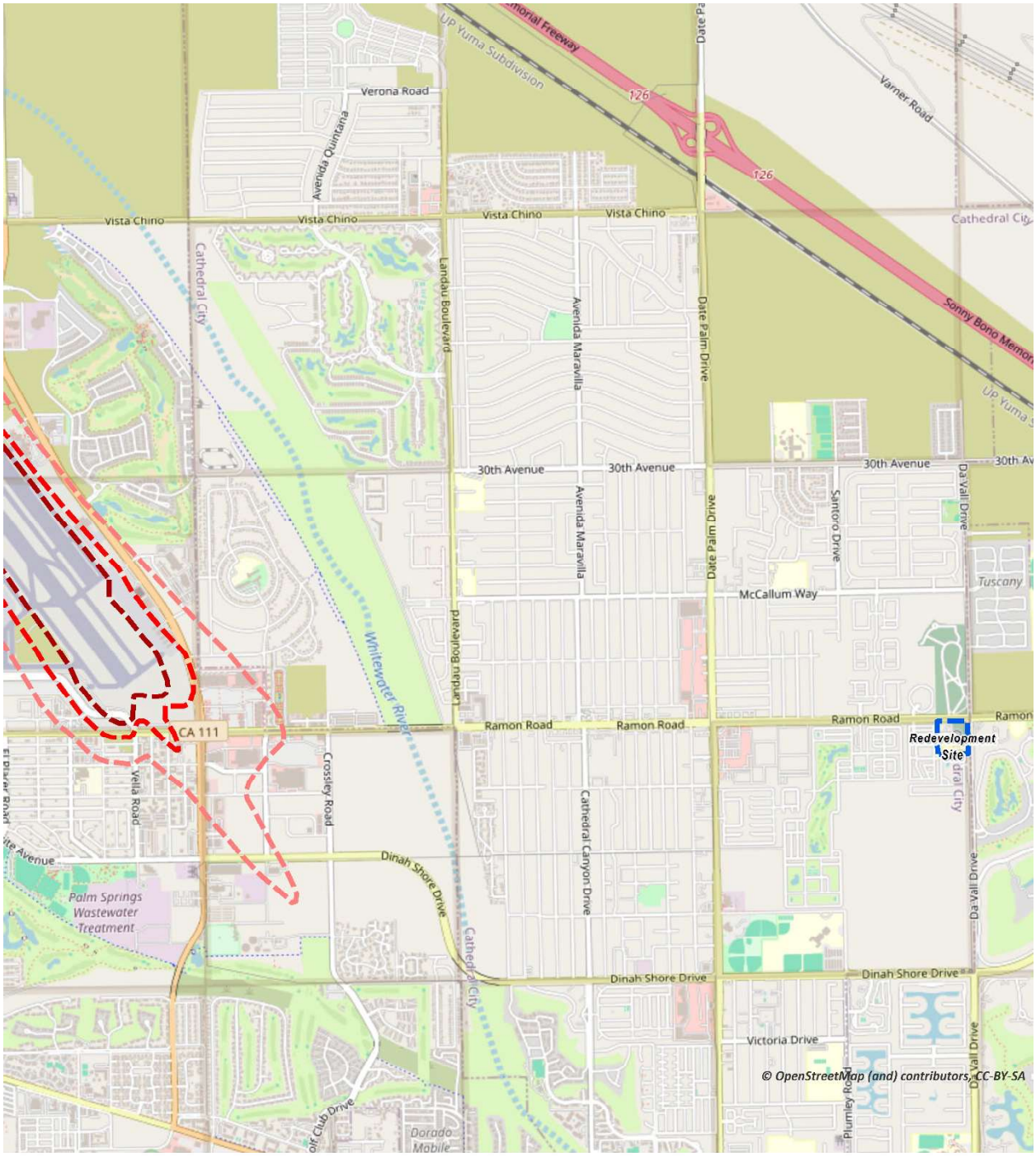
Land Use Category	CNEL (dB) 50–55	55–60	60–65	65–70	70–75
Residential *					
single-family, nursing homes, mobile homes	++	o	–	– –	– –
multi-family, apartments, condominiums	++	+	o	– –	– –
Public					
schools, libraries, hospitals	+	o	–	– –	– –
churches, auditoriums, concert halls	+	o	o	–	– –
transportation, parking, cemeteries	++	++	++	+	o
Commercial and Industrial					
offices, retail trade	++	+	o	o	–
service commercial, wholesale trade, warehousing, light industrial	++	++	+	o	o
general manufacturing, utilities, extractive industry	++	++	++	+	+
Agricultural and Recreational					
cropland	++	++	++	++	+
livestock breeding	++	+	o	o	–
parks, playgrounds, zoos	++	+	+	o	–
golf courses, riding stables, water recreation	++	++	+	o	o
outdoor spectator sports	++	+	+	o	–
amphitheaters	+	o	–	– –	– –

Land Use Acceptability		Interpretation/Comments
++	*Clearly Acceptable*	The activities associated with the specified land use can be carried out with essentially no interference from the noise exposure.
+	*Normally Acceptable*	Noise is a factor to be considered in that slight interference with outdoor activities may occur. Conventional construction methods will eliminate most noise intrusions upon indoor activities.
o	*Marginally Acceptable*	The indicated noise exposure will cause moderate interference with outdoor activities and with indoor activities when windows are open. The land use is acceptable on the conditions that outdoor activities are minimal and construction features which provide sufficient noise attenuation are used (e.g., installation of air conditioning so that windows can be kept closed). Under other circumstances, the land use should be discouraged.
–	*Normally Unacceptable*	Noise will create substantial interference with both outdoor and indoor activities. Noise intrusion upon indoor activities can be mitigated by requiring special noise insulation construction. Land uses which have conventionally constructed structures and/or involve outdoor activities which would be disrupted by noise should generally be avoided.
– –	*Clearly Unacceptable*	Unacceptable noise intrusion upon land use activities will occur. Adequate structural noise insulation is not practical under most circumstances. The indicated land use should be avoided unless strong overriding factors prevail and it should be prohibited if outdoor activities are involved.

* Subtract 5 dB for low-activity outlying airports (Chiriaco Summit and Desert Center)

Source: Riverside County Airport Land Use Compatibility Plan, Table 2B.

EXHIBIT 3-3: PSP AIRPORT NOISE CONTOURS



LEGEND:

N

Redevelopment Site Boundary
Specific Plan
60 dBA CNEL Noise Contour
65 dBA CNEL Noise Contour
70 dBA CNEL Noise Contour

4 SIGNIFICANCE CRITERIA

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

A. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

B. Generation of excessive ground-borne vibration or ground-borne noise levels?

C. For a project located within the vicinity of a private airstrip or an airport land use plan, or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

4.1 NOISE LEVEL INCREASES (THRESHOLD A)

Noise level increases resulting from the Project are evaluated based on the Appendix G CEQA Guidelines. Under CEQA, consideration must be given to the magnitude of the increase, the existing baseline ambient noise levels, and the location of receivers to determine if a noise increase represents a significant adverse environmental impact. This approach recognizes that there is no single noise increase that renders the noise impact significant. (18) This is primarily because of the wide variation in individual thresholds of annoyance and differing individual experiences with noise. Thus, an important way of determining a person's subjective reaction to a new noise is the comparison of it to the existing environment to which one has adapted—the so-called ambient environment.

4.1.1 Noise Sensitive Receivers (Substantial Permanent Noise Level Increase)

The Federal Interagency Committee on Noise (FICON) (19) developed guidance to be used for the assessment of project-generated increases in noise levels that considers the ambient noise level. The FICON recommendations are based on studies that relate aircraft noise levels to the percentage of persons highly annoyed by aircraft noise. Although the FICON recommendations were specifically developed to assess aircraft noise impacts, these recommendations are often used in environmental noise impact assessments involving the use of cumulative noise exposure metrics, such as the average-daily noise level (CNEL) and equivalent continuous noise level (L_{eq}). In general, the more a new noise level exceeds the previously existing ambient noise level, the less acceptable the new noise level will typically be judged.

As previously stated, the approach used in this noise study recognizes that there is no single noise increase that renders a noise impact significant, based on a 2008 California Court of Appeals ruling on Gray v. County of Madera. (18) For example, if the ambient noise environment is quiet (<60 dBA) and the new noise source greatly increases the noise levels, an impact may occur if the noise criteria are exceeded. Therefore, for this analysis, a readily perceptible 5 dBA or greater project-related noise level increase is considered a significant impact when the without project noise levels are below 60 dBA. Per the FICON, in areas where the without project noise levels range from 60 to 65 dBA, a 3 dBA barely perceptible noise level increase appears to be appropriate for most people. When the without project noise levels already exceed 65 dBA, any increase in community noise

louder than 1.5 dBA or greater is considered a significant impact if the noise criteria for a given land use is exceeded, since it likely contributes to an existing noise exposure exceedance.

The FICON guidance provides an established source of criteria to assess the impacts of a substantial temporary or permanent increase in baseline ambient noise levels. Based on the FICON criteria, the amount to which a given noise level increase is considered acceptable is reduced when the without Project (baseline) noise levels are already shown to exceed certain land-use specific exterior noise level criteria. The specific levels are based on typical responses to noise level increases of 5 dBA or readily perceptible, 3 dBA or barely perceptible, and 1.5 dBA, depending on the underlying conditions, without Project noise levels for noise-sensitive uses. These levels of increase and their perceived acceptance are consistent with guidance provided by both the Federal Highway Administration (4 p. 9) and Caltrans (20 p. 2_48).

4.1.2 Construction Noise (Substantial Temporary Noise Level Increase)

To evaluate the noise-generating construction activities, the temporary noise level increases over the existing ambient conditions must be considered under CEQA Significance Threshold A. As discussed in Section 3.3, the City of Cathedral City limits the hours of construction activities, and the City's General Plan includes an 80 dBA L_{eq} construction noise level threshold for residential uses. However, the City has not adopted a noise level increase limit for construction sources in relation to temporary noise level increases over existing ambient conditions. At this time, the only jurisdiction in California that has adopted a temporary construction noise level increase threshold for the review and preparation of environmental analysis under CEQA is the City of Los Angeles. Since the City has not adopted its own numeric threshold for temporary construction noise level increases over existing ambient conditions, for purposes of this analysis, the City of Los Angeles CEQA threshold is used. The City of Los Angeles CEQA threshold was developed based on input from technical experts, including a Technical Advisory Committee consisting of noise consultants and experts with decades of experience in preparing noise studies, and included a public process and review of noise thresholds used by other state and local agencies. The threshold was adopted by the City of Los Angeles in 2024 and supported by substantial evidence. (21) According to the City of Los Angeles Construction Noise and Vibration Updates to Thresholds and Methodology (LA Construction Thresholds Update), "the construction noise thresholds are focused on impacts to sensitive uses…single-family and multi-unit dwellings, long-term care facilities (including convalescent and retirement facilities), dormitories, motels, hotels, transient lodging, and other residential uses; places of assembly including churches or houses of worship; hospitals; libraries; schools; auditoriums; concert halls; outdoor theaters; nature and wildlife preserves; and parks. " The LA Construction Thresholds Update uses a two-part threshold: the relative increase and the absolute noise level limit.

For the relative increase over ambient, the LA Construction Thresholds Update states that, "for construction activities that occur between 7:00 a.m. and 7:00 p.m. Monday through Friday, and between 8:00 a.m. and 6:00 p.m. on Saturdays, there is no numerical threshold above ambient noise levels." This threshold is supported by various factors such as ambient noise levels are higher during daytime hours, daytime construction activities are temporary and periodic, and daytime activities are not expected to result in sleep disruption For the absolute noise level limit threshold, the LA Construction Thresholds Update states that, "on- and off-site construction noise during daytime hours (7:00 a.m. and 7:00 p.m. Monday through Friday, and 8:00 a.m. to 6:00 p.m. on Saturdays) are limited to a maximum 80 dBA $L_{eq(8\text{-hour})}$ absolute threshold at sensitive uses (at the property line or

at the exterior of the building), including outdoor public recreational areas owned or maintained by a public agency. This standard does not apply to private residential balconies, which may or may not extend past the exterior of a building, or to private residential recreational areas." The absolute daytime construction maximum noise level threshold of 80 dBA $L_{eq(8\text{-hour})}$ is consistent with the City of Cathedral City's 80 dBA Leq construction noise threshold used in this report to evaluate construction noise-related impacts, as discussed earlier in this section and in Section 3.3. LA Construction Thresholds Update also includes nighttime construction noise level thresholds, with an exemption for mat pour activities and other types of concrete pour that require an extended continuous pour beyond the allowable construction hours of less than five days. However, the Project is not anticipated to have non-exempt nighttime construction activities, and, as such, analysis of nighttime construction activities is not necessary.

Therefore, for purposes of this Project analysis, there is no applicable noise level increase limit between 7:00 a.m. and 7:00 p.m.; however, if the Project-related construction generates a temporary noise level exceeding 80 dBA Leq at a noise-sensitive receiver, then the Project construction noise levels would be considered a *significant* impact

4.2 VIBRATION (THRESHOLD B)

As described in Section 3.4, the vibration impacts originating from the construction of the Forest Lawn - Cathedral City Specific Plan, vibration-generating activities are appropriately evaluated using standards established by Policy 8 of the Safety Element (Noise Sub-Element) in the City of Cathedral City General Plan. These guidelines identify a motion velocity perception threshold for vibration of 0.01 (in/sec) RMS, which is used in this noise study to assess potential impacts due to Project construction vibration levels. An RMS value of 0.01 in/sec is equivalent to a PPV value of 0.04 in/sec. For purposes of clarity and to reduce the number of terms used in the analysis of vibration impacts, the vibration analysis uses PPV (in/sec) for all sources and calculations. Thus, the impact threshold would be 0.04 in/sec PPV (in/sec).

4.3 CEQA GUIDELINES NOT FURTHER ANALYZED (THRESHOLD C)

CEQA Noise Threshold C applies when there are nearby public and private airports and/or airstrips and focuses on land use compatibility of the Project to nearby airports and airstrips. The Project site is not located within two miles of an airport or airstrip. The closest major airport is the Palm Springs International Airport (PSP), located approximately 3 miles northwest of the Project site. As discussed in section 3.5, the Project falls entirely outside of the 60 dBA CNEL noise Level contour and is considered *clearly acceptable*. As such, the Project site would not be exposed to excessive noise levels from airport operations, and therefore, impacts are considered less than significant, and no further noise analysis is conducted in relation to Appendix G to the CEQA Guidelines, Noise Threshold C.

4.4 SIGNIFICANCE CRITERIA SUMMARY

Noise impacts shall be considered significant if any of the following occur as a direct result of the proposed development. Table 4-1 shows the significance criteria summary matrix that includes the allowable criteria used to identify potentially significant incremental noise level increases.

TABLE 4-1: SIGNIFICANCE CRITERIA SUMMARY

Analysis	Receiving Land Use	Condition(s)	Significance Criteria	
			Daytime	Nighttime
Off-Site Traffic	Noise-Sensitive[1]	If ambient is < 60 dBA CNEL	≥ 5 dBA CNEL Project increase	
		If ambient is 60 - 65 dBA CNEL	≥ 3 dBA CNEL Project increase	
		If ambient is > 65 dBA CNEL	≥ 1.5 dBA CNEL Project increase	
Operational	Noise-Sensitive	Residential Exterior Noise Level[2]	65 dBA Leq	50 dBA Leq
		If ambient is < 60 dBA Leq[1]	≥ 5 dBA Leq Project increase	
		If ambient is 60 - 65 dBA Leq[1]	≥ 3 dBA Leq Project increase	
		If ambient is > 65 dBA Leq[1]	≥ 1.5 dBA Leq Project increase	
Construction	Noise-Sensitive	Noise Level Threshold[3]	80 dBA L_{eq}	
		Vibration Level Threshold[3]	0.04 PPV (in/sec)	

[1] FICON, 1992.
[2] Cathedral City Municipal Code, Section 11.96.030(6) (Appendix 3.1).
[3] City of Cathedral City, 2040 General Plan & Active Transportation Plan, Safety Element (Noise Sub-Element), Policy 8.A.
"Daytime" = 7:00 a.m. - 10:00 p.m.; "Nighttime" = 10:00 p.m. - 7:00 a.m.

5 EXISTING NOISE LEVEL MEASUREMENTS

To assess the existing noise level environment, 24-hour noise level measurements were taken at eight locations in the Project study area. The receiver locations were selected to describe and document the existing noise environment within the Project study area. Exhibit 5-1 provides the boundaries of the Project study area and the noise level measurement locations. To fully describe the existing noise conditions, long-term noise level measurements were collected by Urban Crossroads, Inc. on Wednesday, April 23, and Thursday, October 16, 2025. Appendix 5.1 includes study area photos. The October 16th measurements were collected to understand the noise environment closer to receivers in the residential area to the south and east of the Project site.

5.1 MEASUREMENT PROCEDURE AND CRITERIA

To describe the existing noise environment, the hourly noise levels were measured during typical weekday conditions over a 24-hour period. By collecting individual hourly noise level measurements, it is possible to describe the equivalent daytime and nighttime hourly noise levels. The long-term noise readings were recorded using Piccolo Type 2 integrating sound level meter and dataloggers. The Piccolo sound level meters were calibrated using a Larson-Davis calibrator, Model CAL 150. All noise meters were programmed in "slow" mode to record noise levels in "A" weighted form. The sound level meters and microphones were equipped with a windscreen during all measurements. All noise level measurement equipment satisfies the American National Standards Institute (ANSI) standard specifications for sound level meters ANSI S1.4-2014/IEC 61672-1:2013. (22)

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 equivalent hourly noise levels surrounding the Project site. Both Caltrans and the FTA recognize that it is not reasonable to collect noise level measurements that can fully represent every part of a private yard, patio, deck, or balcony normally used for human activity when estimating impacts for new development projects. This is demonstrated in the Caltrans general site location guidelines, which indicate that sites must be free of noise contamination by sources other than sources of interest. Avoid sites located near sources such as barking dogs, lawnmowers, pool pumps, and air conditioners unless it is the express intent of the analyst to measure these sources. (2) Further, FTA guidance states that it is neither necessary nor recommended that existing noise exposure be determined by measuring at every noise-sensitive location in the project area. Rather, the recommended approach is to characterize the noise environment for clusters of sites based on measurements or estimates at representative locations in the community. (8)

Based on recommendations of Caltrans and the FTA, it is not necessary to collect measurements at each individual building or residence, because each receiver measurement represents a group of buildings that share acoustical equivalence. (8) In other words, the area represented by the receiver shares similar shielding, terrain, and geometric relationship to the reference noise source. Receivers represent a location of noise-sensitive areas and are used to estimate the future noise level impacts.

EXHIBIT 5-1: NOISE MEASUREMENT LOCATIONS



Collecting 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 increase due to the Project's contribution to the ambient noise levels. This approach is necessary to calculate the temporary or permanent increase in ambient noise levels as required by the CEQA Guidelines Environmental Checklist.

5.3 Noise Measurement Results

The noise measurements presented below focus on the equivalent or the hourly energy average sound levels (Leq) to describe the existing ambient conditions. Table 5-1 provides the (energy average) noise levels used to describe 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. 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. The daytime and nighttime equivalent noise levels represent the average of all hourly noise levels observed during these time periods, expressed as a single number.

Table 5-1: Ambient Noise Level Measurements

Location[1]	Description	Energy Average Noise Level (dBA L_{eq})[2]	
		Daytime	Nighttime
L1	Located east of the site near the Rehabilitation Hospital of Southern California at 70077 Ramon Rd.	65.1	54.6
L2	Located east of the site near the residence at 75 Vía Las Flores	62.6	53.6
L3	Located near the northern site boundary.	58.1	59.6
L4	Located north of the site boundary.	55.4	50.9
L5	Located near the site boundary near a residence in the Desert Shadows RV Park.	52.6	44.3
L6	Located near the southern boundary of the site, near a residence in the Desert Shadows RV Resort, located at 69801 Ramon Rd.	47.2	46.1
L7	Located near the southwestern boundary of the site, near a residence in the Desert Shadows RV Resort, located at 69801 Ramon Rd.	46.9	47.6
L8	Located near the western boundary of the site, near a residence in the Desert Shadows RV Resort, located at 69801 Ramon Rd.	55.1	49.7

[1] See Exhibit 5-1 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 equivalent noise levels used to describe the daytime and nighttime ambient conditions for each of the measurements. 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.

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6 OFF-SITE TRANSPORTATION NOISE IMPACTS

The Project is anticipated to generate an average daily traffic of 30 daily trips. (23) The existing volumes on Da Vall Road and Ramon Road are 8,014 and 31,058 daily trips. (24)Accordingly, the nominal increase in daily traffic volumes associated with the proposed Project represents a less than 1 percent increase in the total volumes and would generate a less than 1 dBA CNEL level increase at sensitive land uses along Da Vall Drive. Due to the low traffic volumes generated by the Project, the off-site traffic noise levels generated by the Project are considered less than significant.

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7 RECEIVER LOCATIONS

To assess the potential for long-term operational and short-term construction noise impacts, the following receiver locations, as shown on Exhibit 7-1, were identified as representative locations for analysis. The selection of receiver locations is based on FHWA guidelines and is consistent with additional guidance provided by Caltrans and the FTA, as previously described in Section 5.2. Sensitive receivers are generally defined as locations where people reside or where the presence of unwanted sound could otherwise adversely affect the use of the land. Noise-sensitive land uses are generally considered to include schools, hospitals, single-family dwellings, mobile home parks, churches, libraries, and recreation areas. Moderately noise-sensitive land uses typically include multi-family dwellings, hotels, motels, dormitories, outpatient clinics, cemeteries, golf courses, country clubs, athletic/tennis clubs, and equestrian clubs. Land uses that are considered relatively insensitive to noise include business, commercial, and professional developments. Land uses that are typically not affected by noise include: industrial, manufacturing, utilities, agriculture, undeveloped land, parking lots, warehousing, liquid and solid waste facilities, salvage yards, and transit terminals.

To describe the potential off-site Project noise levels, five receiver locations in the vicinity of the Project site were identified. The measurements L3 and L4 were taken to characterize the general noise environment and were not used in the operational analysis. Measurement L5 was used to represent receivers R3, R4, and R5. As measurement L5 represents the lowest measured noise levels, the following analysis is considered conservative. Other sensitive land uses in the Project study area that are located at greater distances than those identified in this noise study will experience lower noise levels than those presented in this report due to the additional attenuation from distance and the shielding of intervening structures. Distance is measured in a straight line from the Project boundary to each receiver location.

R1: Location R1 represents the existing Rehabilitation Hospital of Southern California located at 70000 Ramon Road, approximately 205 feet east of the Project site. Receiver R1 is placed at the building façade facing the Project site. A 24-hour noise measurement was taken as close to this location as possible, L1, to describe the existing ambient noise environment.

R2: Location R2 represents the existing residence at 75 Via Las Flores, approximately 212 feet southeast of the Project site. Receiver R2 is placed in the private outdoor living area (backyard) facing the Project site. A 24-hour noise measurement was taken as close to this location as possible, L2, to describe the existing ambient noise environment.

R3: Location R3 represents the existing residence within the Desert Shadows RV Resort located at 69801 Ramon Road, immediately south of the Project site. Receiver R3 is placed in the private outdoor living area (backyard) facing the Project site behind the 6-foot-high existing wall along the site boundary. A representative 24-hour noise measurement was taken, L5, to describe the existing ambient noise environment.

R4: Location R4 represents the existing common use area within the Desert Shadows RV Resort located at 69801 Ramon Road, approximately 102 feet west of the Project site. Receiver R4 is placed in the private outdoor living area (pool) facing the Project site behind the 6-foot-high existing wall along the site boundary. A representative 24-hour noise measurement was taken, L5, to describe the existing ambient noise environment.

R5: Location R5 represents the existing residence within the Desert Shadows RV Resort located at 69801 Ramon Road, approximately 8 feet west of the Project site. Receiver R5 is placed in the private outdoor living area (backyard) facing the Project site behind the 6-foot-high existing wall along the site boundary. A representative 24-hour noise measurement was taken, L5, to describe the existing ambient noise environment.

EXHIBIT 7-1: RECEIVER LOCATIONS



8 OPERATIONAL NOISE ANALYSIS

This section analyzes the potential stationary-source operational noise impacts at the nearby receiver locations, identified in Section 7, resulting from the operation of the proposed Project. To conservatively describe the potential noise environment, the analysis assumes all noise sources operating during the same one-hour interval during the day and night; as such, the noise produced will have a maximum noise level no higher than modeled. In addition, as it is unlikely for all noise sources to operate simultaneously, the actual Project will most likely produce lower noise levels at nearby sensitive receivers. Exhibit 8-1 presents the noise sources used to assess the operational noise levels.

8.1 OPERATIONAL NOISE SOURCES

This operational noise analysis is intended to describe noise level impacts associated with the expected typical daytime and nighttime activities at the Project site. The on-site Project-related noise sources are expected to include: outdoor activity and roof-top air conditioning.

8.2 REFERENCE NOISE LEVELS

To estimate the Project's operational noise impacts, reference noise level measurements were collected from similar types of activities to represent the noise levels expected with the development of the proposed Project, including a memorial service with 75 people present to represent expected outdoor activity. This section provides a detailed description of the reference noise level measurements shown in Table 8-1, used to estimate the Project's operational noise impacts.

TABLE 8-1: REFERENCE NOISE LEVEL MEASUREMENTS

Reference Noise Source	Noise Source Height (Feet)	Min./ Hour[1]		Reference Noise Level (dBA L_{eq}) @ 50 Feet	Sound Power Level (dBA)[2]
		Day	Night		
Roof-Top Air Conditioning Units	5'	39	28	57.3	88.9
Outdoor Activity	5'	60	0	59.9	91.5

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

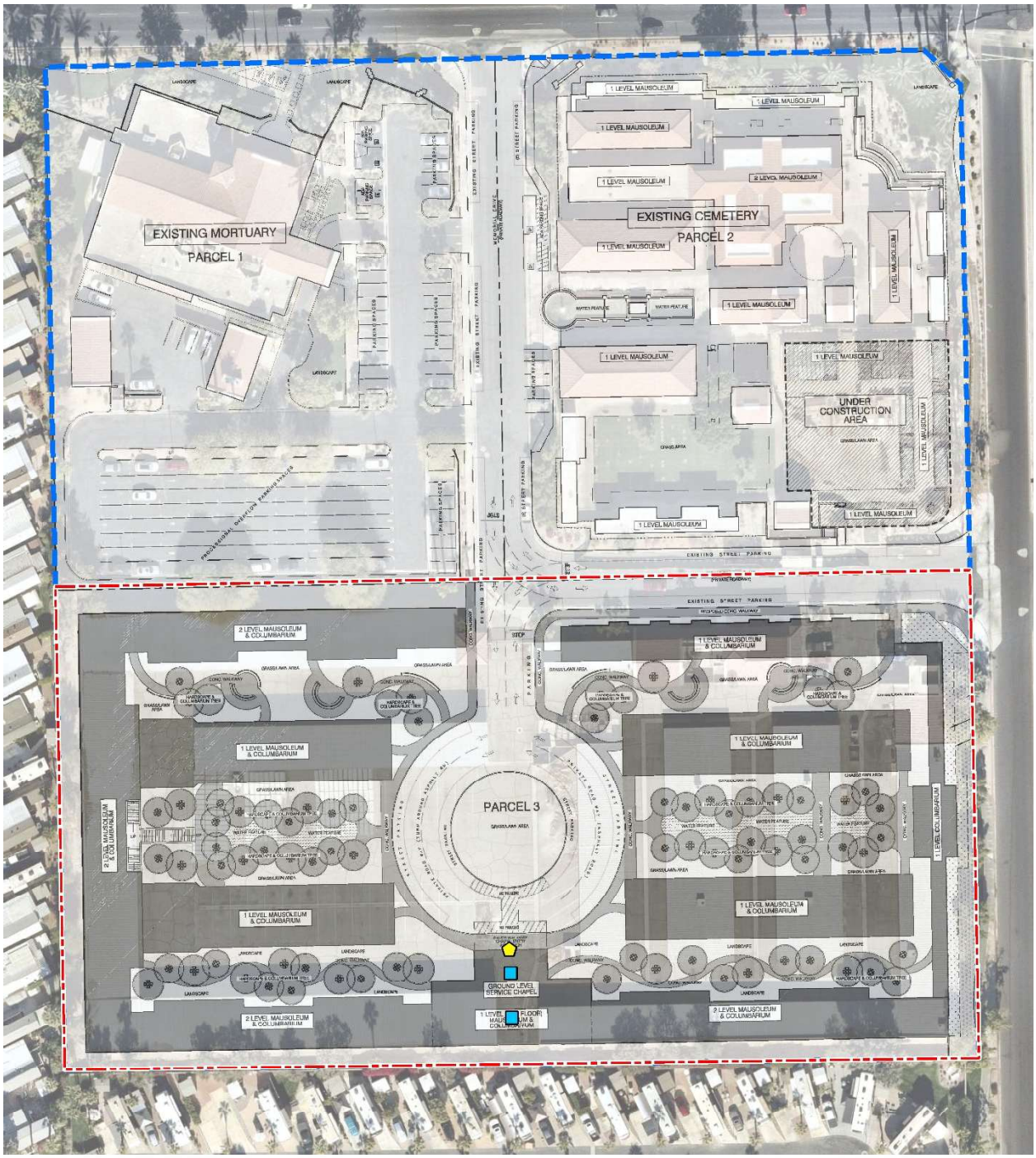
[2] Sound power level represents the total amount of acoustical energy (noise level) produced by a sound source independent of distance or surroundings. Sound power levels calculated using the CadnaA noise model at the reference distance to the noise source. Numbers may vary due to size differences between point and area noise sources.

8.2.1 Measurement Procedures

The reference noise level measurements presented in this section were collected using a Larson Davis LxT Type 1 precision sound level meter (serial number 01146). The LxT sound level meter was calibrated using a Larson-Davis calibrator, Model CAL 200, which was programmed in "slow" mode to record noise levels in "A" weighted form and was located at approximately five feet above the ground elevation for each measurement. The sound level meters and microphones were equipped with a windscreen during all measurements. All noise level measurement equipment satisfies the

American National Standards Institute (ANSI) standard specifications for sound level meters ANSI S1.4-2014/IEC 61672-1:2013. (22)

EXHIBIT 8-1: OPERATIONAL NOISE SOURCE LOCATIONS



8.2.2 Roof-Top Air Conditioning Units

The reference noise level represents a Lennox SCA120 series 10-ton model packaged air conditioning unit. At the uniform reference distance of 50 feet, the reference noise level is 57.3 dBA L_{eq}. Based on the typical operating conditions observed over a four-day measurement period, the rooftop air conditioning units are estimated to operate for an average of 39 minutes per hour during the daytime hours and 28 minutes per hour during the nighttime hours. These operating conditions reflect peak summer cooling requirements with measured temperatures approaching 102 degrees Fahrenheit (°F) with average daytime temperatures of 88°F. For this noise analysis, the two modeled air conditioning units are expected to be located on the roof of the Project buildings with an occupiable floor area. Non-occupiable structures such as mausoleums and wall crypts are not expected to include air conditioning units.

8.2.3 Outdoor Gathering Activity

To describe the noise levels associated with outdoor gatherings, a reference noise level was collected at a memorial service with 75 people present. At 50 feet from the activity, the reference noise level of 59.9 dBA L_{eq} was measured. The noise source had an average height of 5 feet. The reference noise level measurement included low music that stopped when a clergy member began speaking and delivering a eulogy. The eulogy was followed by approximately six different individuals speaking to the group, then the group broke up into smaller groups of five to ten, with people talking, crying, and laughing. Outdoor common area activities are anticipated to be limited to the daytime hours, with no nighttime activities.

8.3 Project Operational Noise Levels

Using the reference noise levels to represent the Project operations, Urban Crossroads, Inc. calculated the operational source noise levels that are expected to be generated at the Project site and the Project-related noise level increases that would be experienced at each of the sensitive receiver locations. Table 8-2 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 20.7 to 48.0 dBA L_{eq}.

Table 8-2: Daytime Project Operational Noise Levels

Noise Source[1]	Operational Noise Levels by Receiver Location (dBA Leq)				
	R1	R2	R3	R4	R5
Roof-Top Air Conditioning Units	29.0	24.8	47.9	23.6	18.2
Outdoor Activity	25.2	20.8	31.8	20.9	17.0
Total (All Noise Sources)	30.5	26.3	48.0	25.5	20.7

[1] See Exhibit 8-1 for the noise source locations. CadnaA noise model calculations are included in Appendix 8.1.

Table 8-3 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 existing off-site receiver locations are expected to range from 15.8 to 45.5 dBA L_{eq}. Though no outdoor activity is expected to occur during the nighttime, the air conditioning units are conservatively modeled to run for 28 minutes per hour

during the nighttime hours. The differences between the daytime and nighttime noise levels are largely related to the estimated duration of noise activity as outlined in Table 8-1. Appendix 8.1 includes the detailed noise model inputs.

TABLE 8-3: NIGHTTIME PROJECT OPERATIONAL NOISE LEVELS

Noise Source[1]	Operational Noise Levels by Receiver Location (dBA Leq)				
	R1	R2	R3	R4	R5
Roof-Top Air Conditioning Units	26.6	22.4	45.5	21.2	15.8
Outdoor Activity	0.0	0.0	0.0	0.0	0.0
Total (All Noise Sources)	26.6	22.4	45.5	21.2	15.9

[1] See Exhibit 8-1 for the noise source locations. CadnaA noise model calculations are included in Appendix 8.1.

8.4 PROJECT OPERATIONAL NOISE LEVEL COMPLIANCE

To demonstrate compliance with local noise regulations, the unmitigated Project-only operational noise levels are evaluated against exterior noise level thresholds based on the City of Cathedral City exterior noise level standards at nearby receiver locations. Table 8-4 shows that the unmitigated operational noise levels associated with the Project will not exceed the City of Cathedral City daytime and nighttime exterior noise level standards at the existing nearby noise-sensitive receiver locations. Therefore, the unmitigated operational noise impacts are considered *less than significant* at the nearby noise-sensitive receiver locations, and no mitigation is required.

TABLE 8-4: OPERATIONAL NOISE LEVEL COMPLIANCE

Receiver Location[1]	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	30.5	26.6	65.0	50.0	No	No
R2	26.3	22.4	65.0	50.0	No	No
R3	48.0	45.5	65.0	50.0	No	No
R4	25.5	21.2	65.0	50.0	No	No
R5	20.7	15.9	65.0	50.0	No	No

[1] See Exhibit 7-1 for the receiver locations.
[2] Proposed Project unmitigated operational noise levels as shown in Tables 8-2 and 8-3.
[3] Exterior noise level standards, as shown in Table 4-1.
[4] Do the estimated Project operational noise source activities exceed the noise level standards?
"Daytime" = 7:00 a.m. - 10:00 p.m.; "Nighttime" = 10:00 p.m. - 7:00 a.m.

8.5 PROJECT OPERATIONAL NOISE LEVEL INCREASES

To describe the Project operational noise level increases, the Project operational noise levels are combined with the existing ambient noise levels measurements for the nearby receiver locations that may be 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:

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

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 in 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 in Tables 8-5 and 8-6, respectively. As indicated in Table 8-5, the Project will generate daytime operational noise increases ranging from less than 0.1 to 3.4 dBA L_{eq} at the nearest receiver locations. Table 8-6 shows that the Project will generate nighttime operational noise level increases ranging from less than 0.1 to 2.7 dBA L_{eq} at the nearest receiver locations. Project-related operational noise level increases would not exceed the operational noise level increase significance criteria presented in Table 4-1. Therefore, Project-related operational noise level increases at the sensitive receiver locations will be *less than significant.*

TABLE 8-5: DAYTIME PROJECT OPERATIONAL NOISE LEVEL INCREASES

Receiver Location[1]	Total Project Operational Noise Level[2]	Measurement Location[3]	Reference Ambient Noise Levels[4]	Combined Project and Ambient[5]	Project Increase[6]	Increase Criteria[7]	Increase Criteria Exceeded?
R1	30.5	L1	65.1	65.1	0.0	1.5	No
R2	26.2	L2	62.6	62.6	0.0	3.0	No
R3	48.0	L6	47.2	50.6	3.4	5.0	No
R4	25.5	L7	46.9	46.9	0.0	5.0	No
R5	20.6	L8	55.1	55.1	0.0	5.0	No

[1] See Exhibit 7-1 for the receiver locations.
[2] Total Project daytime operational noise levels as shown in Table 8-2.
[3] Reference noise level measurement locations as shown in Exhibit 5-1.
[4] Observed daytime ambient noise levels as shown in Table 5-1.
[5] Represents the combined ambient conditions plus the Project activities.
[6] The noise level increase expected with the addition of the Project activities.
[7] Significance increase criteria as shown in Table 4-1.

TABLE 8-6: NIGHTTIME OPERATIONAL NOISE LEVEL INCREASES

Receiver Location[1]	Total Project Operational Noise Level[2]	Measurement Location[3]	Reference Ambient Noise Levels[4]	Combined Project and Ambient[5]	Project Increase[6]	Increase Criteria[7]	Increase Criteria Exceeded?
R1	26.6	L1	54.6	54.6	0.0	5.0	No
R2	22.7	L2	53.6	53.6	0.0	5.0	No
R3	45.5	L6	46.1	48.8	2.7	5.0	No
R4	21.3	L7	47.6	47.6	0.0	5.0	No
R5	15.9	L8	49.7	49.7	0.0	5.0	No

[1] See Exhibit 7-1 for the receiver locations.
[2] Total Project nighttime operational noise levels as shown in Table 8-3.
[3] Reference noise level measurement locations as shown in Exhibit 5-1.
[4] Observed nighttime ambient noise levels as shown in Table 5-1.
[5] Represents the combined ambient conditions plus the Project activities.
[6] The noise level increase expected with the addition of the Project activities.
[7] Significance increase criteria as shown in Table 4-1.

9 CONSTRUCTION IMPACTS

This section analyzes potential impacts resulting from the short-term construction activities associated with the development of the Project. Exhibit 9-1 shows the on-site construction noise source activity, in relation to the nearest sensitive receiver locations previously described in Section 7. As shown, the construction area is slightly smaller than the overall Project area since Project construction would not occur within the drainage easement along the western and southern portions of the Project site. City of Cathedral City municipal code Section 11.96.070(B) indicates that noise associated with any private construction activity is permitted Monday through Friday from 7:00 a.m. to 5:30 p.m. and from 8:00 a.m. to 5:00 p.m. on Saturday from October 1st through April 30th, Monday through Friday from 6:00 a.m. to 7:00 p.m. and 8:00 a.m. to 5:00 p.m. from May 1st through September 30th, and is not permissible on Sunday or any State holiday. (16)

9.1 CONSTRUCTION NOISE LEVELS

The FTA *Transit Noise and Vibration Impact Assessment Manual* recognizes that construction projects are accomplished in several different stages and outlines the procedures for assessing noise impacts during construction. Each stage has a specific equipment mix, depending on the work to be completed during that stage. As a result of the equipment mix, each stage has its own noise characteristics; some stages have higher continuous noise levels than others, and some have higher impact noise levels than others. The Project construction activities are expected to occur in the following stages:

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

9.2 CONSTRUCTION REFERENCE NOISE LEVELS

To describe construction noise activities, this construction noise analysis was prepared using reference construction equipment noise levels from the Federal Highway Administration (FHWA), which published the Roadway Construction Noise Model (RCNM). This model includes a national database of construction equipment reference noise emission levels. (25) The RCNM equipment database provides a comprehensive list of the noise-generating characteristics of specific types of construction equipment. In addition, the database provides an acoustical usage factor to estimate the fraction of time each piece of construction equipment is operating at full power (i.e., its loudest condition) during a construction operation. For purposes of this construction noise analysis, the loudest pieces of construction equipment are used to conservatively evaluate noise associated with construction activities. Other Project reports, such as the air quality and greenhouse gas emissions reports, utilize the California Emission Estimator Model (CalEEMod) to generate a construction equipment list, which focuses on the highest air emissions over periods of a day or longer. However, some of the loudest pieces of construction equipment, such as jackhammers, pile drivers, and pavement breakers, are not included in the CalEEMod database because they are not large air-emission emitters. Therefore, the assumptions used in the air quality model are not appropriate for

noise, as it may miss the loudest equipment. According to the EPA, FTA, and FHWA, the overall construction noise level is governed primarily by the noisiest pieces of equipment. The quieter pieces do not affect the overall level, but they do reduce the magnitude of the fluctuations in the noise level. Therefore, a rough estimate of the noise level need only include the noisiest pieces of equipment expected at the site. (26) (8) (27) Consistent with FHWA and FTA guidance for detailed construction noise assessment, Table 9-1 presents the combined noise levels for the loudest construction activities expected for each stage, assuming all equipment operates simultaneously.

EXHIBIT 9-1: CONSTRUCTION NOISE SOURCE LOCATIONS



TABLE 9-1: CONSTRUCTION REFERENCE NOISE LEVELS

Construction Stage	Reference Construction Equipmnet[1]	Reference Noise Level @ 50 Feet (dBA L_{eq})	Composite Reference Noise Level (dBA L_{eq})[2]
Demolition	Concrete Saw	83	86.1
	Excavator	77	
	Jack Hammer	82	
Site Preparation	Tractor	80	82.9
	Front End Loader	75	
	Dozer	78	
Grading	Tractor	80	84.2
	Grader	81	
	Compactor (ground)	76	
Building Construction	Crane	73	82.1
	Generator	78	
	Gradall	79	
Paving	Paver	74	77.8
	Dump Truck	72	
	Roller	73	
Architectural Coating	Man Lift	68	76.2
	Compressor (air)	74	
	Generator (<25kVA)	70	

[1] FHWA Road Construction Noise Model.
[2] Represents the combined noise level for all equipment assuming they operate at the same time consistent with FTA Transit Noise and Vibration Impact Assessment guidance.
[3] Sound power level represents the total amount of acoustical energy (noise level) produced by a sound source independent of distance or surroundings.

9.3 CONSTRUCTION NOISE ANALYSIS

Construction projects involve various stages, and activities frequently shift from one location to another. For example, during site preparation and grading, noise-generating activities may concentrate in an area for a short period to remove an obstruction, while the majority of the grading involves the equipment moving back and forth in a predictable pattern throughout the site; building construction and foundation work generally concentrate near the building footprint, while paving generally involves a predictable pattern of movement throughout the site. Therefore, construction activities are best evaluated as multiple moving point sources within the construction area since the speed and power of the equipment vary, and the equipment constantly changes position in terms of its distance and direction relative to the receivers. (8) (28) Using the reference construction equipment noise levels and the CadnaA noise prediction model, calculations of the Project construction noise level impacts by phase at the nearby sensitive receiver locations were completed. To account for the dynamic nature of construction activities, the CadnaA construction noise analysis evaluates the noise source activities as multiple moving point sources, or construction crews, within the limits of construction. Thus, the model simulates several overlapping construction phases, and construction impact findings are conservatively based on the loudest activity and the highest noise

level calculated at each receiver location. As shown in Table 9-2, the highest construction noise levels are expected to range from 63.2 to 73.5 dBA L_{eq} at the nearby receiver locations. Appendix 9.1 includes the detailed CadnaA construction noise model inputs.

TABLE 9-2: CONSTRUCTION EQUIPMENT NOISE LEVEL SUMMARY

Receiver Location[1]	Construction Noise Levels (dBA L_{eq})						
	Demolition	Site Preparation	Grading	Building Construction	Paving	Architectural Coating	Highest Levels[2]
R1	63.6	60.4	61.7	59.6	55.3	53.7	63.6
R2	63.2	60.0	61.3	59.2	54.9	53.3	63.2
R3	73.5	70.3	71.6	69.5	65.2	63.6	73.5
R4	66.0	62.8	64.1	62.0	57.7	56.1	66.0
R5	72.6	69.4	70.7	68.6	64.3	62.7	72.6

[1] Construction noise source and receiver locations are shown in Exhibit 9-1.
[2] Construction noise level calculations based on distance from the construction activity, which is measured from the Project site boundary to the nearest receiver locations. CadnaA construction noise model inputs are included in Appendix 9.1.

9.4 PROJECT SITE CONSTRUCTION NOISE LEVEL COMPLIANCE

To evaluate whether the Project will generate potentially significant short-term noise levels at the nearest receiver locations, a construction-related daytime noise level threshold of 80 dBA L_{eq} is used to assess the daytime construction noise level impacts. The construction noise analysis shows that the nearest receiver locations will satisfy the reasonable daytime 80 dBA L_{eq} significance threshold during Project construction activities, as shown in Table 9-3. Therefore, the noise impacts due to the Project construction noise are considered less than significant at all receiver locations.

TABLE 9-3: CONSTRUCTION NOISE LEVEL COMPLIANCE

Receiver Location[1]	Construction Noise Levels (dBA L_{eq})		
	Highest Construction Noise Levels[2]	Threshold[3]	Threshold Exceeded?[4]
R1	63.6	80	No
R2	63.2	80	No
R3	73.5	80	No
R4	66.0	80	No
R5	72.6	80	No

[1] Construction noise source and receiver locations are shown in Exhibit 9-1.
[2] Highest construction noise level calculations based on distance from the construction noise source activity to the nearest receiver locations as shown in Table 9-2.
[3] Construction noise level thresholds as shown in Table 4-1.
[4] Do the estimated Project construction noise levels exceed the construction noise level threshold?

9.5 CONSTRUCTION VIBRATION ANALYSIS

Construction activity can result in varying degrees of ground vibration, depending on the equipment and methods employed. The operation of construction equipment causes ground vibrations that spread through the ground and diminish in strength with distance. Ground vibration levels associated with various types of construction equipment are summarized in Table 9-4. Vibratory rollers are not included in Table 9-4 since they are associated with paving activities, which would occur at much greater distances than vibrations associated with earthwork, i.e., greater than 45 feet for receivers. Thus, vibratory rollers are not included in this analysis. Based on the representative vibration levels presented for various construction equipment types, it is possible to estimate the potential for human response (annoyance) and building damage using the following vibration assessment methods defined by Caltrans. To describe the vibration impacts, Caltrans provides the following equation: $PPV_{equip} = PPV_{ref} \times (25/D)^{1.1}$

TABLE 9-4: 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
Hoe Ram	0.089
Vibratory Roller	0.210

Federal Transit Administration, Transit Noise and Vibration Impact Assessment Manual

Using the vibration source level of construction equipment provided in Table 9-4 and the construction vibration assessment methodology published by the FTA, it is possible to estimate the Project vibration impacts. Table 9-5 presents the expected Project-related vibration levels at the nearby receiver locations. At distances ranging from 19 to 213 feet from Project construction activities, construction vibration velocity levels are estimated to range from 0.004 to 0.134 PPV (in/sec). Based on the maximum acceptable continuous vibration threshold of 0.040 PPV (in/sec), the typical Project construction vibration levels will exceed the vibration thresholds at receivers R3 and R5. Therefore, the Project-related vibration impacts are considered *significant* during typical construction activities at the Project site.

It should be noted that vibration levels at the site of the closest sensitive receiver are unlikely to be sustained during the entire construction period, but will occur only during the times that heavy construction equipment is operating adjacent to the Project site perimeter. Moreover, construction at the Project site will be restricted to the daytime hours, consistent with City of Cathedral City requirements, eliminating potential vibration impacts during the sensitive evening and nighttime hours.

TABLE 9-5: PROJECT CONSTRUCTION VIBRATION LEVELS – UNMITIGATED

Location[1]	Distance to Const. Activity (Feet)[2]	Typical Construction Vibration Levels PPV (in/sec)[3]						Thresholds PPV (in/sec)[4]	Thresholds Exceeded?[5]
		Small bulldozer	Jack-hammer	Loaded Trucks	Large bulldozer	Hoe Ram	Highest Vibration Level		
R1	205'	0.000	0.001	0.003	0.004	0.004	0.004	0.040	No
R2	213'	0.000	0.001	0.003	0.004	0.004	0.004	0.040	No
R3	19'	0.005	0.053	0.115	0.134	0.134	0.134	0.040	**Yes**
R4	119'	0.000	0.003	0.007	0.009	0.009	0.009	0.040	No
R5	23'	0.003	0.040	0.086	0.101	0.101	0.101	0.040	**Yes**

[1] Construction noise source and receiver locations are shown in Exhibit 9-1.
[2] Distance from receiver building facade to Project construction boundary (Project site boundary).
[3] Based on the Vibration Source Levels of Construction Equipment (Table 9-5).
[4] City of Cathedral City, 2040 General Plan, Safety Element(Noise Sub-Element), Policy 8, Program 8.A
[5] Does the peak vibration exceed the acceptable vibration thresholds?
"PPV" = Peak Particle Velocity

9.6 CONSTRUCTION VIBRATION IMPACTS MITIGATION

A 45-foot equipment buffer zone to address potential construction vibration is recommended to restrict the use of heavy construction equipment (greater than 80,000 pounds) within 45 feet of occupied residences. With the mitigation measure identified in this analysis and shown in Exhibit ES-1, and as demonstrated in Table 9-6, the mitigated vibration levels with the 45-foot construction vibration equipment buffer zone will be reduced to 0.037 PPV (in/sec) and will satisfy the 0.040 PPV (in/sec) threshold. Therefore, with the construction vibration mitigation measure identified in this study, vibration impacts will be *less than significant*.

- Vibratory rollers, large loaded trucks, and dozers (equipment weighing 80,000 pounds or more) shall not be allowed to be actively used within 45 feet of residences along the southern and western site boundary at the time of Project construction. Instead, smaller, rubber-tired bulldozers (less than 80,000 pounds) shall be used within this area during Project construction to reduce vibration levels.

TABLE 9-6: PROJECT CONSTRUCTION VIBRATION LEVELS – MITIGATED

Location[1]	Distance to Const. Activity (Feet)[2]	Typical Construction Vibration Levels PPV (in/sec)[3]						Thresholds PPV (in/sec)[4]	Thresholds Exceeded?[5]
		Small bulldozer	Jack-hammer	Loaded Trucks	Large bulldozer	Hoe Ram	Highest Vibration Level		
R1	205'	0.000	0.001	0.003	0.004	0.004	0.004	0.04	No
R2	213'	0.000	0.001	0.003	0.004	0.004	0.004	0.04	No
R3	45'	0.001	0.014	0.031	0.037	0.037	0.037	0.04	No
R4	119'	0.000	0.003	0.007	0.009	0.009	0.009	0.04	No
R5	45'	0.001	0.014	0.031	0.037	0.037	0.037	0.04	No

[1] Construction noise source and receiver locations are shown in Exhibit 9-1.
[2] Distance from receiver building facade to Project construction boundary (Project site boundary).
[3] Based on the Vibration Source Levels of Construction Equipment (Table 9-5).
[4] City of Cathedral City, 2040 General Plan & Active Transportation Plan, Safety Element, Policy 8
[5] Does the peak vibration exceed the acceptable vibration thresholds?
"PPV" = Peak Particle Velocity

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10 REFERENCES

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11 CERTIFICATION

The contents of this noise study report represent an accurate depiction of the noise environment and impacts associated with the proposed Forest Lawn - Cathedral City Specific Plan Project. The information contained in this noise study report is based on the best available data at the time of preparation. If you have any questions, please contact me directly at (619) 788-1971.

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EDUCATION

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PROFESSIONAL AFFILIATIONS

ASA – Acoustical Society of America
AEP – Association of Environmental Planners
AWMA – Air and Waste Management Association
INCE – Institute of Noise Control Engineers

PROFESSIONAL CERTIFICATIONS

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

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APPENDIX 3.1:

CITY OF CATHEDRAL CITY MUNICIPAL CODE

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Cathedral City, CA
Tuesday, July 1, 2025

Title 11. Peace, Morals and Safety

Chapter 11.96. NOISE CONTROL

§ 11.96.010. Purpose and intent.

A. It is the purpose of these regulations to implement the goals and objectives of the noise element of the city's general plan to establish community-wide noise standards and to serve as a reference for locating other city regulations relating to noise in the community. It is further the purpose of these regulations to recognize that the existence of excessive noise within the city is a condition which is detrimental to the health, safety, welfare and quality of life of the citizens and shall be regulated in the public interest.

B. In furtherance of the foregoing purpose, it is found and declared as follows:

1. The making, creation or maintenance of such loud, unnecessary, unnatural or unusual noises that are prolonged, unusual, annoying, disturbing and unnatural in their time, place and use are a detriment to public health, comfort, convenience, safety, general welfare and the peace and quiet of the city and its inhabitants; and

2. The public interest necessity for the provisions and prohibitions hereinafter contained and enacted is declared as a matter of legislative determination and public policy, and it is further declared that the provisions and prohibitions hereinafter contained and enacted are in pursuance of and for the purpose of securing and promoting the public health, comfort, convenience, safety, general welfare and property and the peace and quiet of the city and its inhabitants.

(Ord. 635 § 2, 2007)

§ 11.96.020. Definitions.

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

"Compliance officer" means a city code compliance officer or peace officer authorized to enforce the provisions and prohibitions of this chapter pursuant to Section **11.96.080**.

"Construction equipment" means tools, machinery or equipment used in connection with construction operations, including all types of "special construction" equipment as defined in the pertinent sections of California Vehicle Code when used in the construction process on any construction site, home improvement site or property maintenance site, regardless of whether such site be located on-highway or off-highway.

"Plainly audible" means any sound that can be detected by a person using his or her unaided hearing faculties. As an example, if the sound source under investigation is a portable or personal vehicular sound amplification or reproduction device, the investigating compliance officer need not determine the title of a song, specific words, or the artist performing the song. The detection of the vibration from the rhythmic bass component of the music is sufficient to constitute a plainly audible sound.

"Public right-of-way" means any street, avenue, boulevard, highway, sidewalk, alley or similar place, owned or controlled by a government entity.

"Public space" means any real property or structures on real property, owned by a government entity and normally accessible to the public, including, but not limited to, parks and other recreation areas.

"Responsible person" means: (1) any person who owns, leases or is lawfully in charge of the property or motor vehicle where the noise violation takes place; or (2) any person who owns or controls the source of the noise or violation. If the responsible person is a minor, then the parent or guardian who has custody of the child at the time of the violation shall be the responsible person who is liable under this chapter.
(Ord. 635 § 2, 2007; Ord. 776 § 24, 2016)

§ 11.96.030. Prohibited acts.

A. It is unlawful for any person to engage in the following activities:

1. Sounding any horn or signal device on any automobile, motorcycle, bus or other motor vehicle in any other manner or circumstances or for any other purpose than required or permitted by the **Vehicle Code** or other California laws.

2. Racing the engine of any motor vehicle while the vehicle is not in motion, except when necessary to do so in the course of repairing, adjusting or testing the same.

3. Operating or permitting the use of any motor vehicle on any public right-of-way or public place or on private property within a residential zone for which the exhaust muffler, intake muffler or any other noise abatement device has been modified or changed in a manner such that the noise emitted by the motor vehicle is increased above that emitted by the vehicle as originally manufactured.

4. The intentional sounding or permitting the sounding outdoors of any fire, burglar, or civil defense alarm, siren, whistle, or any motor vehicle burglar alarm, except for emergency purposes or for testing, unless such alarm is terminated within fifteen minutes of activation.

5. Creating excessive noise adjacent to any school, church, court or library while the same is in use, or adjacent to any hospital or care facility, which unreasonably interferes with the workings of such institution, or which disturbs or unduly annoys patients in the hospital, provided conspicuous signs are displayed in such streets indicating the presence of a school, institution of learning, church, court or hospital.

6. To produce, suffer or allow to be produced noise or sounds that exceeds the dB(A) levels in the table below. Exterior noise shall be measured at the lot line of the lot where the noise or sounds are emanating. If the measurement location is on the boundary between two different noise zones, the lower noise level standard applicable to the noise zone shall apply. Interior noise shall be measured at least four feet from the wall, floor, or ceiling nearest to the noise source and with all windows, doors and other openings to the exterior closed.

   Noises caused by motor vehicles or trains are exempt from these standards.

   In the event the ambient noise level exceeds these levels, no person shall produce, suffer or allow to be produced noise or sounds in excess of the ambient noise level.

Zone	Time	dB(A) Level
Residential – Exterior Noise	7 a.m. - 10 p.m.	65
	10 p.m. - 7 a.m.	50
Residential – Interior Noise	7 a.m. - 10 p.m.	50
	10 p.m. - 7 a.m.	40

Zone	Time	dB(A) Level
Commercial/Industrial – Exterior Noise	7 a.m. - 10 p.m.	85
	10 p.m. - 7 a.m.	55

B. A violation of this section is an infraction and a public nuisance.

C. A violation of this section may result in the following.

1. Issuance of an infraction citation;

2. Issuance of a notice of public nuisance;

3. Imposition of criminal and civil penalties; and

4. Confiscation and impoundment as evidence, of the components that are amplifying or transmitting the prohibited noise.

D. An enforcement officer who encounters a violation of this section may issue a written notice to the responsible person demanding immediate abatement of the violation (written notice). The written notice shall inform the recipient that a second violation of the same provision within a seventy-two-hour period may result in the issuance of a criminal citation and/or notice of public nuisance, the imposition of criminal and civil penalties, and confiscation and impoundment as evidence, of the components that are amplifying or transmitting the prohibited noise.

E. Any peace officer who encounters a second violation of this section within a seventy-two-hour period following issuance of a written notice is empowered to confiscate and impound as evidence, any or all of the components amplifying or transmitting the sound.

F. Any person claiming legal ownership of the items confiscated and impounded under this section may request the return of the item by filing a written request with the police department within seven calendar days of the confiscation. Such requests shall be processed in accordance with the procedures adopted by the department.

G. This section shall not apply to any noise emanating from a city operated or sponsored special event, or other events held on public property where the operator of the event has obtained all necessary permits and approvals for the event.

(Ord. 635 § 2, 2007; Ord. 791 § 1, 2017)

§ 11.96.040. Excessive noise and vibration emanating from a motor vehicle.

A. No person shall operating or occupy a motor vehicle on any public right-of-way, public place or private property, while operating or permitting the use or operation of any radio, stereo receiver, musical instrument, television, computer, compact disc player, tape recorder, cassette player or any other device for the production or reproduction of sound from within the motor vehicle so that the sound is plainly audible at a distance of fifty feet from such vehicle, or in the case of a motor vehicle on private property, beyond the property line.

B. Pursuant to Section **11.96.130**, a violation of this section is a misdemeanor offense and a public nuisance.

C. A violation of this section may result in the following:

1. Issuance of a misdemeanor citation;

2. Issuance of a notice of public nuisance;

3. Imposition of criminal and civil penalties; and

4. Immediate confiscation and impoundment as evidence, of the components that are amplifying or transmitting the prohibited noise or the immediate confiscation and impoundment of the motor vehicle to which the component is attached if the same may not be removed without causing harm to the vehicle or the component.

D. Any person claiming legal ownership of a motor vehicle confiscated and impounded under this section may request the return of the vehicle by filing a written request with the police department within seven calendar days of the confiscation. Such requests shall be processed in accordance with the procedures adopted by the department.

E. Any person claiming legal ownership of the items confiscated and impounded under this section, other than a motor vehicle, may request the return of the item by filing a written request with the police department, which shall be processed in accordance with the procedures adopted by the department.

(Ord. 635 § 2, 2007)

§ 11.96.050. Controlled hours of operation.

It is unlawful for any person to engage in the following activities other than between the hours of eight a.m. and eight p.m. in residential zones and other than between the hours of seven a.m. to eight p.m. in all other zones:

A. Operate or permit the use of powered model vehicles and planes;

B. Load or unload any vehicle, or operate or permit the use of dollies, carts, forklifts, or other wheeled equipment that causes any impulsive sound, raucous or unnecessary noise within one thousand feet of a residence;

C. Operate or permit the use of domestic power tools, or machinery or any other equipment or tool in any garage, workshop, house or any other structure;

D. Operate or permit the use of gasoline or electric powered leaf blowers, such as commonly used by gardeners and other persons for cleaning lawns, yards, driveways, gutters and other property;

E. Operate or permit the use of privately operated street/parking lot sweepers or vacuums, except that emergency work and/or work necessitated by unusual conditions may be performed with the written consent of the city manager;

F. Operate or permit the use of pile driver, steam or gasoline shovel, pneumatic hammer, steam or electric hoist or other similar devices;

G. Operate or permit the use of electrically operated compressor, fan, and other similar devices;

H. Perform ground maintenance on golf course grounds and tennis courts contiguous to golf courses that creates a noise disturbance across a residential or commercial property line;

I. Operate or permit the use of any motor vehicle with a gross vehicle weight rating in excess of ten thousand pounds, or of any auxiliary equipment attached to such a vehicle, including, but not limited to, refrigerated truck compressors, for a period longer than fifteen minutes in any hour while the vehicle is stationary and on a public right-of-way or public space except when movement of the vehicle is restricted by other traffic;

J. Repair, rebuild, reconstruct or dismantle any motor vehicle or other mechanical equipment or devices in a manner so as to be plainly audible across property lines.

(Ord. 635 § 2, 2007)

§ 11.96.060. Exemptions.

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

A. Those noise events in the community (e.g., airport noise, arterial traffic noise, railroad noise) that are more accurately measured by application of the general plan noise element policy, utilizing the community noise equivalent level (CNEL) method;

B. Activities conducted on the grounds of any public or private school during regular hours of operation;

C. Outdoor gatherings, public dances, shows and sporting and entertainment events provided the events are authorized by the city;

D. Activities conducted at public spaces during regular hours of operation;

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

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

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

H. Mobile noise sources associated with agricultural pest control through pesticide application;

I. Warning devices necessary for the protection of the public safety, including, but not limited to, police, fire and ambulance sirens and train horns and sounds for the purpose of alerting persons to the existence of an emergency;

J. Construction, repair or excavation necessary for the immediate preservation of life or property;

K. Construction, operation, maintenance and repairs of equipment, apparatus or facilities of park and recreation departments, public work projects or essential public services and facilities, including trash collection and those of public utilities subject to the regulatory jurisdiction of the California Public Utilities Commission;

L. Construction, repair or excavation work performed pursuant to a valid written agreement with the city or any of its political subdivisions which agreement provides for noise mitigation measures;

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

N. Any activity or noise source governed elsewhere in this code. Such activities include, but are not limited to:

1. Security alarm systems (see Chapter **8.28** of this code),

2. Animal noise (see Title 10 of this code),

3. Sound trucks and advertising by sound (see Chapter **5.68** of this code),

4. Performance standards for Class A and B business and industrial uses (see Chapter **9.86** of this code),

5. Noise making devices utilized by food vendors (see Section **12.28.100** of this code),

6. Noise requirements for peddlers (see Section **5.48.110** of this code);

O. Sounds generated in commercial and industrial zones that are necessary and incidental to the uses permitted therein;

P. Sounds generated from or incidental to emergency repairs to any public works function;

Q. Sounds generated in connection with speech or communication protected by the U.S. Constitution or the California Constitution, expect to the extent such sounds are subject to permissible time, manner and place restrictions.

(Ord. 635 § 2, 2007)

§ 11.96.070. Disturbances from construction activity.

A. No person shall be engaged or employed, or cause any other person to be engaged or employed, in any work of construction, erection, alteration, repair, addition, movement, demolition, or improvement to any building or structure except within the hours provided for by subsection **B** of this section.

B. The permitted hours for such construction work are as follows:

1. October 1st through April 30th.

Monday—Friday:	7:00 a.m. to 5:30 p.m.
Saturday:	8:00 a.m. to 5:00 p.m.
Sunday:	No permissible hours
State holidays:	No permissible hours

2. May 1st through September 30th:

Monday—Friday:	6:00 a.m. to 7:00 p.m.
Saturday:	8:00 a.m. to 5:00 p.m.
Sunday:	No permissible hours
State holidays:	No permissible hours

C. For purposes of this section, the following definitions shall apply:

"Building" means any structure used or intended for supporting or sheltering any use or occupancy.

"Structure" means that which is built or constructed, an edifice or building of any kind, or any piece of work artificially built up or composed of parts joined together in some definite manner.

D. For purposes of this section, the following exceptions shall apply:

1. Emergency repair of existing installations, equipment, or appliances; and

2. Such work that complies with the terms and conditions of a written early work permit issued by the city manager or designee upon a showing of a sufficient need and justification for the permit due to hot or inclement weather, the use of an unusually long process material, or other circumstances of an unusual and compelling nature.

(Ord. 635 § 2, 2007)

§ 11.96.080. Administration.

Except as otherwise provided, the provisions and prohibitions of this chapter shall be jointly administered by and the responsibility of the city's police and code compliance division.

(Ord. 635 § 2, 2007; Ord. 776 § 25, 2016)

§ 11.96.090. Cost recovery for second response.

A. whenever any enforcement officer issues a written warning to a responsible person to discontinue a noise violation, the responsible person shall be liable for the actual cost of each subsequent response required to abate the violation within seventy-two hours of the issuance of the written warning (response charge).

B. The bill for the response charge shall be served upon the responsible person within thirty days after the violation. If the responsible person has no last known business or residence address, the location of the violation shall be deemed to be the proper address for service. The bill shall include a notice of the right of the person being charged to request a hearing to dispute the imposition of the response charge or the amount of the charge.

C. The response charge shall be deemed to be a civil debt to the city.

D. All responsible persons shall be jointly and severally liable for the response charge regardless of whether or not they received a written notice.

(Ord. 635 § 2, 2007)

§ 11.96.100. Public nuisance.

A violation of this chapter by any person responsible for committing, causing or maintaining such violation shall constitute a public nuisance which shall be subject to the provisions of Chapters **13.80** and **13.90**.

(Ord. 635 § 2, 2007)

§ 11.96.110. Infraction violation.

A violation of Section **11.96.030**, **11.96.050** or **11.96.070** of this chapter by any person responsible for committing, causing or maintaining such violation shall constitute an infraction violation and the violator shall be subject to the provisions set forth in Chapter **13.65**, including, but not limited to, the imposition of any and all criminal penalties set forth therein.

(Ord. 635 § 2, 2007)

§ 11.96.120. Misdemeanor violation.

A violation of Section **11.96.040** of this chapter by any person responsible for committing, causing or maintaining such violation shall constitute a misdemeanor violation which shall be subject to the provisions set forth in Chapter **13.70**, including, but not limited to, the imposition of any and all criminal penalties set forth therein.

(Ord. 635 § 2, 2007)

§ 11.96.130. Civil fines.

Any person convicted of an infraction or misdemeanor violation under this chapter shall, for each separate violation, be subject to: (a) a fine in an amount not to exceed two hundred fifty dollars for a first conviction of an offense; (b) a fine in an amount not to exceed five hundred dollars for a second conviction of the same offense within a twelve-month period from the date of the first offense; and (c) a fine in an amount not to exceed seven hundred fifty dollars for the third conviction of the same offense within a twelve-month period from the date of the first offense. The fine for a fourth and any subsequent convictions of the same offense within a twelve-month period from the date of the first offense shall be one thousand dollars.

(Ord. 635 § 2, 2007)

§ 11.96.140. Modification, suspension and/or revocation of validly issued city permit and/or city license.

A violation of this chapter by the holder of any city permit and/or city license validly issued pursuant to this or any other chapter shall constitute grounds for modification, suspension and/or revocation of the permit and/or license pursuant to the provisions set forth in Chapter **13.150**.
(Ord. 635 § 2, 2007)

§ 11.96.150. Additional penalties.

Nothing in this chapter shall preclude the city from pursuing the remedies provided by Chapter **13.140** including, but not limited to, as applicable, denial or revocation of certificates of occupancy, issuance of stop work orders and injunctive relief.
(Ord. 635 § 2, 2007)

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APPENDIX 5.1:

STUDY AREA PHOTOS

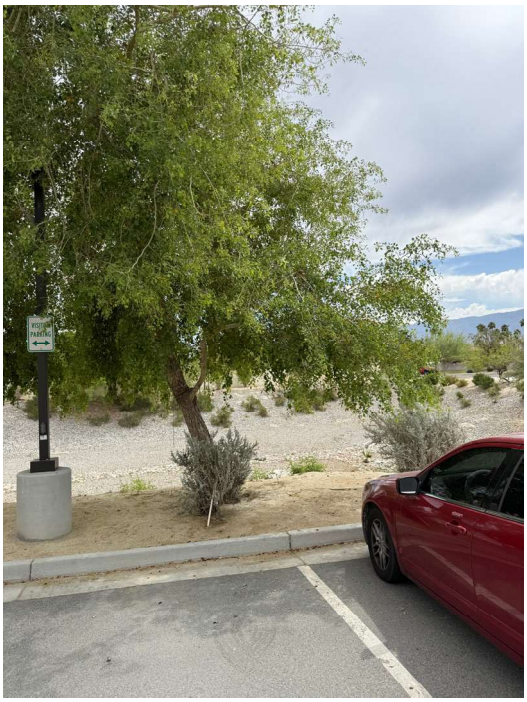
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16462 - Forest Lawn Cathedral City

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16462 - Forest Lawn Cathedral City

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16462 - Forest Lawn Cathedral City

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16462 - Forest Lawn Cathedral City

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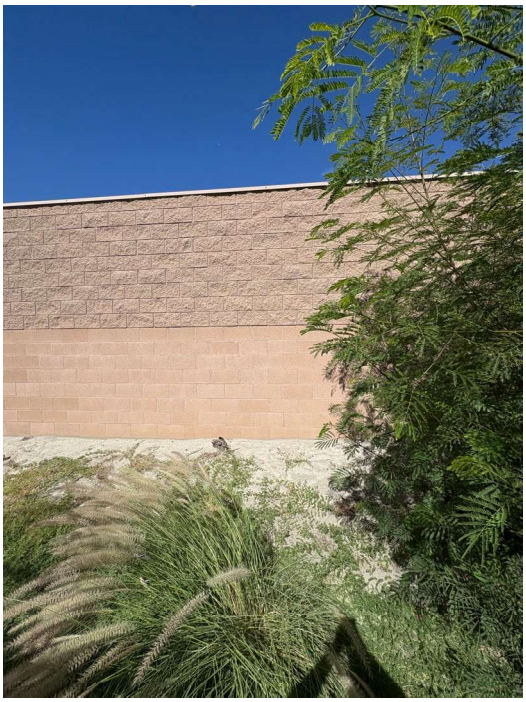


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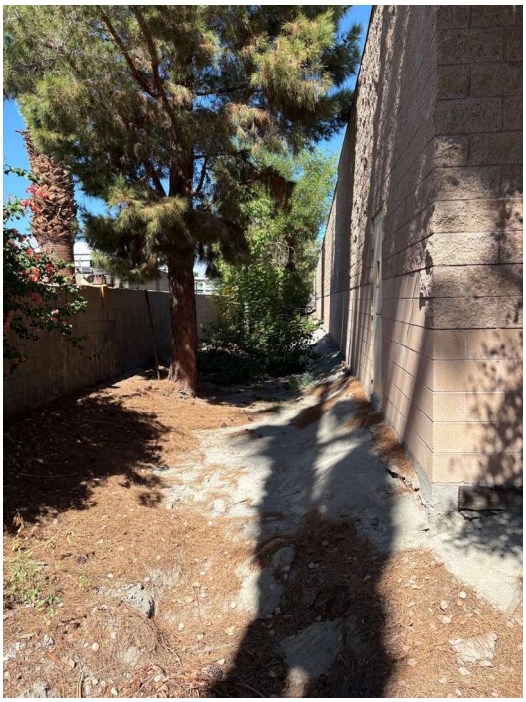


16462 - Forest Lawn Cathedral City

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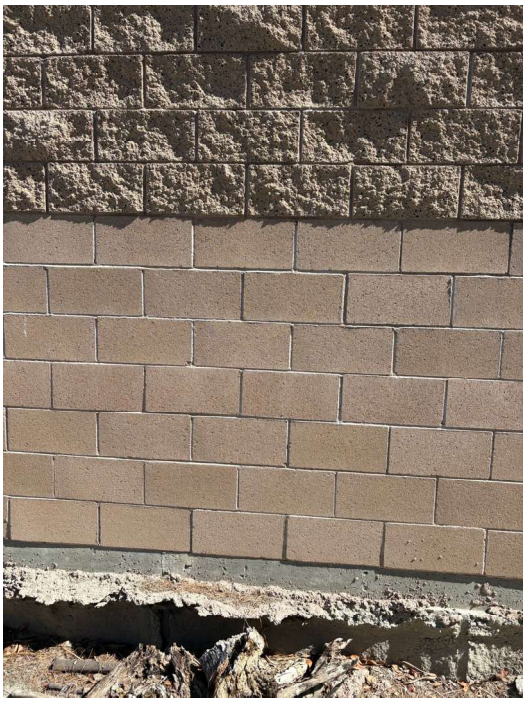


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16462 - Forest Lawn Cathedral City

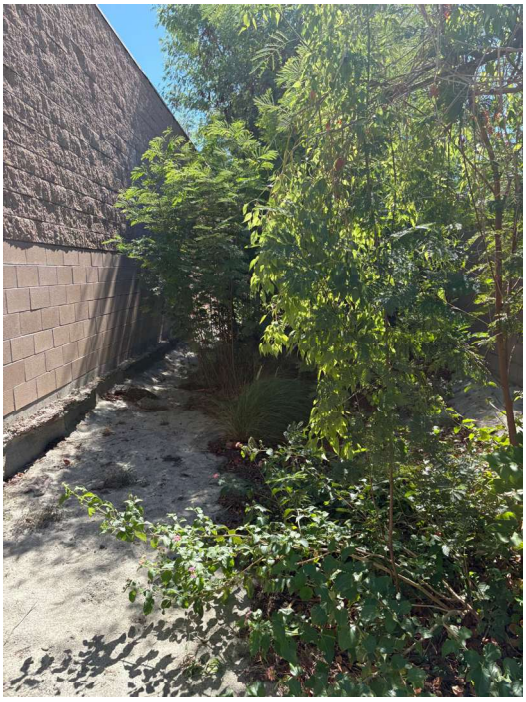
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16462_L8_E_South
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16462_L8_E_West
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APPENDIX 5.2:

NOISE LEVEL MEASUREMENT WORKSHEETS

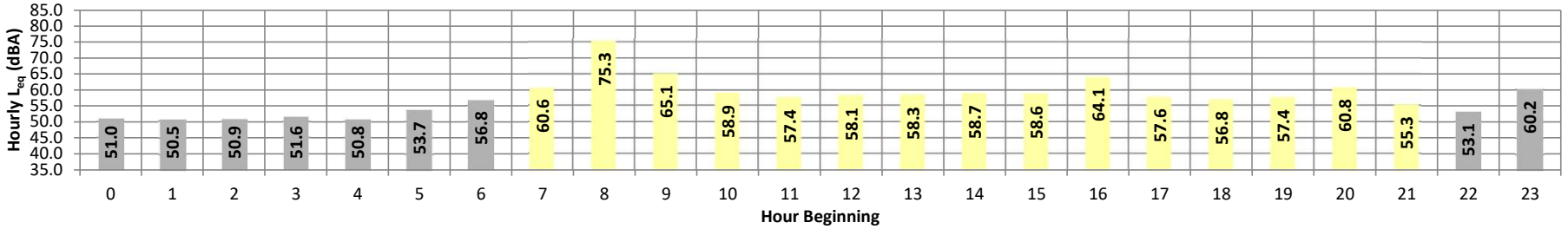
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24-Hour Noise Level Measurement Summary

Date: Wednesday, April 23, 2025 *Location:* L1 - Located east of the site near the Rehabilitation Hospital of *Meter:* Piccolo II *JN:* 16462

Project: Forest Lawn Cathedral City *Source:* Southern California at 70077 Ramon Rd. *Analyst:* Z. Ibrahim

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	56.7	49.7	56.4	55.5	53.8	52.7	50.9	50.2	49.8	49.8	49.7	51.0	10.0	61.0
	1	50.5	53.2	49.8	53.0	52.8	52.1	51.6	50.6	50.2	49.9	49.9	49.8	50.5	10.0	60.5
	2	50.9	55.3	49.6	55.1	54.7	53.8	52.9	50.8	50.1	49.8	49.8	49.7	50.9	10.0	60.9
	3	51.6	59.0	49.7	58.4	57.7	55.5	53.9	51.1	50.3	49.9	49.8	49.8	51.6	10.0	61.6
	4	50.8	55.7	49.5	55.5	55.1	54.2	53.0	50.6	50.0	49.7	49.7	49.6	50.8	10.0	60.8
	5	53.7	58.3	51.5	58.1	57.8	57.0	56.3	54.0	52.7	51.8	51.7	51.5	53.7	10.0	63.7
	6	56.8	63.1	53.5	62.6	62.1	60.8	59.9	57.1	55.5	54.0	53.8	53.6	56.8	10.0	66.8
Day	7	60.6	66.1	55.3	65.8	65.4	64.6	63.9	61.4	59.7	56.7	56.0	55.5	60.6	0.0	60.6
	8	75.3	81.4	66.1	81.1	80.7	79.7	78.9	76.4	74.4	69.4	68.0	66.6	75.3	0.0	75.3
	9	65.1	75.3	55.3	74.4	73.2	71.8	70.6	65.3	58.7	56.4	55.9	55.4	65.1	0.0	65.1
	10	58.9	66.7	54.2	66.0	65.1	63.2	62.3	59.2	57.4	55.0	54.6	54.2	58.9	0.0	58.9
	11	57.4	63.3	53.7	62.9	62.4	61.4	60.5	57.9	56.3	54.4	54.1	53.8	57.4	0.0	57.4
	12	58.1	64.3	54.5	63.6	63.1	61.6	60.8	58.6	57.2	55.3	54.9	54.6	58.1	0.0	58.1
	13	58.3	64.5	54.4	63.9	63.4	62.5	61.9	58.7	56.9	55.1	54.8	54.5	58.3	0.0	58.3
	14	58.7	68.9	55.1	67.4	65.9	61.9	60.9	58.6	57.2	55.7	55.5	55.2	58.7	0.0	58.7
	15	58.6	68.0	54.6	67.2	66.0	63.0	61.5	58.3	56.8	55.1	54.9	54.7	58.6	0.0	58.6
	16	64.1	74.3	55.2	73.8	72.1	69.7	68.7	66.1	57.9	55.8	55.5	55.3	64.1	0.0	64.1
	17	57.6	63.9	54.1	63.6	63.1	61.7	60.8	57.8	56.3	54.6	54.4	54.2	57.6	0.0	57.6
	18	56.8	61.9	53.9	61.4	61.0	60.1	59.4	57.3	56.0	54.4	54.2	53.9	56.8	0.0	56.8
	19	57.4	64.5	54.2	63.9	63.2	62.0	60.8	57.4	56.1	54.6	54.4	54.2	57.4	5.0	62.4
	20	60.8	69.3	53.6	68.8	68.4	67.2	66.0	61.1	56.0	54.1	53.9	53.6	60.8	5.0	65.8
	21	55.3	61.7	52.3	61.2	60.7	59.3	58.2	55.6	54.1	52.7	52.5	52.4	55.3	5.0	60.3
Night	22	53.1	59.7	50.6	59.4	58.9	57.7	56.6	52.8	51.5	50.9	50.8	50.7	53.1	10.0	63.1
	23	60.2	65.8	55.4	65.6	65.3	64.7	64.1	61.0	58.4	55.9	55.7	55.5	60.2	10.0	70.2

Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%
Day	Min	55.3	61.7	52.3	61.2	60.7	59.3	58.2	55.6	54.1	52.7	52.5	52.4
	Max	75.3	81.4	66.1	81.1	80.7	79.7	78.9	76.4	74.4	69.4	68.0	66.6
Energy Average		65.1	Average:		67.0	66.2	64.7	63.7	60.6	58.1	56.0	55.6	55.2
Night	Min	50.5	53.2	49.5	53.0	52.8	52.1	51.6	50.6	50.0	49.7	49.7	49.6
	Max	60.2	65.8	55.4	65.6	65.3	64.7	64.1	61.0	58.4	55.9	55.7	55.5
Energy Average		54.6	Average:		58.2	57.8	56.6	55.7	53.2	52.1	51.3	51.2	51.1

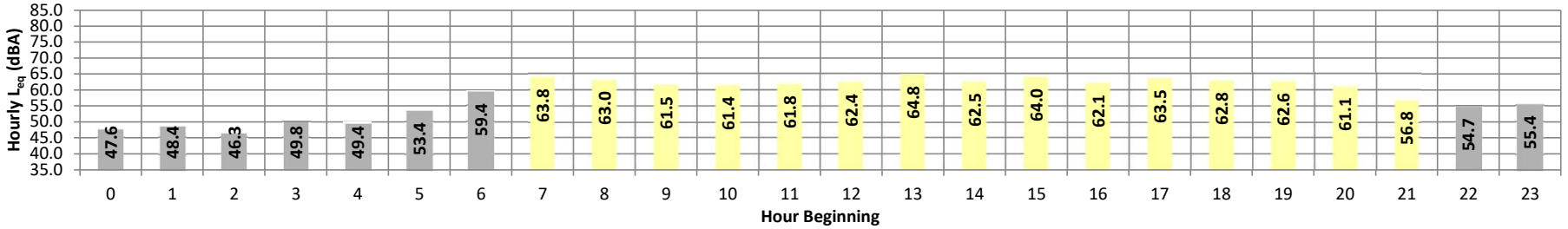
24-Hour CNEL	*Leq (dBA) Daytime (7am-10pm)*	*Leq (dBA) Nighttime (10pm-7am)*
65.2	**65.1**	**54.6**

24-Hour Noise Level Measurement Summary

Date: Wednesday, April 23, 2025 | *Location:* L2 - Located east of the site near the residence at 75 Vía Las | *Meter:* Piccolo II | *JN:* 16462

Project: Forest Lawn Cathedral City | *Source:* Flores | *Analyst:* Z. Ibrahim

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	47.6	60.1	39.5	59.5	58.9	54.8	51.5	43.6	41.0	39.8	39.7	39.6	47.6	10.0	57.6
	1	48.4	60.5	39.7	60.1	59.5	56.3	53.3	43.5	40.7	39.9	39.8	39.7	48.4	10.0	58.4
	2	46.3	57.8	39.7	57.5	57.1	54.0	50.5	41.7	40.5	40.0	39.9	39.8	46.3	10.0	56.3
	3	49.8	63.1	39.8	62.4	61.6	57.9	53.5	43.3	40.8	40.1	40.0	39.9	49.8	10.0	59.8
	4	49.4	60.9	40.4	60.5	59.9	57.1	54.6	46.0	42.3	40.8	40.6	40.4	49.4	10.0	59.4
	5	53.4	64.1	42.8	63.7	63.2	60.4	58.4	52.4	47.9	43.8	43.4	43.0	53.4	10.0	63.4
	6	59.4	68.6	48.5	68.2	67.8	65.9	64.4	59.6	55.1	49.8	49.2	48.6	59.4	10.0	69.4
Day	7	63.8	72.2	51.4	71.9	71.4	69.8	68.4	64.3	61.1	55.1	53.7	51.7	63.8	0.0	63.8
	8	63.0	70.3	50.1	70.0	69.5	67.7	66.9	64.4	61.6	53.3	51.7	50.3	63.0	0.0	63.0
	9	61.5	70.0	49.7	69.6	68.9	67.1	66.0	62.7	58.9	51.5	50.6	49.8	61.5	0.0	61.5
	10	61.4	68.4	50.6	68.1	67.6	66.3	65.6	63.0	59.6	52.8	51.8	50.8	61.4	0.0	61.4
	11	61.8	69.2	50.9	68.9	68.3	66.8	66.0	63.1	59.8	53.3	52.1	51.1	61.8	0.0	61.8
	12	62.4	70.9	52.5	70.2	69.2	67.1	66.0	63.5	60.6	54.8	53.7	52.6	62.4	0.0	62.4
	13	64.8	77.2	52.3	76.5	75.2	70.9	68.2	63.5	60.5	54.5	53.3	52.4	64.8	0.0	64.8
	14	62.5	70.8	51.5	70.4	69.7	67.8	66.6	63.5	60.6	53.4	52.4	51.7	62.5	0.0	62.5
	15	64.0	75.3	51.6	74.6	73.6	69.9	67.1	63.6	61.1	54.4	53.1	51.7	64.0	0.0	64.0
	16	62.1	69.4	52.4	69.0	68.3	66.6	65.8	63.5	60.8	54.3	53.4	52.5	62.1	0.0	62.1
	17	63.5	74.2	51.9	73.8	71.9	68.9	67.0	64.0	60.7	54.4	53.0	52.1	63.5	0.0	63.5
	18	62.8	73.9	49.8	73.2	72.1	68.9	66.8	62.7	59.3	51.9	50.8	49.9	62.8	0.0	62.8
	19	62.6	74.4	49.5	73.8	73.1	70.1	67.0	61.2	57.4	51.0	50.1	49.6	62.6	5.0	67.6
	20	61.1	72.8	47.8	72.3	71.4	68.5	65.9	59.3	55.1	49.1	48.4	47.9	61.1	5.0	66.1
	21	56.8	66.9	45.1	66.6	66.0	63.9	62.1	56.5	51.0	45.7	45.4	45.1	56.8	5.0	61.8
Night	22	54.7	64.9	43.1	64.6	64.1	61.9	60.3	53.9	48.1	43.8	43.6	43.2	54.7	10.0	64.7
	23	55.4	67.8	41.4	67.4	66.6	63.7	60.7	50.3	44.0	41.7	41.6	41.4	55.4	10.0	65.4

Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	24-Hour CNEL	Leq (dBA) Daytime (7am-10pm)	Leq (dBA) Nighttime (10pm-7am)
Day	Min	56.8	66.9	45.1	66.6	66.0	63.9	62.1	56.5	51.0	45.7	45.4	45.1			
	Max	64.8	77.2	52.5	76.5	75.2	70.9	68.4	64.4	61.6	55.1	53.7	52.6			
Energy Average		62.6	Average:		71.2	70.4	68.0	66.3	62.6	59.2	52.6	51.6	50.6			
Night	Min	46.3	57.8	39.5	57.5	57.1	54.0	50.5	41.7	40.5	39.8	39.7	39.6			
	Max	59.4	68.6	48.5	68.2	67.8	65.9	64.4	59.6	55.1	49.8	49.2	48.6			
Energy Average		53.6	Average:		62.7	62.1	59.1	56.4	48.3	44.5	42.2	42.0	41.7	**63.7**	**62.6**	**53.6**

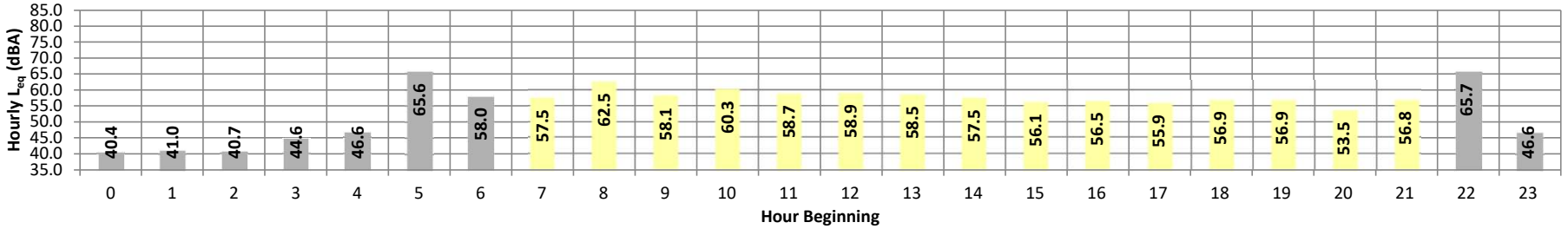
URBAN CROSSROADS

24-Hour Noise Level Measurement Summary

Date: Wednesday, April 23, 2025 | *Location:* L3 - Located near the northern site boundary. | *Meter:* Piccolo II | *JN:* 16462

Project: Forest Lawn Cathedral City | *Source:* | *Analyst:* Z. Ibrahim

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	40.4	46.3	38.6	46.1	45.8	45.1	43.3	39.7	39.3	38.8	38.7	38.6	40.4	10.0	50.4
	1	41.0	48.3	38.6	47.9	47.5	46.5	44.6	40.1	39.3	38.8	38.8	38.7	41.0	10.0	51.0
	2	40.7	49.6	37.5	49.3	48.7	47.1	44.0	38.9	38.2	37.7	37.6	37.5	40.7	10.0	50.7
	3	44.6	54.2	39.8	53.4	52.5	51.3	50.3	42.8	40.7	40.1	40.0	39.9	44.6	10.0	54.6
	4	46.6	56.0	39.3	55.7	55.2	53.9	52.5	45.5	40.8	39.5	39.4	39.3	46.6	10.0	56.6
	5	65.6	69.7	60.4	69.4	69.3	68.7	68.2	67.0	65.2	61.7	61.0	60.6	65.6	10.0	75.6
	6	58.0	64.2	51.3	63.9	63.4	62.5	61.5	58.8	56.8	53.4	52.6	51.6	58.0	10.0	68.0
Day	7	57.5	65.1	48.6	64.8	64.3	63.1	62.1	58.3	54.9	50.6	49.7	48.8	57.5	0.0	57.5
	8	62.5	67.9	55.9	67.6	67.2	66.2	65.5	63.5	61.8	58.2	57.1	56.2	62.5	0.0	62.5
	9	58.1	67.1	45.9	66.6	66.0	64.2	63.0	58.9	54.8	47.6	46.8	46.0	58.1	0.0	58.1
	10	60.3	70.7	47.1	70.2	69.4	66.6	64.5	59.8	57.0	49.2	48.1	47.3	60.3	0.0	60.3
	11	58.7	68.2	48.0	67.3	66.3	64.1	62.9	59.8	55.9	49.6	48.7	48.1	58.7	0.0	58.7
	12	58.9	67.1	52.8	66.5	65.6	64.2	63.0	59.5	56.8	53.6	53.2	52.9	58.9	0.0	58.9
	13	58.5	68.6	48.9	68.1	67.4	65.3	62.4	58.2	55.0	50.2	49.7	49.1	58.5	0.0	58.5
	14	57.5	67.5	47.7	67.2	66.4	63.6	61.6	57.4	54.0	49.2	48.6	47.9	57.5	0.0	57.5
	15	56.1	64.9	46.3	64.3	63.6	61.8	60.7	57.0	53.0	47.7	47.1	46.5	56.1	0.0	56.1
	16	56.5	64.3	48.7	63.8	63.3	62.0	60.8	57.3	54.0	49.7	49.3	48.9	56.5	0.0	56.5
	17	55.9	64.4	47.5	64.0	63.4	61.7	60.2	56.4	52.9	49.6	49.0	47.9	55.9	0.0	55.9
	18	56.9	69.7	46.0	68.6	67.2	62.3	60.1	55.8	52.1	47.3	46.7	46.1	56.9	0.0	56.9
	19	56.9	66.8	45.6	66.4	65.7	64.3	62.5	55.9	51.4	46.8	46.3	45.7	56.9	5.0	61.9
	20	53.5	62.9	44.6	62.5	62.0	60.2	58.4	53.7	49.2	45.4	45.0	44.7	53.5	5.0	58.5
	21	56.8	68.2	41.5	67.8	67.3	66.2	63.0	52.0	45.9	42.1	41.9	41.6	56.8	5.0	61.8
Night	22	65.7	69.6	63.7	69.3	69.1	68.0	67.1	65.5	65.3	63.9	63.9	63.8	65.7	10.0	75.7
	23	46.6	56.8	39.7	56.4	55.7	54.4	52.2	44.2	40.9	40.0	39.8	39.7	46.6	10.0	56.6

Timeframe	*Hour*	*L_{eq}*	*L_{max}*	*L_{min}*	*L1%*	*L2%*	*L5%*	*L8%*	*L25%*	*L50%*	*L90%*	*L95%*	*L99%*
Day	Min	53.5	62.9	41.5	62.5	62.0	60.2	58.4	52.0	45.9	42.1	41.9	41.6
	Max	62.5	70.7	55.9	70.2	69.4	66.6	65.5	63.5	61.8	58.2	57.1	56.2
Energy Average		58.1	Average:		66.4	65.7	63.7	62.0	57.6	53.9	49.1	48.5	47.9
Night	Min	40.4	46.3	37.5	46.1	45.8	45.1	43.3	38.9	38.2	37.7	37.6	37.5
	Max	65.7	69.7	63.7	69.4	69.3	68.7	68.2	67.0	65.3	63.9	63.9	63.8
Energy Average		59.6	Average:		56.8	56.4	55.3	53.7	49.2	47.4	46.0	45.8	45.5

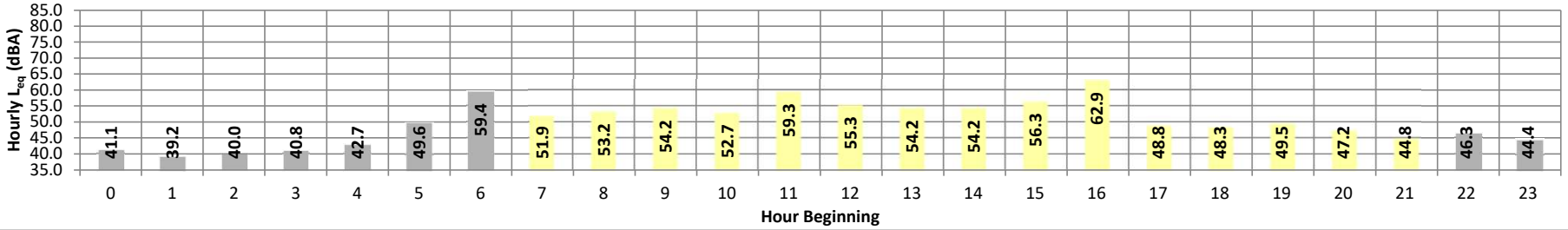
24-Hour CNEL	*Leq (dBA) Daytime (7am-10pm)*	*Leq (dBA) Nighttime (10pm-7am)*
65.9	**58.1**	**59.6**

24-Hour Noise Level Measurement Summary

Date: Wednesday, April 23, 2025 | *Location:* L4 - Located north of the site boundary. | *Meter:* Piccolo II | *JN:* 16462

Project: Forest Lawn Cathedral City | *Source:* | *Analyst:* Z. Ibrahim

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	41.1	46.1	38.8	45.8	45.6	44.6	43.8	41.1	40.2	39.2	39.1	38.9	41.1	10.0	51.1
	1	39.2	42.1	37.9	41.8	41.5	40.9	40.5	39.5	38.9	38.2	38.1	38.0	39.2	10.0	49.2
	2	40.0	45.1	38.1	44.6	44.1	42.8	41.9	40.2	39.3	38.4	38.3	38.2	40.0	10.0	50.0
	3	40.8	46.2	38.3	45.9	45.4	44.3	43.5	41.2	39.8	38.7	38.5	38.4	40.8	10.0	50.8
	4	42.7	48.5	39.6	48.2	47.8	46.6	45.7	43.1	41.5	40.0	39.9	39.6	42.7	10.0	52.7
	5	49.6	55.8	45.5	55.3	54.7	53.5	52.6	50.0	48.6	46.5	46.1	45.6	49.6	10.0	59.6
	6	59.4	64.5	52.2	64.2	64.0	63.2	62.7	60.5	58.6	54.5	53.7	52.5	59.4	10.0	69.4
Day	7	51.9	60.1	47.1	59.1	57.8	55.6	54.4	52.3	50.9	48.4	47.8	47.2	51.9	0.0	51.9
	8	53.2	60.5	46.7	60.2	59.6	58.3	57.5	54.0	51.3	47.8	47.2	46.8	53.2	0.0	53.2
	9	54.2	60.5	48.1	59.8	59.1	57.9	57.2	55.2	53.3	50.2	49.5	48.6	54.2	0.0	54.2
	10	52.7	63.7	44.6	62.7	61.6	58.6	57.0	52.4	48.7	45.8	45.3	44.8	52.7	0.0	52.7
	11	59.3	69.8	48.0	68.9	68.0	66.6	65.7	56.4	53.2	49.3	48.8	48.1	59.3	0.0	59.3
	12	55.3	66.3	48.3	65.1	63.8	61.1	59.6	54.7	51.9	49.3	48.9	48.5	55.3	0.0	55.3
	13	54.2	64.2	47.5	63.0	61.6	58.8	57.5	54.7	52.0	48.8	48.3	47.7	54.2	0.0	54.2
	14	54.2	64.4	46.8	63.3	62.1	59.4	58.0	54.3	51.8	48.3	47.8	47.1	54.2	0.0	54.2
	15	56.3	68.0	45.7	65.9	65.1	63.4	62.7	51.8	49.1	46.6	46.3	45.8	56.3	0.0	56.3
	16	62.9	71.9	48.3	70.7	69.9	69.0	68.3	64.5	58.7	50.0	49.3	48.7	62.9	0.0	62.9
	17	48.8	56.5	44.1	55.8	54.9	53.3	52.3	49.4	47.2	44.8	44.5	44.2	48.8	0.0	48.8
	18	48.3	57.0	43.7	55.9	54.7	52.2	51.4	48.6	46.8	44.4	44.2	43.8	48.3	0.0	48.3
	19	49.5	57.5	44.8	56.9	56.1	54.5	53.1	49.6	47.6	45.5	45.3	45.0	49.5	5.0	54.5
	20	47.2	55.5	42.2	54.9	54.1	52.7	51.6	47.4	44.7	42.7	42.5	42.2	47.2	5.0	52.2
	21	44.8	51.3	41.5	50.9	50.2	49.1	48.1	45.0	43.3	41.9	41.7	41.5	44.8	5.0	49.8
Night	22	46.3	54.5	41.8	54.2	53.7	52.3	50.9	45.8	43.6	42.2	42.0	41.9	46.3	10.0	56.3
	23	44.4	53.9	40.3	52.8	52.1	50.4	48.1	43.2	41.8	40.7	40.5	40.4	44.4	10.0	54.4

Timeframe	*Hour*	*L_{eq}*	*L_{max}*	*L_{min}*	*L1%*	*L2%*	*L5%*	*L8%*	*L25%*	*L50%*	*L90%*	*L95%*	*L99%*
Day	Min	44.8	51.3	41.5	50.9	50.2	49.1	48.1	45.0	43.3	41.9	41.7	41.5
	Max	62.9	71.9	48.3	70.7	69.9	69.0	68.3	64.5	58.7	50.2	49.5	48.7
Energy Average		55.4	Average:		60.9	59.9	58.0	56.9	52.7	50.0	46.9	46.5	46.0
Night	Min	39.2	42.1	37.9	41.8	41.5	40.9	40.5	39.5	38.9	38.2	38.1	38.0
	Max	59.4	64.5	52.2	64.2	64.0	63.2	62.7	60.5	58.6	54.5	53.7	52.5
Energy Average		50.9	Average:		50.3	49.9	48.7	47.8	45.0	43.6	42.1	41.8	41.5

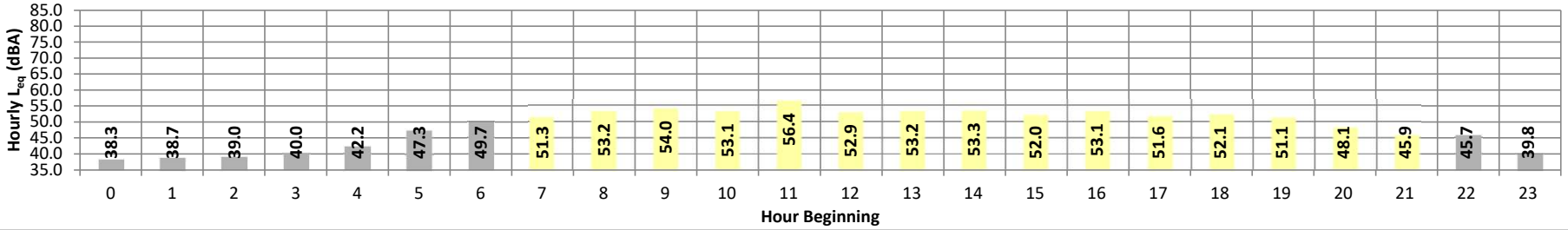
24-Hour CNEL	*Leq (dBA) Daytime (7am-10pm)*	*Leq (dBA) Nighttime (10pm-7am)*
58.4	**55.4**	**50.9**

24-Hour Noise Level Measurement Summary

Date: Wednesday, April 23, 2025 *Location:* L5 - Located west of the site near the residence at 69801 *Meter:* Piccolo II *JN:* 16462

Project: Forest Lawn Cathedral City *Source:* Ramon Rd. *Analyst:* Z. Ibrahim

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	38.3	41.5	37.2	41.2	41.1	40.6	40.2	38.3	37.8	37.3	37.3	37.2	38.3	10.0	48.3
	1	38.7	41.6	37.8	41.3	41.0	40.6	40.1	38.7	38.3	38.0	38.0	37.9	38.7	10.0	48.7
	2	39.0	43.1	38.0	42.9	42.5	41.4	40.4	38.9	38.5	38.1	38.1	38.0	39.0	10.0	49.0
	3	40.0	45.6	37.7	45.4	45.2	44.4	43.4	40.0	38.4	37.9	37.8	37.7	40.0	10.0	50.0
	4	42.2	50.9	38.2	50.5	50.1	48.1	46.4	41.7	39.3	38.4	38.3	38.2	42.2	10.0	52.2
	5	47.3	57.7	41.1	57.1	56.4	54.2	51.4	45.9	43.3	41.7	41.5	41.2	47.3	10.0	57.3
	6	49.7	58.6	42.4	58.2	57.7	55.9	54.1	49.6	47.0	43.6	43.1	42.5	49.7	10.0	59.7
Day	7	51.3	59.3	43.6	58.8	58.3	56.8	55.6	52.1	48.8	44.8	44.4	43.8	51.3	0.0	51.3
	8	53.2	60.9	43.5	60.5	60.0	58.7	57.5	54.0	50.9	45.8	44.7	43.8	53.2	0.0	53.2
	9	54.0	63.5	42.8	63.0	62.4	60.4	58.7	54.2	50.6	44.2	43.5	42.9	54.0	0.0	54.0
	10	53.1	62.6	42.8	62.0	61.4	59.1	57.4	53.3	50.1	44.3	43.5	42.9	53.1	0.0	53.1
	11	56.4	66.6	46.6	66.0	65.3	63.0	61.1	55.9	52.5	47.7	47.1	46.7	56.4	0.0	56.4
	12	52.9	61.3	43.8	61.0	60.3	58.6	57.0	53.4	50.6	45.5	44.7	43.9	52.9	0.0	52.9
	13	53.2	63.6	43.2	62.9	62.0	59.2	57.3	52.9	50.1	44.9	43.9	43.3	53.2	0.0	53.2
	14	53.3	62.4	44.3	61.9	61.4	59.4	57.6	53.5	50.4	45.6	44.9	44.4	53.3	0.0	53.3
	15	52.0	61.1	43.5	60.4	59.5	57.4	56.1	52.5	49.6	44.9	44.2	43.6	52.0	0.0	52.0
	16	53.1	62.3	43.9	61.7	61.0	58.8	57.2	53.7	50.2	45.6	44.6	44.1	53.1	0.0	53.1
	17	51.6	60.4	42.6	60.0	59.4	57.3	55.6	52.1	49.1	44.1	43.3	42.7	51.6	0.0	51.6
	18	52.1	63.1	41.9	61.8	60.4	57.8	56.4	52.2	48.7	43.3	42.6	42.0	52.1	0.0	52.1
	19	51.1	59.7	41.8	59.4	59.0	57.6	56.4	51.3	47.4	42.9	42.3	42.0	51.1	5.0	56.1
	20	48.1	57.1	38.8	56.7	56.3	54.9	53.2	48.1	44.1	39.8	39.4	38.9	48.1	5.0	53.1
	21	45.9	55.3	36.9	55.0	54.6	53.5	51.5	44.6	41.4	37.4	37.2	36.9	45.9	5.0	50.9
Night	22	45.7	56.1	36.4	55.7	55.2	53.0	50.8	45.2	40.3	37.2	36.8	36.5	45.7	10.0	55.7
	23	39.8	48.8	34.0	48.4	47.9	46.7	45.2	38.9	36.0	34.4	34.2	34.1	39.8	10.0	49.8

Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%
Day	Min	45.9	55.3	36.9	55.0	54.6	53.5	51.5	44.6	41.4	37.4	37.2	36.9
	Max	56.4	66.6	46.6	66.0	65.3	63.0	61.1	55.9	52.5	47.7	47.1	46.7
Energy Average		52.6	Average:		60.7	60.1	58.2	56.6	52.2	49.0	44.1	43.4	42.8
Night	Min	38.3	41.5	34.0	41.2	41.0	40.6	40.1	38.3	36.0	34.4	34.2	34.1
	Max	49.7	58.6	42.4	58.2	57.7	55.9	54.1	49.6	47.0	43.6	43.1	42.5
Energy Average		44.3	Average:		49.0	48.6	47.2	45.8	41.9	39.9	38.5	38.3	38.2

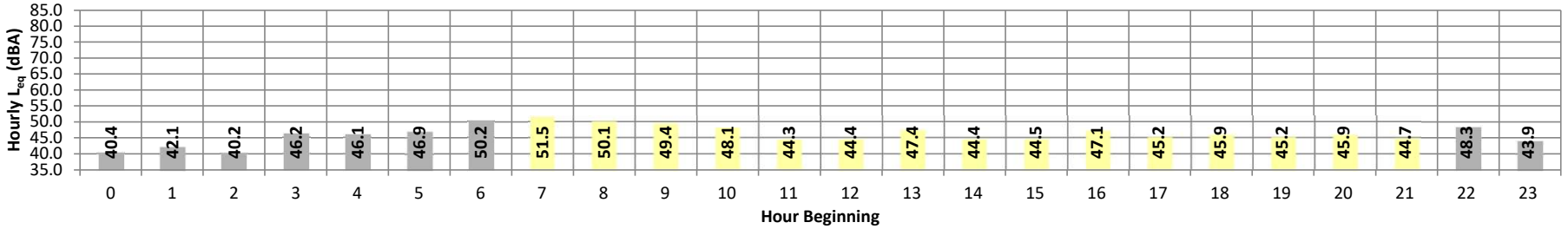
24-Hour CNEL	Leq (dBA) Daytime (7am-10pm)	Leq (dBA) Nighttime (10pm-7am)
53.7	52.6	44.3

24-Hour Noise Level Measurement Summary

Date: Thursday, October 16, 2025 *Location:* L6 - Located near the southern voundary of the site near a residence in the Desert Shadows RV Resort located at 69801 Ramon Rd. *Meter:* Piccolo II *JN:* 16462

Project: Forest Lawn *Source:* *Analyst:* N. Johnson

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	40.4	43.4	38.9	43.1	42.8	42.1	41.7	40.7	40.1	39.3	39.2	39.0	40.4	10.0	50.4
	1	42.1	46.4	39.9	45.9	45.5	44.9	44.5	42.3	41.4	40.4	40.2	40.0	42.1	10.0	52.1
	2	40.2	43.4	38.5	43.1	42.7	42.1	41.7	40.7	39.9	38.9	38.7	38.5	40.2	10.0	50.2
	3	46.2	48.0	44.9	47.8	47.7	47.5	47.3	46.6	46.1	45.3	45.1	44.9	46.2	10.0	56.2
	4	46.1	50.2	43.9	49.8	49.2	48.2	47.7	46.5	45.7	44.4	44.2	44.0	46.1	10.0	56.1
	5	46.9	50.3	44.9	50.0	49.6	48.8	48.5	47.4	46.6	45.4	45.2	45.0	46.9	10.0	56.9
	6	50.2	56.1	47.0	55.4	54.8	53.4	52.8	50.8	49.3	47.6	47.3	47.1	50.2	10.0	60.2
Day	7	51.5	57.3	48.5	56.5	55.8	54.6	54.0	52.0	50.5	49.1	48.9	48.6	51.5	0.0	51.5
	8	50.1	56.4	46.7	55.8	55.3	53.8	53.2	50.7	48.7	47.2	46.9	46.7	50.1	0.0	50.1
	9	49.4	57.2	42.4	56.6	56.0	54.4	53.3	50.2	47.3	43.5	43.1	42.6	49.4	0.0	49.4
	10	48.1	57.5	41.2	57.1	56.4	54.4	53.1	47.7	44.0	41.9	41.6	41.3	48.1	0.0	48.1
	11	44.3	50.3	41.0	49.7	49.2	47.9	47.0	45.0	43.5	41.6	41.3	41.1	44.3	0.0	44.3
	12	44.4	51.5	41.2	51.0	50.2	48.0	47.0	44.7	43.3	41.7	41.5	41.3	44.4	0.0	44.4
	13	47.4	55.1	41.9	54.6	53.7	51.9	51.0	48.3	45.2	42.8	42.4	42.0	47.4	0.0	47.4
	14	44.4	51.5	40.3	50.8	50.2	48.7	48.0	44.9	42.6	40.8	40.6	40.3	44.4	0.0	44.4
	15	44.5	49.4	41.5	48.9	48.3	47.2	46.6	45.1	44.0	42.1	41.8	41.6	44.5	0.0	44.5
	16	47.1	55.3	41.8	54.2	53.2	51.6	50.7	47.8	45.3	42.7	42.3	41.9	47.1	0.0	47.1
	17	45.2	50.3	41.7	50.0	49.6	48.6	48.2	45.8	44.3	42.4	42.2	41.8	45.2	0.0	45.2
	18	45.9	50.9	42.9	50.6	50.2	49.1	48.4	46.4	45.2	43.7	43.3	43.0	45.9	0.0	45.9
	19	45.2	48.8	43.0	48.6	48.3	47.5	47.1	45.7	44.8	43.5	43.3	43.1	45.2	5.0	50.2
	20	45.9	49.7	43.8	49.4	49.1	48.3	47.8	46.3	45.5	44.3	44.1	43.8	45.9	5.0	50.9
	21	44.7	48.5	43.0	48.2	47.8	47.0	46.5	45.0	44.3	43.4	43.3	43.1	44.7	5.0	49.7
Night	22	48.3	54.0	44.8	53.7	53.2	51.7	51.1	49.1	47.4	45.3	45.1	44.9	48.3	10.0	58.3
	23	43.9	48.1	42.1	47.7	47.2	46.0	45.5	44.4	43.4	42.4	42.3	42.2	43.9	10.0	53.9

Timeframe	*Hour*	*L_{eq}*	*L_{max}*	*L_{min}*	*L1%*	*L2%*	*L5%*	*L8%*	*L25%*	*L50%*	*L90%*	*L95%*	*L99%*
Day	Min	44.3	48.5	40.3	48.2	47.8	47.0	46.5	44.7	42.6	40.8	40.6	40.3
	Max	51.5	57.5	48.5	57.1	56.4	54.6	54.0	52.0	50.5	49.1	48.9	48.6
Energy Average		47.2	Average:		52.1	51.5	50.2	49.4	47.0	45.2	43.4	43.1	42.8
Night	Min	40.2	43.4	38.5	43.1	42.7	42.1	41.7	40.7	39.9	38.9	38.7	38.5
	Max	50.2	56.1	47.0	55.4	54.8	53.4	52.8	50.8	49.3	47.6	47.3	47.1
Energy Average		46.1	Average:		48.5	48.1	47.2	46.7	45.4	44.4	43.2	43.0	42.9

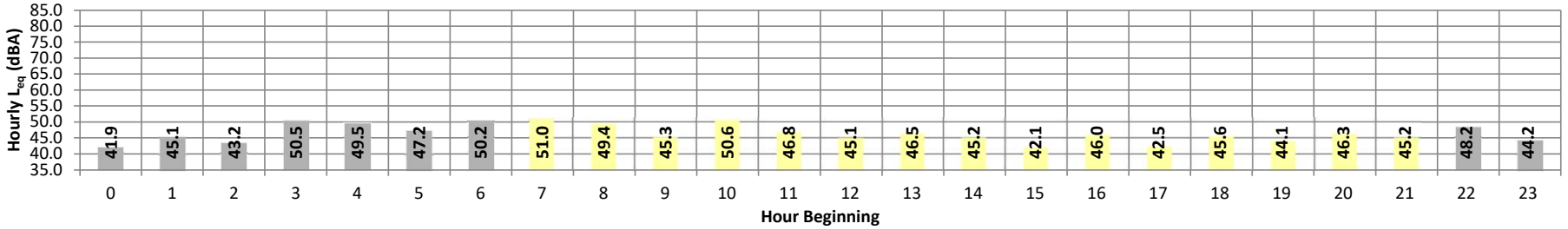
24-Hour CNEL	*Leq (dBA) Daytime (7am-10pm)*	*Leq (dBA) Nighttime (10pm-7am)*
52.9	**47.2**	**46.1**

24-Hour Noise Level Measurement Summary

Date: Thursday, October 16, 2025 | *Location:* L7 - Located near the southwestern boundary of the site near a residence in the Desert Shadows RV Resort located at 69801 Ramon Rd. | *Meter:* Piccolo II | *JN:* 16462

Project: Forest Lawn | *Source:* | *Analyst:* N. Johnson

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	41.9	45.3	40.0	44.9	44.6	43.8	43.5	42.4	41.6	40.5	40.3	40.1	41.9	10.0	51.9
	1	45.1	50.1	42.1	49.4	48.9	48.3	47.8	45.7	44.4	42.8	42.5	42.2	45.1	10.0	55.1
	2	43.2	47.0	39.7	46.8	46.6	46.0	45.5	44.0	42.7	40.6	40.2	39.8	43.2	10.0	53.2
	3	50.5	53.5	47.5	53.3	53.2	52.8	52.5	51.3	50.2	48.2	47.9	47.6	50.5	10.0	60.5
	4	49.5	52.7	46.7	52.5	52.3	51.9	51.5	50.3	49.1	47.3	47.0	46.7	49.5	10.0	59.5
	5	47.2	50.5	44.9	50.2	49.9	49.4	49.0	47.9	46.9	45.5	45.3	45.0	47.2	10.0	57.2
	6	50.2	54.6	47.4	54.3	54.0	52.8	52.4	50.9	49.7	48.1	47.8	47.6	50.2	10.0	60.2
Day	7	51.0	55.3	48.3	54.8	54.3	53.7	53.2	51.6	50.5	48.9	48.7	48.4	51.0	0.0	51.0
	8	49.4	56.0	45.6	55.3	54.7	53.3	52.5	50.0	48.1	46.2	46.0	45.7	49.4	0.0	49.4
	9	45.3	51.5	41.3	50.9	50.4	49.2	48.3	46.1	43.8	42.1	41.8	41.4	45.3	0.0	45.3
	10	50.6	60.4	41.2	59.7	59.1	57.6	56.3	49.3	46.1	42.4	41.8	41.4	50.6	0.0	50.6
	11	46.8	50.9	44.4	50.4	50.0	49.3	48.9	47.5	46.3	44.8	44.6	44.4	46.8	0.0	46.8
	12	45.1	50.2	39.9	49.7	49.3	48.4	47.7	46.0	44.5	40.9	40.5	40.1	45.1	0.0	45.1
	13	46.5	54.3	41.1	53.7	52.8	51.0	50.3	47.4	44.1	41.9	41.6	41.3	46.5	0.0	46.5
	14	45.2	52.4	41.3	51.8	51.1	50.1	49.2	45.4	43.1	41.8	41.6	41.4	45.2	0.0	45.2
	15	42.1	46.5	39.8	46.0	45.5	44.5	43.8	42.6	41.7	40.4	40.1	39.9	42.1	0.0	42.1
	16	46.0	50.8	43.2	50.4	49.6	49.1	48.7	46.8	44.8	43.6	43.5	43.3	46.0	0.0	46.0
	17	42.5	47.1	39.8	46.7	46.2	45.3	44.6	43.1	41.9	40.4	40.1	39.9	42.5	0.0	42.5
	18	45.6	49.9	43.0	49.6	49.3	48.4	47.8	45.9	45.0	43.5	43.3	43.1	45.6	0.0	45.6
	19	44.1	46.4	42.1	46.2	46.1	45.8	45.6	44.7	43.8	42.7	42.4	42.2	44.1	5.0	49.1
	20	46.3	49.9	43.8	49.7	49.3	48.8	48.5	46.9	45.7	44.3	44.1	43.9	46.3	5.0	51.3
	21	45.2	49.3	42.8	49.0	48.5	47.8	47.3	45.7	44.7	43.3	43.1	42.9	45.2	5.0	50.2
Night	22	48.2	54.6	43.1	54.1	53.6	52.4	51.5	49.2	47.0	43.8	43.5	43.1	48.2	10.0	58.2
	23	44.2	49.5	40.6	49.1	48.5	47.5	46.9	44.9	43.3	41.3	41.0	40.7	44.2	10.0	54.2

Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%
Day	Min	42.1	46.4	39.8	46.0	45.5	44.5	43.8	42.6	41.7	40.4	40.1	39.9
	Max	51.0	60.4	48.3	59.7	59.1	57.6	56.3	51.6	50.5	48.9	48.7	48.4
Energy Average		46.9	Average:		50.9	50.4	49.5	48.9	46.6	44.9	43.1	42.9	42.6
Night	Min	41.9	45.3	39.7	44.9	44.6	43.8	43.5	42.4	41.6	40.5	40.2	39.8
	Max	50.5	54.6	47.5	54.3	54.0	52.8	52.5	51.3	50.2	48.2	47.9	47.6
Energy Average		47.6	Average:		50.5	50.2	49.4	49.0	47.4	46.1	44.2	43.9	43.6

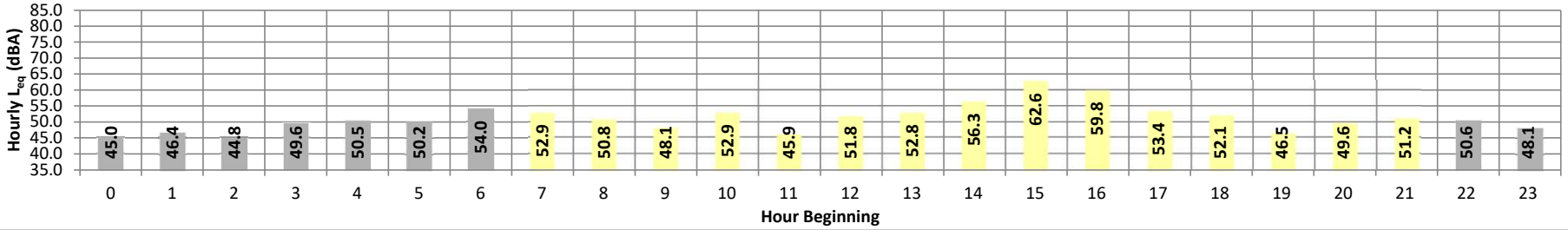
24-Hour CNEL	Leq (dBA) Daytime (7am-10pm)	Leq (dBA) Nighttime (10pm-7am)
54.1	46.9	47.6

24-Hour Noise Level Measurement Summary

Date: Thursday, October 16, 2025 *Location:* L8 - Located near the western boundary of the site near a residence in the Desert Shadows RV Resort located at 69801 Ramon Rd. *Meter:* Piccolo II *JN:* 16462

Project: Forest Lawn *Source:* *Analyst:* N. Johnson

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	45.0	48.9	43.2	48.5	48.1	47.2	46.7	45.5	44.6	43.5	43.3	43.1	45.0	10.0	55.0
	1	46.4	52.9	43.9	52.1	51.1	49.8	48.8	46.6	45.5	44.3	44.2	43.9	46.4	10.0	56.4
	2	44.8	48.6	42.6	48.3	47.9	47.2	46.7	45.3	44.3	43.0	42.8	42.6	44.8	10.0	54.8
	3	49.6	53.0	47.2	52.7	52.4	51.9	51.5	50.3	49.3	47.8	47.5	47.3	49.6	10.0	59.6
	4	50.5	55.2	47.1	54.9	54.5	53.5	52.9	51.3	49.6	47.8	47.5	47.2	50.5	10.0	60.5
	5	50.2	54.2	47.2	53.9	53.7	53.1	52.5	51.1	49.4	47.8	47.5	47.3	50.2	10.0	60.2
	6	54.0	58.8	51.2	58.6	58.2	57.1	56.3	54.5	53.3	51.7	51.4	51.2	54.0	10.0	64.0
Day	7	52.9	56.1	50.4	55.8	55.5	55.0	54.6	53.5	52.6	51.0	50.8	50.5	52.9	0.0	52.9
	8	50.8	54.5	48.8	54.2	53.7	53.0	52.5	51.3	50.5	49.3	49.1	48.8	50.8	0.0	50.8
	9	48.1	52.8	45.5	52.4	52.0	51.0	50.4	48.8	47.2	46.1	45.9	45.6	48.1	0.0	48.1
	10	52.9	66.6	43.8	65.5	63.8	59.1	56.2	49.9	46.3	44.4	44.1	43.9	52.9	0.0	52.9
	11	45.9	51.6	43.2	51.3	50.8	49.2	48.3	46.3	45.0	43.6	43.4	43.2	45.9	0.0	45.9
	12	51.8	53.7	50.2	53.5	53.4	53.0	52.9	52.4	51.8	50.6	50.4	50.3	51.8	0.0	51.8
	13	52.8	56.3	50.9	56.0	55.9	55.0	54.3	53.3	52.7	51.3	51.1	51.0	52.8	0.0	52.8
	14	56.3	60.2	53.3	59.8	59.3	58.8	58.4	57.6	55.6	53.6	53.5	53.4	56.3	0.0	56.3
	15	62.6	65.9	58.5	65.6	65.3	64.8	64.5	63.4	62.5	60.2	59.4	58.6	62.6	0.0	62.6
	16	59.8	62.6	55.3	62.3	62.1	61.7	61.4	60.6	59.9	57.1	56.4	55.5	59.8	0.0	59.8
	17	53.4	55.1	52.0	55.0	54.8	54.5	54.2	53.9	53.1	52.4	52.2	52.1	53.4	0.0	53.4
	18	52.1	54.4	50.0	54.2	53.9	53.4	53.2	52.5	52.1	50.5	50.2	50.0	52.1	0.0	52.1
	19	46.5	49.3	44.2	49.1	48.9	48.5	48.2	47.2	46.1	44.7	44.4	44.2	46.5	5.0	51.5
	20	49.6	53.6	46.3	53.3	53.0	52.4	51.9	50.5	49.0	46.9	46.7	46.4	49.6	5.0	54.6
	21	51.2	56.7	48.4	56.4	55.9	54.6	53.6	51.5	50.4	48.9	48.7	48.5	51.2	5.0	56.2
Night	22	50.6	56.8	46.2	56.4	56.0	54.7	53.7	51.3	49.6	46.9	46.6	46.3	50.6	10.0	60.6
	23	48.1	52.7	44.2	52.5	52.2	51.5	50.9	49.1	47.4	44.9	44.5	44.2	48.1	10.0	58.1

Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%
Day	Min	45.9	49.3	43.2	49.1	48.9	48.5	48.2	46.3	45.0	43.6	43.4	43.2
	Max	62.6	66.6	58.5	65.6	65.3	64.8	64.5	63.4	62.5	60.2	59.4	58.6
Energy Average		55.1	Average:		56.3	55.9	54.9	54.3	52.9	51.6	50.0	49.8	49.5
Night	Min	44.8	48.6	42.6	48.3	47.9	47.2	46.7	45.3	44.3	43.0	42.8	42.6
	Max	54.0	58.8	51.2	58.6	58.2	57.1	56.3	54.5	53.3	51.7	51.4	51.2
Energy Average		49.7	Average:		53.1	52.7	51.8	51.1	49.4	48.1	46.4	46.2	45.9

24-Hour CNEL	Leq (dBA) Daytime (7am-10pm)	Leq (dBA) Nighttime (10pm-7am)
57.6	**55.1**	**49.7**

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APPENDIX 8.1:

CADNAA OPERATIONAL NOISE CALCULATIONS

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16462 - Forest Lawn

CadnaA Noise Prediction Model: 16462-02_Operation.cna
Date: 18.12.25
Analyst: B. Maddux

Calculation Configuration

Configuration	
Parameter	**Value**
General	
Max. Error (dB)	0.00
Max. Search Radius (ft)	6561.70
Min. Dist Src to Rcvr	0.00
Partition	
Raster Factor	0.50
Max. Length of Section (ft)	3280.80
Min. Length of Section (ft)	3.30
Min. Length of Section (%)	0.00
Proj. Line Sources	On
Proj. Area Sources	On
Ref. Time	
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	328.08
Search Radius Rcvr	328.08
Max. Distance Source - Rcvr	3280.84 3280.84
Min. Distance Rvcr - Reflector	3.28 3.28
Min. Distance Source - Reflector	0.33
Industrial (ISO 9613 (1996))	
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 (°F)	50
rel. Humidity (%)	70
Ground Absorption G	0.50
Wind Speed for Dir. (mph)	6.7
Roads (TNM)	
Railways (FTA/FRA)	
Aircraft (???)	
Strictly acc. to AzB	

Receiver Noise Levels

Name	M.	ID	Level Lr			Limit. Value			Land Use			Height		Coordinates		
			Day	Night	CNEL	Day	Night	CNEL	Type	Auto	Noise Type			X	Y	Z
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)				(ft)		(ft)	(ft)	(ft)
R1		R1	30.5	26.6	33.6	65.0	50.0	0.0				5.00	r	7035488.82	1758667.35	5.00
R2		R2	26.2	22.7	29.6	65.0	50.0	0.0				5.00	r	7035501.47	1758330.44	5.00
R3		R3	48.0	45.5	52.2	65.0	50.0	0.0				5.00	r	7034990.34	1758331.97	5.00
R4		R4	25.4	21.3	28.3	65.0	50.0	0.0				5.00	r	7034558.14	1758354.57	5.00
R5		R5	20.6	15.8	23.0	65.0	50.0	0.0				5.00	r	7034649.19	1758535.93	5.00

Point Source(s)

Name	M.	ID	Result. PWL			Lw / Li			Operating Time			Height		Coordinates		
			Day	Evening	Night	Type	Value	norm.	Day	Special	Night			X	Y	Z
			(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)	(ft)		(ft)	(ft)	(ft)
AC15		AC15	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	7034969.42	1758393.49	19.00
AC16		AC16	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	7034967.86	1758363.41	19.00

Line Source(s)

Name	M.	ID	Result. PWL			Result. PWL'			Lw / Li			Operating Time			Moving Pt. Src					Height
			Day	Evening	Night	Day	Evening	Night	Type	Value	norm.	Day	Special	Night	Number			Speed		
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)	Day	Evening	Night	(mph)	(ft)	

Name	ID	Height		Coordinates			
		Begin	End	x	y	z	Ground
		(ft)	(ft)	(ft)	(ft)	(ft)	(ft)

Area Source(s)

Name	M.	ID	Result. PWL			Result. PWL''			Lw / Li			Qantity			Operating Time			Height	
			Day	Evening	Night	Day	Evening	Night	Type	Value	norm.	Work Crews			Day	Special	Night	(ft)	
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)			dB(A)	Daytime	Evening	Nighttime	(min)	(min)	(min)		
OUTDOOR1		OUTDOOR1	91.5	91.5	91.5	70.6	70.6	70.6	Lw	91.5					900.00	0.00	0.00	5	r

Name	ID	Height				Coordinates			
		Begin		End		x	y	z	Ground
		(ft)		(ft)		(ft)	(ft)	(ft)	(ft)
OUTDOOR1	OUTDOOR1	5.00	r			7034951.40	1758443.65	5.00	0.00
						7034945.93	1758410.83	5.00	0.00
						7034992.73	1758410.83	5.00	0.00
						7034986.05	1758442.44	5.00	0.00

Barrier(s)

Name	Sel.	M.	ID	Absorption		Z-Ext.	Cantilever		Height			Coordinates			
				left	right		horz.	vert.	Begin		End	x	y	z	Ground
						(ft)	(ft)	(ft)	(ft)		(ft)	(ft)	(ft)	(ft)	(ft)
									3.00	g		7034915.01	1758388.40	17.00	0.00
												7034916.83	1758347.68	17.00	0.00
												7035020.13	1758350.11	17.00	0.00
												7035021.95	1758389.61	17.00	0.00

Building(s)

Name	Sel.	M.	ID	RB	Residents	Absorption	Height		Coordinates			
							Begin		x	y	z	Ground
							(ft)		(ft)	(ft)	(ft)	(ft)
BLDG1			BLDG1	x	0		24.00	r	7034669.64	1758642.23	24.00	0.00
									7034936.31	1758647.18	24.00	0.00
									7034937.35	1758619.05	24.00	0.00
									7034889.95	1758619.31	24.00	0.00
									7034889.69	1758611.50	24.00	0.00
									7034827.19	1758610.72	24.00	0.00
									7034827.45	1758618.01	24.00	0.00
									7034779.54	1758617.23	24.00	0.00
									7034780.32	1758609.68	24.00	0.00
									7034717.30	1758608.11	24.00	0.00
									7034717.30	1758615.15	24.00	0.00
									7034702.71	1758615.41	24.00	0.00
									7034702.71	1758580.77	24.00	0.00
									7034711.57	1758579.73	24.00	0.00
									7034711.83	1758569.83	24.00	0.00
									7034713.39	1758514.10	24.00	0.00
									7034703.23	1758514.10	24.00	0.00
									7034703.76	1758466.19	24.00	0.00
									7034714.17	1758464.88	24.00	0.00
									7034715.21	1758399.00	24.00	0.00
									7034705.58	1758399.26	24.00	0.00
									7034706.88	1758369.31	24.00	0.00
									7034722.24	1758369.57	24.00	0.00
									7034722.24	1758375.82	24.00	0.00
									7034783.96	1758377.38	24.00	0.00
									7034784.22	1758372.44	24.00	0.00
									7034831.88	1758372.96	24.00	0.00
									7034831.62	1758378.17	24.00	0.00
									7034893.08	1758379.47	24.00	0.00
									7034894.12	1758374.78	24.00	0.00
									7034913.39	1758374.26	24.00	0.00
									7034914.69	1758344.83	24.00	0.00
									7034675.11	1758340.93	24.00	0.00
BLDG2			BLDG2	x	0		14.00	r	7034711.83	1758569.83	14.00	0.00
									7034749.33	1758570.61	14.00	0.00
									7034751.93	1758568.01	14.00	0.00
									7034885.01	1758570.09	14.00	0.00
									7034885.79	1758528.17	14.00	0.00
									7034752.97	1758526.08	14.00	0.00
									7034750.11	1758523.22	14.00	0.00
									7034713.16	1758522.39	14.00	0.00
BLDG3			BLDG3	x	0		14.00	r	7034714.30	1758457.09	14.00	0.00
									7034750.37	1758457.59	14.00	0.00
									7034754.80	1758454.47	14.00	0.00
									7034886.83	1758457.33	14.00	0.00
									7034888.39	1758414.88	14.00	0.00
									7034754.28	1758412.80	14.00	0.00
									7034751.93	1758409.16	14.00	0.00
									7034715.06	1758408.88	14.00	0.00
BLDG4			BLDG4	x	0		14.00	r	7034913.39	1758374.26	14.00	0.00
									7034912.87	1758390.15	14.00	0.00
									7034942.56	1758390.41	14.00	0.00

Name	Sel.	M.	ID	RB	Residents	Absorption	Height		Coordinates			
							Begin		x	y	z	Ground
							(ft)		(ft)	(ft)	(ft)	(ft)
									7034942.82	1758410.46	14.00	0.00
									7034992.82	1758411.24	14.00	0.00
									7034993.08	1758390.93	14.00	0.00
									7035023.81	1758392.23	14.00	0.00
									7035023.29	1758347.44	14.00	0.00
									7034914.69	1758344.83	14.00	0.00
BLDG5			BLDG5	x	0		24.00	r	7035023.62	1758376.36	24.00	0.00
									7035042.56	1758376.60	24.00	0.00
									7035042.82	1758381.81	24.00	0.00
									7035104.28	1758383.37	24.00	0.00
									7035105.06	1758375.82	24.00	0.00
									7035151.93	1758376.60	24.00	0.00
									7035152.19	1758383.63	24.00	0.00
									7035214.17	1758384.42	24.00	0.00
									7035214.69	1758377.65	24.00	0.00
									7035268.86	1758378.95	24.00	0.00
									7035269.12	1758351.60	24.00	0.00
									7035023.29	1758347.44	24.00	0.00
BLDG6			BLDG6	x	0		14.00	r	7035258.19	1758378.69	14.00	0.00
									7035256.36	1758474.26	14.00	0.00
									7035245.68	1758475.30	14.00	0.00
									7035244.12	1758523.48	14.00	0.00
									7035255.58	1758524.26	14.00	0.00
									7035254.28	1758613.58	14.00	0.00
									7035232.40	1758613.58	14.00	0.00
									7035232.14	1758622.70	14.00	0.00
									7035264.69	1758623.74	14.00	0.00
									7035265.99	1758523.74	14.00	0.00
									7035273.81	1758523.74	14.00	0.00
									7035274.07	1758475.56	14.00	0.00
									7035267.04	1758475.30	14.00	0.00
									7035268.86	1758378.95	14.00	0.00
BLDG7			BLDG7	x	0		14.00	r	7035044.38	1758572.70	14.00	0.00
									7035242.04	1758576.86	14.00	0.00
									7035243.34	1758534.16	14.00	0.00
									7035045.16	1758531.03	14.00	0.00
BLDG8			BLDG8	x	0		14.00	r	7035045.68	1758460.46	14.00	0.00
									7035244.12	1758463.58	14.00	0.00
									7035244.90	1758421.13	14.00	0.00
									7035046.98	1758417.75	14.00	0.00
BLDG9			BLDG9	x	0		14.00	r	7035002.19	1758634.16	14.00	0.00
									7035035.53	1758634.68	14.00	0.00
									7035035.53	1758636.24	14.00	0.00
									7035048.55	1758637.28	14.00	0.00
									7035048.29	1758635.20	14.00	0.00
									7035062.87	1758635.46	14.00	0.00
									7035063.13	1758637.54	14.00	0.00
									7035076.93	1758638.06	14.00	0.00
									7035076.93	1758635.46	14.00	0.00
									7035092.04	1758635.98	14.00	0.00
									7035092.30	1758637.80	14.00	0.00
									7035105.58	1758638.06	14.00	0.00
									7035105.58	1758635.98	14.00	0.00
									7035131.62	1758636.24	14.00	0.00
									7035131.62	1758638.32	14.00	0.00
									7035144.64	1758638.84	14.00	0.00
									7035145.42	1758636.50	14.00	0.00
									7035160.27	1758637.02	14.00	0.00
									7035160.27	1758638.84	14.00	0.00
									7035173.03	1758639.36	14.00	0.00
									7035173.55	1758637.02	14.00	0.00
									7035188.39	1758637.54	14.00	0.00
									7035188.39	1758639.36	14.00	0.00
									7035201.41	1758639.88	14.00	0.00
									7035201.93	1758637.54	14.00	0.00
									7035231.10	1758638.06	14.00	0.00
									7035232.40	1758613.58	14.00	0.00
									7035002.71	1758609.42	14.00	0.00

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APPENDIX 9.1:

UNMITIGATED CONSTRUCTION NOISE CALCULATIONS

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16462 - Forest Lawn

CadnaA Noise Prediction Model: 16462-02_Construction.cna
Date: 18.12.25
Analyst: B. Maddux

Calculation Configuration

Configuration	
Parameter	**Value**
General	
Max. Error (dB)	0.00
Max. Search Radius (ft)	6561.70
Min. Dist Src to Rcvr	0.00
Partition	
Raster Factor	0.50
Max. Length of Section (ft)	3280.80
Min. Length of Section (ft)	3.30
Min. Length of Section (%)	0.00
Proj. Line Sources	On
Proj. Area Sources	On
Ref. Time	
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	328.08
Search Radius Rcvr	328.08
Max. Distance Source - Rcvr	3280.84 3280.84
Min. Distance Rvcr - Reflector	3.28 3.28
Min. Distance Source - Reflector	0.33
Industrial (ISO 9613 (1996))	
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 (°F)	50
rel. Humidity (%)	70
Ground Absorption G	0.50
Wind Speed for Dir. (mph)	6.7
Roads (TNM)	
Railways (FTA/FRA)	
Aircraft (???)	
Strictly acc. to AzB	

Receiver Noise Levels

Name	M.	ID	Level Lr			Limit. Value			Land Use			Height		Coordinates		
			Day	Night	CNEL	Day	Night	CNEL	Type	Auto	Noise Type			X	Y	Z
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)				(ft)		(ft)	(ft)	(ft)
R1		R1	63.6	-39.5	60.5	0.0	0.0	0.0		x	Total	5.00	r	7035488.82	1758667.35	5.00
R2		R2	63.2	-39.9	60.1	0.0	0.0	0.0		x	Total	5.00	r	7035501.47	1758330.44	5.00
R3		R3	73.5	-29.5	70.5	0.0	0.0	0.0		x	Total	5.00	r	7034994.90	1758326.73	5.00
R4		R4	66.0	-37.0	63.0	0.0	0.0	0.0		x	Total	5.00	r	7034558.14	1758354.57	5.00
R5		R5	72.6	-30.4	69.6	0.0	0.0	0.0		x	Total	5.00	r	7034649.19	1758535.93	5.00

Point Source(s)

Name	M.	ID	Result. PWL			Lw / Li			Operating Time			Height		Coordinates		
			Day	Evening	Night	Type	Value	norm.	Day	Special	Night			X	Y	Z
			(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)	(ft)		(ft)	(ft)	(ft)

Line Source(s)

Name	M.	ID	Result. PWL			Result. PWL'			Lw / Li			Operating Time			Moving Pt. Src				Height	
			Day	Evening	Night	Day	Evening	Night	Type	Value	norm.	Day	Special	Night	Number			Speed		
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)	Day	Evening	Night	(mph)	(ft)	

Name	ID	Height		Coordinates			
		Begin	End	x	y	z	Ground
		(ft)	(ft)	(ft)	(ft)	(ft)	(ft)

Area Source(s)

Name	M.	ID	Result. PWL			Result. PWL''			Lw / Li			Operating Time			Height	
			Day	Evening	Night	Day	Evening	Night	Type	Value	norm.	Day	Special	Night	(ft)	
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)		
CA1		CA1	118.6	15.6	15.6	76.0	-27.1	-27.1	PWL-Pt	115.6					8	r

Name	ID	Height				Coordinates			
		Begin		End		x	y	z	Ground
		(ft)		(ft)		(ft)	(ft)	(ft)	(ft)
CA1	CA1	8.00	r			7034670.41	1758665.91	8.00	0.00
						7035283.66	1758672.09	8.00	0.00
						7035289.67	1758351.40	8.00	0.00
						7034676.12	1758340.17	8.00	0.00

Barrier(s)

Name	Sel.	M.	ID	Absorption		Z-Ext.	Cantilever		Height		Coordinates			
				left	right		horz.	vert.	Begin	End	x	y	z	Ground
						(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)

Building(s)

Name	Sel.	M.	ID	RB	Residents	Absorption	Height	Coordinates			
							Begin	x	y	z	Ground
							(ft)	(ft)	(ft)	(ft)	(ft)