Perris Truck Terminal
(CUP 22-05172)
NOISE IMPACT ANALYSIS
CITY OF PERRIS

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LIST OF ABBREVIATED TERMS

(1)	Reference
ANSI	American National Standards Institute
CEQA	California Environmental Quality Act
CNEL	Community Noise Equivalent Level
dBA	A-weighted decibels
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
INCE	Institute of Noise Control Engineering
L_{eq}	Equivalent continuous (average) sound level
L_{max}	Maximum level measured over the time interval
L_{min}	Minimum level measured over the time interval
OPR	Office of Planning and Research
PPV	Peak particle velocity
Project	Perris Truck Terminal
VdB	Vibration Decibels

EXECUTIVE SUMMARY

Urban Crossroads, Inc. has prepared this noise study to determine the potential noise impacts and the necessary noise mitigation measures, if any, for the proposed Perris Truck Terminal development ("Project"). The Project applicant is proposing to develop a truck trailer drop lot on 8.57-gross acres with one 718 square-foot office guard shack. The proposed Project is located within the Perris Valley Commerce Center Specific Plan (PVCC SP) planning area of the City of Perris. This study has been prepared to satisfy applicable City of Perris standards and thresholds of significance based on guidance provided by Appendix G of the Guidelines for Implementation of the California Environmental Quality Act (State CEQA Guidelines). (1)

The results of this Perris Truck Terminal Noise Impact Analysis are summarized below based on the significance criteria in Section 4 of this report. Table ES-1 shows the findings of significance for each potential noise and/or vibration impact under CEQA before and after any required mitigation measures.

TABLE ES-1: SUMMARY OF CEQA SIGNIFICANCE FINDINGS

Analysis	Significance Findings	
	Unmitigated	**Mitigated**
Off-Site Traffic Noise	*Less Than Significant*	-
Operational Noise	*Less Than Significant*	-
Construction Noise	*Potentially Significant*	*Less Than Significant*
Construction Vibration	*Less Than Significant*	-

[1] Although Project construction noise and vibration impacts will be less than significant, the Project is required to comply with mitigation measures (MM) Noise 1 through MM Noise 4 from the PVCC Specific Plan Environmental Impact Report.
"n/a" = No new significant impacts.

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1 INTRODUCTION

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

1.1 SITE LOCATION

The proposed Project site is located north of Markham Street and east of Perris Boulevard within the City of Perris' *Perris Valley Commerce Center Specific Plan* (PVCC SP) planning area as shown on Exhibit 1-A. March Air Reserve Base/Inland Port Airport (MARB/IPA) is located approximately 1.1 miles northwest of the Project site boundary.

1.2 PROJECT DESCRIPTION

The Project applicant is proposing to develop a truck and trailer parking lot on 8.57-gross acres with one 718 square-foot office guard shack. The site will accommodate 205 14-foot by 53-foot truck and trailer parking stalls, 3 passenger car parking spaces, one accessible parking space, and 10 electric vehicle truck stalls. Site improvements would include a mix of screen walls, block walls, signage, landscaping, and two (2) storm water retention basins. Access to the Project Site would be provided by one driveway at Markham Street. Screen walls along the western, southern and northern frontages will be concrete or block walls 10 to 14 feet high. A preliminary site plan for the proposed Project is shown on Exhibit 1-A. The Project would provide parking for local trucks and fleets.

The on-site Project-related noise sources are expected to include: truck terminal activity, truck movements, and trash enclosure activity. This noise analysis is intended to describe noise level impacts associated with the expected typical operational activities at the Project site. The site will operate 24-hours a day, 7 days a week, although security guards are not anticipated to be present 24 hours a day.

EXHIBIT 1-A: LOCATION MAP

EXHIBIT 1-B: SITE PLAN

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2 FUNDAMENTALS

For consistency with the PVCC SP EIR, the following noise fundamentals discussion was taken from the EIR, Section 4.9 Noise, Page 4.9-2: (3)

The PVCC SP EIR defines noise *as unwanted or objectionable sound. The effect of noise on people can include general annoyance, interference with speech communication, sleep disturbance and, in the extreme, hearing impairment. The unit of measurement used to describe a noise level is the decibel (dB). However, since the human ear is not equally sensitive to all frequencies within the sound spectrum, the "A-weighted" noise scale, which weights the frequencies to which humans are sensitive, is used for measurements. Noise levels using A-weighted measurements are written dB(A) or dBA. Decibels are measured on a logarithmic scale which quantifies sound intensity in a manner that is similar to the Richter scale used for earthquake magnitudes. In the case of noise, a doubling of the energy from a noise source, such as the doubling of a traffic volume, would increase the noise level by 3 dBA; a halving of the energy would result in a 3 dBA decrease.*

The PVCC SP EIR further states that *average noise levels over a period of minutes or hours are usually expressed as dB L_{eq} or the equivalent noise level for that period of time. For example, $L_{eq(3)}$ would represent a three hour average. When no time-period is specified, a one-hour average is assumed. Noise standards for land use compatibility are stated in terms of the Community Noise Equivalent Level (CNEL) and the Day-Night Average Noise Level (Ldn). CNEL is a 24-hour weighted average measure of community noise. The computation of CNEL adds 5 dBA to the average hourly noise levels between 7 p.m. and 10 p.m. (evening hours), and 10 dBA to the average hourly noise levels between 10p.m. to 7 a.m. (nighttime hours). This weighting accounts for the increased human sensitivity to noise in the evening and nighttime hours. Ldn is a very similar 24-hour weighted average which weighs only the nighttime hours and not the evening hours. CNEL is normally about 1 dB higher than Ldn for typical traffic and other community noise levels.*

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3 REGULATORY SETTING

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

3.1 STATE OF CALIFORNIA NOISE REQUIREMENTS

The State of California regulates freeway noise, sets standards for sound transmission, provides occupational noise control criteria, identifies noise standards, and provides guidance for local land use compatibility. State law requires that each county and city adopt a General Plan that includes a Noise Element which is to be prepared per guidelines adopted by the Governor's Office of Planning and Research (OPR). (4) The purpose of the Noise and Safety Element is to *limit the exposure of the community to excessive noise levels*. In addition, the California Environmental Quality Act (CEQA) requires that all known environmental effects of a project be analyzed, including environmental noise impacts.

3.2 STATE OF CALIFORNIA GREEN BUILDING STANDARDS CODE

The State of California's Green Building Standards Code (CALGreen) contains mandatory measures for non-residential building construction in Section 5.507 on Environmental Comfort. (5) These noise standards are applied to new construction in California for controlling interior noise levels resulting from exterior noise sources. The regulations specify that acoustical studies must be prepared when non-residential structures are developed in areas where the exterior noise levels exceed 65 dBA CNEL, such as within a noise contour of an airport, freeway, railroad, and other areas where noise contours are not readily available. If the development falls within an airport or freeway 65 dBA CNEL noise contour, the combined sound transmission class (STC) rating of the wall and roof-ceiling assemblies shall be constructed to provide an interior noise environment attributable to exterior sources that does not exceed an hourly equivalent noise level of 50 dBA L_{eq} in occupied areas during any hour of operation (Section 5.507.4.2). As outlined below in Section 3.7, the Project site is not located within the 65 CNEL noise contour MARB/IPA.

3.3 CITY OF PERRIS GENERAL PLAN NOISE ELEMENT

The City of Perris has adopted a Noise Element of the General Plan (6) to control and abate environmental noise, and to protect the citizens of Perris from excessive exposure to noise. The Noise Element specifies the maximum allowable unmitigated 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 noise polices and implementation measures designed to protect, create, and maintain an environment free from noise that may jeopardize the health or welfare of sensitive receptors, or degrade quality of life.

The noise standards identified in the City of Perris General Plan are guidelines to evaluate the acceptability of the transportation related noise level impacts. These standards are based on the Governor's Office of Planning and Research (OPR) and are used to assess the long-term traffic noise impacts on land uses. According to the City's Land Use Compatibility for Community Noise Exposure (Exhibit N-1), noise-sensitive land uses such as single-family residences are *normally acceptable* with exterior noise levels below 60 dBA CNEL and *conditionally acceptable* with noise levels below 65 dBA CNEL. Commercial uses are *normally acceptable* with exterior noise levels below 65 dBA CNEL and *conditionally acceptable* with noise levels below 75 dBA CNEL. Industrial uses are considered *normally acceptable* with exterior noise levels of up to 70 dBA CNEL, and *conditionally acceptable* with exterior noise levels between 70 to 80 dBA CNEL (6).

3.4 OPERATIONAL NOISE STANDARDS

To analyze noise impacts originating from a designated fixed location or private property such as the Perris Truck Terminal, operational noise such as the expected truck terminal activity, truck movements, and trash enclosure activity are typically evaluated against standards established under a City's Municipal Code.

The City of Perris Municipal Code, Chapter 7.34 *Noise Control*, Section 7.34.040, establishes the permissible noise level at any point on the property line of the affected residential receivers. Therefore, for residential properties and other noise sensitive land use, the exterior noise level shall not exceed a maximum noise level of 80 dBA L_{max} during daytime hours (7:01 a.m. to 10:00 p.m.) and shall not exceed a maximum noise level of 60 dBA L_{max} during the nighttime hours (10:01 p.m. to 7:00 a.m.), as shown on Table 3-1. (7) The City of Perris Municipal Code is included in Appendix 3.1.

Additional exterior noise level standards are identified in the City of Perris General Plan Noise Element Implementation Measure V.A.1 which requires that new industrial facilities and large-scale commercial facilities within 160 feet of the property line of existing noise-sensitive land uses must demonstrate compliance with a 60 dBA CNEL exterior noise level standard. Table 3-1 shows the Municipal Code and General Plan standards used in this analysis to evaluate the potential operational noise levels from the Project.

TABLE 3-1: OPERATIONAL NOISE STANDARDS

Jurisdiction	Land Use	Time Period	Noise Level Standard (dBA)
City of Perris	Residential[1]	Daytime (7:01 a.m. - 10:00 p.m.)	80 dBA L_{max}
		Nighttime (10:01 p.m. - 7:00 a.m.)	60 dBA L_{max}
	Within 160 Feet of PL[2]	24-Hours	60 dBA CNEL

[1] City of Perris Municipal Code, Sections 7.34.040 & 7.34.050 (Appendix 3.1).
[2] City of Perris General Plan Noise Element, Implementation Measure V.A.1.

3.5 CONSTRUCTION NOISE STANDARDS

To analyze noise impacts originating from the construction of the Perris Truck Terminal site, noise from construction activities is typically evaluated against standards established under a City's Municipal Code. The City of Perris Municipal Code, Section 7.34.060, identifies the City's construction noise standards and permitted hours of construction activity (refer to Table 3-2). Further, the City of Perris Municipal Code, Section 7.34.060, noise level standard of 80 dBA L_{max} at residential properties shall apply to the noise-sensitive receiver locations located in the City of Perris. (7)

TABLE 3-2: CONSTRUCTION NOISE STANDARDS

Jurisdiction	Permitted Hours of Construction Activity	Construction Noise Level Standard
City of Perris[1]	7:00 a.m. to 7:00 p.m. on any day except Sundays and legal holidays (with the exception of Columbus Day and Washington's birthday).	80 dBA L_{max}

[1] City of Perris Municipal Code, Section 7.34.060 (Appendix 3.1).

3.6 CONSTRUCTION VIBRATION STANDARDS

According to the PVCC SP EIR, a major concern regarding construction vibration is building damage. Consequently, construction vibration is generally assessed in terms of peak particle velocity (PPV). The United States Department of Transportation Federal Transit Administration (FTA) has published guidance relative to vibration impacts. According to the FTA, buildings can be exposed to ground-borne vibration levels of 0.5 PPV without experiencing structural damage.

Although Project construction noise and vibration impacts will be *less than significant*, the Project is required to comply with the following construction-related mitigation measures (MM) from the PVCC Specific Plan Environmental Impact Report:

MM Noise 1 *During all project site excavation and grading on site, the construction contractors shall equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers consistent with manufacturer's standards. The construction contractor shall place all stationary construction equipment so that emitted noise is directed away from*

the noise sensitive receptors nearest the project site.

MM Noise 2 *During construction, stationary construction equipment, stockpiling and vehicle staging areas would be placed a minimum of 446 feet away from the closest sensitive receptor.*

MM Noise 3 *No combustion-powered equipment, such as pumps or generators, shall be allowed to operate within 446 feet of any occupied residence unless the equipment is surrounded by a noise protection barrier.*

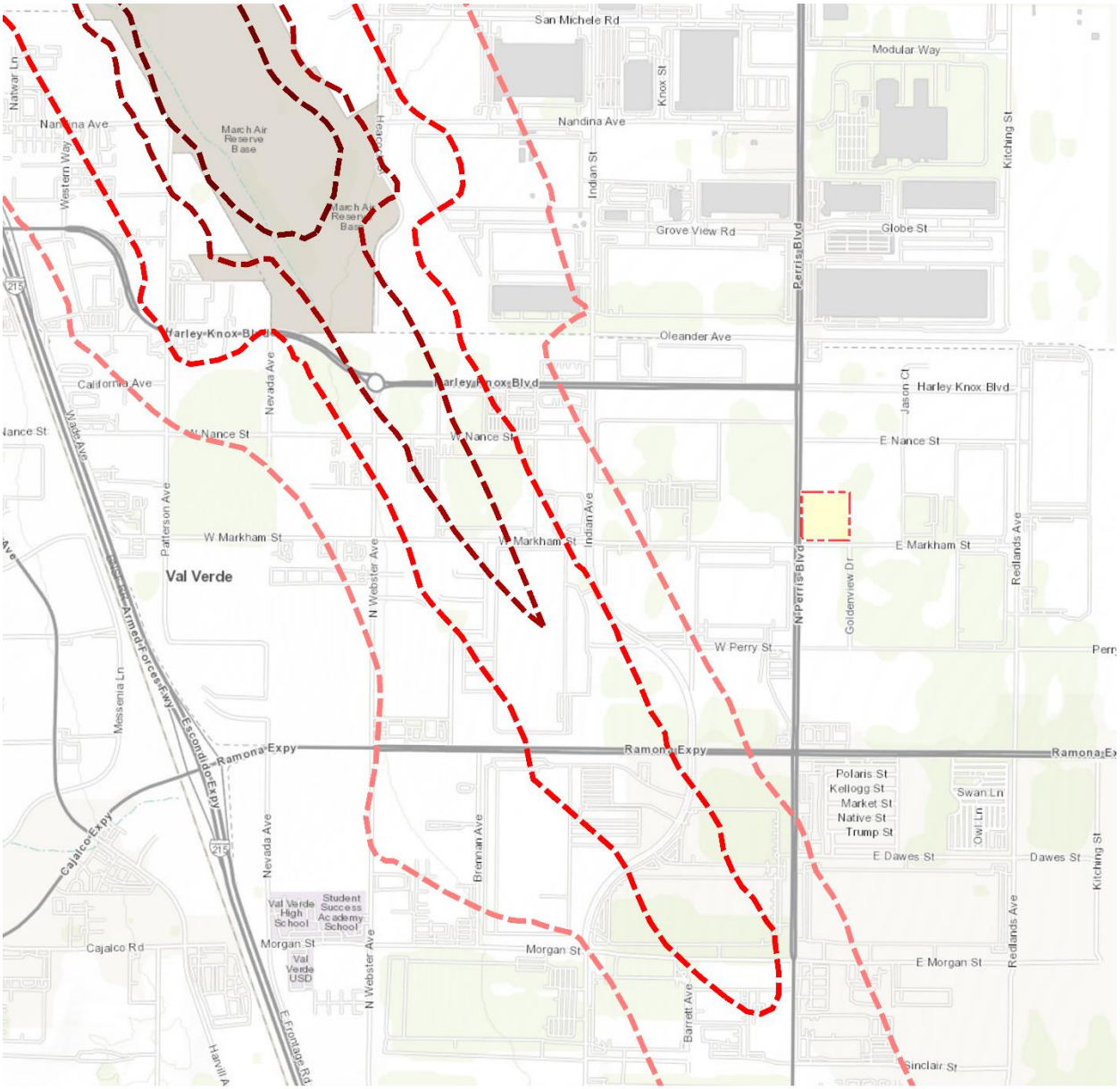
MM Noise 4 *Construction contractors of implementing development projects shall limit haul truck deliveries to the same hours specified for construction equipment. To the extent feasible, haul routes shall not pass sensitive land uses or residential dwellings.*

3.7 MARCH AIR RESERVE BASE/INLAND PORT AIRPORT LAND USE COMPATIBILITY

MARB/IPA is located approximately 1.1 miles northwest of the Project site boundary. The *March Air Reserve Base/Inland Port Airport Land Use Compatibility Plan* (MARB/IPA ALUCP) includes the policies for determining the land use compatibility of the Project (12). The MARB/IPA ALUCP, Map MA-1, indicates that the Project site is located within Compatibility Zone D, and the Table MA-1 Compatibility Zone Factors indicates that this area is considered to have a *moderate to low* noise impact, and is mostly within or near the 55 dBA CNEL noise level contour boundaries. Consistent with the Basic Compatibility Criteria, listed in Table MA-2 of the MARB/IPA ALUCP, noise sensitive outdoor uses are not permitted. The MARB/IPA ALUCP does not identify industrial-use specific noise compatibility standards, and therefore, City's Land Use Compatibility for Community Noise Exposure, previously discussed in Section 3.3, is used to assess potential aircraft-related noise levels at the Project site. The City's guidelines indicate that industrial uses, such as the Project, are considered *normally acceptable* with exterior noise levels of up to 70 dBA CNEL (11).

The noise contour boundaries of MARB/IPA are presented on Exhibit 3-A of this report and show that the Project is considered *normally acceptable* land use since it is located outside the 60 dBA CNEL noise level contour boundaries.

EXHIBIT 3-A: MARB/IPA FUTURE AIRPORT NOISE CONTOURS



LEGEND:

Unmitigated MARB Noise Level Contour Boundaries

Project Site Boundary

60 dBA CNEL

65 dBA CNEL

70 dBA CNEL

75 dBA CNEL

Source: Figure 6-9 of the March Air Reserve Base 2018 Final Air Installations Compatible Uses Zones Study.

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4 SIGNIFICANCE CRITERIA

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

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

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

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

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

4.1 CEQA GUIDELINES NOT FURTHER ANALYZED

The closest airport which would require additional noise analysis under CEQA Appendix G Guideline C is MARB/IPA. As previously described in Section 3.7, the Project site is in Compatibility Zone D, and the Table MA-1 Compatibility Zone Factors indicates that this area is considered a *moderate to low* noise impact. The City's guidelines indicate that the Project's industrial land use is considered *normally acceptable* with the MARB/IPA exterior noise levels. Therefore, the potential impacts under CEQA Appendix G Guideline C, are *less than significant* and are not further analyzed in this noise study.

4.2 NOISE SENSITIVE USE NOISE LEVEL INCREASES

As identified in the PVCC SP EIR, sensitive receivers are areas where humans are participating in activities that may be subject to the stress of significant interference from noise and often include residential dwellings, mobile homes, hotels, motels, hospitals, nursing homes, educational facilities, and libraries. Other receivers include office and industrial buildings, which are not considered as sensitive as single-family homes, but are still protected by City of Perris land use compatibility standards, as discussed below.

Noise level increases at nearest receiver locations resulting from the Project are evaluated based on the PVCC SP EIR Thresholds described below at nearest sensitive receiver locations. Further, CEQA requires that consideration be given to the magnitude of the increase, the existing ambient noise levels, and the location of noise-sensitive receivers to determine if a noise increase represents a significant adverse environmental impact. This approach recognizes *that there is no single noise increase that renders the noise impact significant.* (9)

According to the PVCC SP EIR, *there is no official "industry standard" of determining significance of noise impacts. However, typically, a jurisdiction will identify either 3 dBA or 5 dBA increase as being the threshold because these levels represent varying levels of perceived noise increases.* The PVCC SP EIR indicates that a 5 dBA noise level increase is considered *discernable to most people in an exterior environment* when the resulting noise levels are below 60 dBA. Further, it identifies a 3 dBA increase threshold when the noise levels already exceed 60 dBA. In addition, according to the PVCC SP EIR, an increase of 5 dBA or more above without Project noise levels is considered a significant impact at all other sensitive land uses. (3)

4.3 NON-NOISE-SENSITIVE USE NOISE LEVEL INCREASES

The City of Perris General Plan, Exhibit N-1, *Land Use Compatibility for Community Noise Exposure* was used to establish the satisfactory noise levels of significance for non-noise-sensitive land uses in the Project study area. Non-noise-sensitive land uses such as Industrial, Manufacturing Utilities, and Agriculture with exterior noise levels approaching 70 dBA CNEL are considered *normally acceptable* per the City of Perris exterior noise level criteria. To determine if Project-related traffic noise level increases are significant at off-site non-noise-sensitive land uses, a *readily perceptible* 5 dBA and *barely perceptible* 3 dBA criteria were used. When the without Project noise levels at the non-noise-sensitive land uses are below the *normally acceptable* 70 dBA CNEL compatibility criteria, a *readily perceptible* 5 dBA or greater noise level increase is considered a significant impact. When the without Project noise levels are greater than the *normally acceptable* 70 dBA CNEL land use compatibility criteria, a *barely perceptible* 3 dBA or greater noise level increase is considered a significant impact since the noise level criteria is already exceeded. The noise level increases used to determine significant impacts for non-noise-sensitive land uses rely on the City of Perris General Plan Land Use Compatibility for Community Noise Exposure, Exhibit N-1 *normally acceptable* 70 dBA CNEL exterior noise level criteria.

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.

TABLE 4-1: SIGNIFICANCE CRITERIA SUMMARY

Analysis	Receiving Land Use	Condition(s)	Significance Criteria	
			Daytime	Nighttime
Off-Site Traffic	Noise-Sensitive[1]	if resulting noise level is < 60 dBA CNEL	≥ 5 dBA CNEL Project increase	
		if resulting noise level is > 60 dBA CNEL	≥ 3 dBA CNEL Project increase	
	Non-Noise Sensitive[2]	if ambient is < 70 dBA CNEL	≥ 5 dBA CNEL Project increase	
		if ambient is > 70 dBA CNEL	≥ 3 dBA CNEL Project increase	
Operational	Noise-Sensitive[3]	At residential land use[3]	80 dBA L_{max}	60 dBA L_{max}
		Within 160 Feet of noise-sensitive use[4]	60 dBA CNEL (exterior)	
		if resulting noise level is < 60 dBA L_{eq}[1]	≥ 5 dBA L_{eq} Project increase	
		if resulting noise level is > 60 dBA L_{eq}[1]	≥ 3 dBA L_{eq} Project increase	
Construction	Noise-Sensitive	Noise Level Threshold[5]	80 dBA L_{max}	
		Vibration Level Threshold[6]	0.5 PPV (in/sec)	

[1] PVCC SP EIR, Page 4.9-20.
[2] The City of Perris General Plan Exhibit N-1, Land Use Compatibility for Community Noise Exposure.
[3] City of Perris Municipal Code, Section 7.34.040 (Appendix 3.1).
[4] City of Perris General Plan Noise Element, Implementation Measure V.A.1.
[5] City of Perris Municipal Code, Section 7.34.060 (Appendix 3.1).
[6] PVCC SP EIR, Page 4.9-27.
"Daytime" = 7:01 a.m. - 10:00 p.m.; "Nighttime" = 10:01 p.m. - 7:00 a.m.

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5 EXISTING NOISE LEVEL MEASUREMENTS

To assess the existing noise level environment, 24-hour noise level measurements were taken at four locations in the Project study area. The receiver locations were selected to describe and document the existing noise environment within the Project study area. Exhibit 5-A provides the boundaries of the Project study area and the noise level measurement locations. To fully describe the existing noise conditions, noise level measurements were collected by Urban Crossroads, Inc. on Tuesday April 5th, 2022. Appendix 5.1 includes study area photos.

5.1 MEASUREMENT PROCEDURE AND CRITERIA

To describe the existing noise environment, the hourly noise levels were measured during typical weekday conditions over a 24-hour period. By collecting individual hourly noise level measurements, it is possible to describe the daytime and nighttime hourly noise levels and calculate the 24-hour CNEL. The long-term noise readings were recorded using Piccolo Type 2 integrating sound level meter and dataloggers. The Piccolo sound level meters were calibrated using a Larson-Davis calibrator, Model CAL 150. All noise meters were programmed in "slow" mode to record noise levels in "A" weighted form. The sound level meters and microphones were equipped with a windscreen during all measurements. All noise level measurement equipment satisfies the American National Standards Institute (ANSI) standard specifications for sound level meters ANSI S1.4-2014/IEC 61672-1:2013. (10)

5.2 NOISE MEASUREMENT LOCATIONS

The long-term noise level measurements were positioned as close to the nearest sensitive receiver locations as possible to assess the existing ambient hourly noise levels surrounding the Project site. Both Caltrans and the FTA recognize that it is not reasonable to collect noise level measurements that can fully represent every part of a private yard, patio, deck, or balcony normally used for human activity when estimating impacts for new development projects. This is demonstrated in the Caltrans general site location guidelines which indicate that, *sites must be free of noise contamination by sources other than sources of interest. Avoid sites located near sources such as barking dogs, lawnmowers, pool pumps, and air conditioners unless it is the express intent of the analyst to measure these sources*. (11) Further, FTA guidance states, t*hat it is not necessary nor recommended that existing noise exposure be determined by measuring at every noise-sensitive location in the project area. Rather, the recommended approach is to characterize the noise environment for clusters of sites based on measurements or estimates at representative locations in the community*. (12)

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. (12) In other words, the area represented by the receiver shares similar shielding, terrain, and geometric relationship to the reference noise source. Receivers represent a location of noise sensitive areas and are used to estimate the future noise level impacts. Collecting reference ambient noise level measurements at the nearby sensitive receiver locations allows for a comparison of the before and after Project noise levels

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

5.3 NOISE MEASUREMENT RESULTS

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

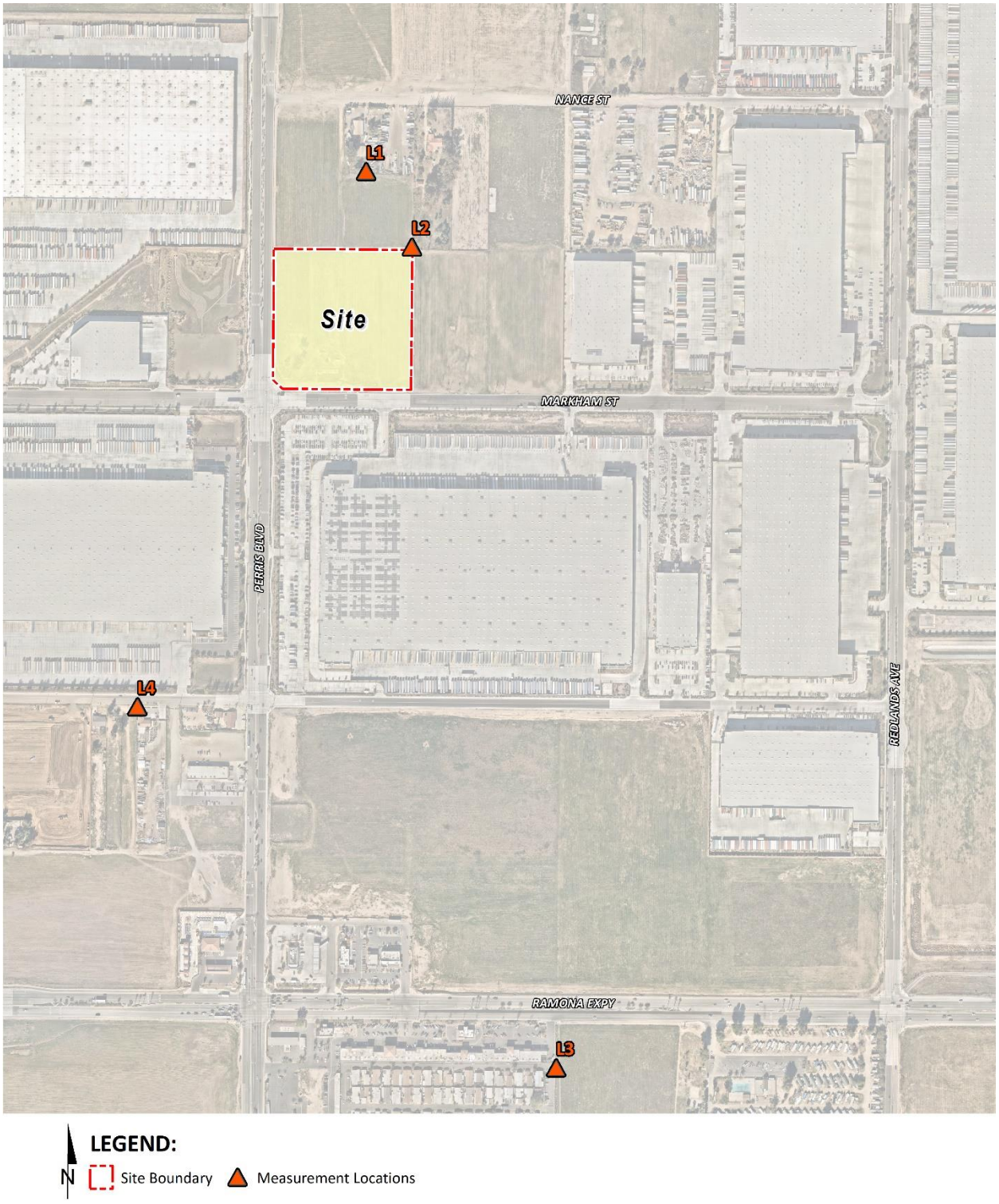
TABLE 5-1: 24-HOUR AMBIENT NOISE LEVEL MEASUREMENTS

Location[1]	Description	Energy Average Noise Level (dBA L_{eq})[2]	
		Daytime	Nighttime
L1	Located north of the Project site near the property line of single-family residence at 75 East Nance Street.	49.9	49.0
L2	Located northeast of the Project site near the property line of single-family residence at 115 East Nance Street.	50.0	49.1
L3	Located southeast of the Project site near the property line of Park Place Mobile Home Park at 80 East Dawes Street.	57.0	55.9
L4	Located southwest of the Project site near single-family residence at 77 Perry Street.	56.7	53.8

[1] See Exhibit 5-A for the noise level measurement locations.
[2] Energy (logarithmic) average levels. The long-term 24-hour measurement worksheets are included in Appendix 5.2. "Daytime" = 7:00 a.m. to 10:00 p.m.; "Nighttime" = 10:00 p.m. to 7:00 a.m.

Table 5-1 provides the (energy average) noise levels used to describe the daytime and nighttime ambient conditions. These daytime and nighttime energy average noise levels represent the average of all hourly noise levels observed during these time periods expressed as a single number. Appendix 5.2 provides summary worksheets of the noise levels for each hour as well as the minimum, maximum, L_1, L_2, L_5, L_8, L_{25}, L_{50}, L_{90}, L_{95}, and L_{99} percentile noise levels observed during the daytime and nighttime periods.

EXHIBIT 5-A: NOISE MEASUREMENT LOCATIONS



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6 SENSITIVE RECEIVER LOCATIONS

To assess the potential for long-term operational and short-term construction impacts, the following receiver locations, as shown on Exhibit 6-A, were identified as representative locations for analysis. As identified in the PVCC SP EIR, sensitive receivers are areas where humans are participating in activities that may be subject to the stress of significant interference from noise and often include residential dwellings, mobile homes, hotels, motels, hospitals, nursing homes, educational facilities, and libraries. Other receivers include office and industrial buildings, which are not considered as sensitive as single-family homes, but are still protected by City of Perris land use compatibility standards.

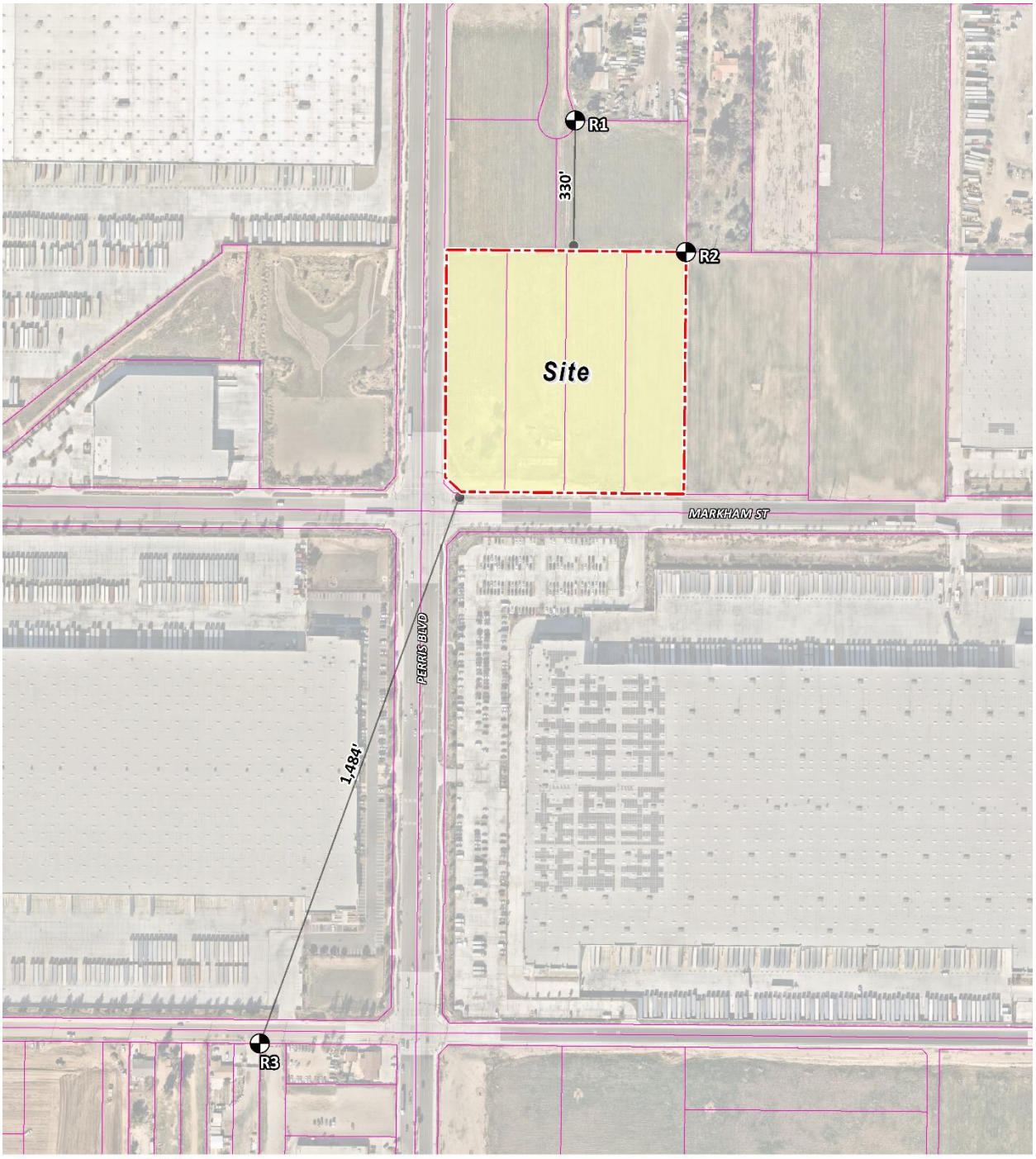
To describe the potential off-site Project noise levels, three receiver locations in the vicinity of the Project site were identified. All distances are measured from the Project site boundary to the outdoor living areas (e.g., private backyards) or at the building façade, whichever is closer to the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

R1: Location R1 represents the property line of the existing residence at 75 East Nance Street, approximately 330 feet north of the Project site. A 24-hour noise measurement was taken near this location, L1, to describe the existing ambient noise environment.

R2: Location R2 represents the property line of the existing noise sensitive residence at 115 East Nance Street, directly northeast of the Project site. A 24-hour noise measurement was taken near this location, L2, to describe the existing ambient noise environment.

R3: Location R3 represents the property line of the existing noise sensitive residence at 77 Perry Street, approximately 1,522 feet southwest of the Project site. A 24-hour noise measurement was taken near this location, L4, to describe the existing ambient noise environment.

EXHIBIT 6-A: SENSITIVE RECEIVER LOCATIONS



7 OPERATIONAL NOISE IMPACTS

This section analyzes the potential stationary-source operational noise impacts at the nearest receiver locations, identified in Section 6, resulting from the operation of the proposed Perris Truck Terminal Project. Exhibit 7-A identifies the representative noise source locations used to assess the operational noise levels. The operational noise analysis includes the planned 14-foot-high and 10-foot-high screen walls around the Project site. The locations of the screen walls are shown on Exhibit 7-A, and are designed for screening, privacy, noise control, and security with berms on the street side.

7.1 OPERATIONAL NOISE SOURCES

This operational noise analysis is intended to describe noise level impacts associated with the expected typical of daytime and nighttime activities at the Project site. To present the potential worst-case noise conditions, this analysis assumes the Project would be operational 24 hours per day, seven days per week.

The on-site Project-related noise sources are expected to include: truck terminal activity, truck movements, and trash enclosure activity.

7.2 REFERENCE NOISE LEVELS

To estimate the Project operational noise impacts, reference noise level measurements were collected from similar types of activities to represent the noise levels expected with the development of the proposed Project. This section provides a detailed description of the reference noise level measurements shown on Table 7-1 used to estimate the Project operational noise impacts. Table 7-1 presents both the average hourly L_{eq} and the maximum permissible L_{max} reference noise levels. The average hour L_{eq} noise levels are used to calculate the 24-hour noise levels necessary to demonstrate compliance with the City of Perris 60 dBA CNEL exterior noise level standard for new industrial and large commercial facilities within 160 feet of the property line of existing noise-sensitive land uses. In addition, the average hourly L_{eq} noise levels are used to describe the Project related operational noise level increases.

The L_{max} reference noise levels shown on Table 7-1 are used to estimate the Project's maximum permissible exterior noise level consistent with the City's L_{max} noise level standards. It is important to note that the following projected noise levels assume the worst-case noise environment with the truck terminal activity, truck movements, and trash enclosure activity all operating continuously. These sources of noise activity will likely vary throughout the day.

EXHIBIT 7-A: OPERATIONAL NOISE SOURCE LOCATIONS

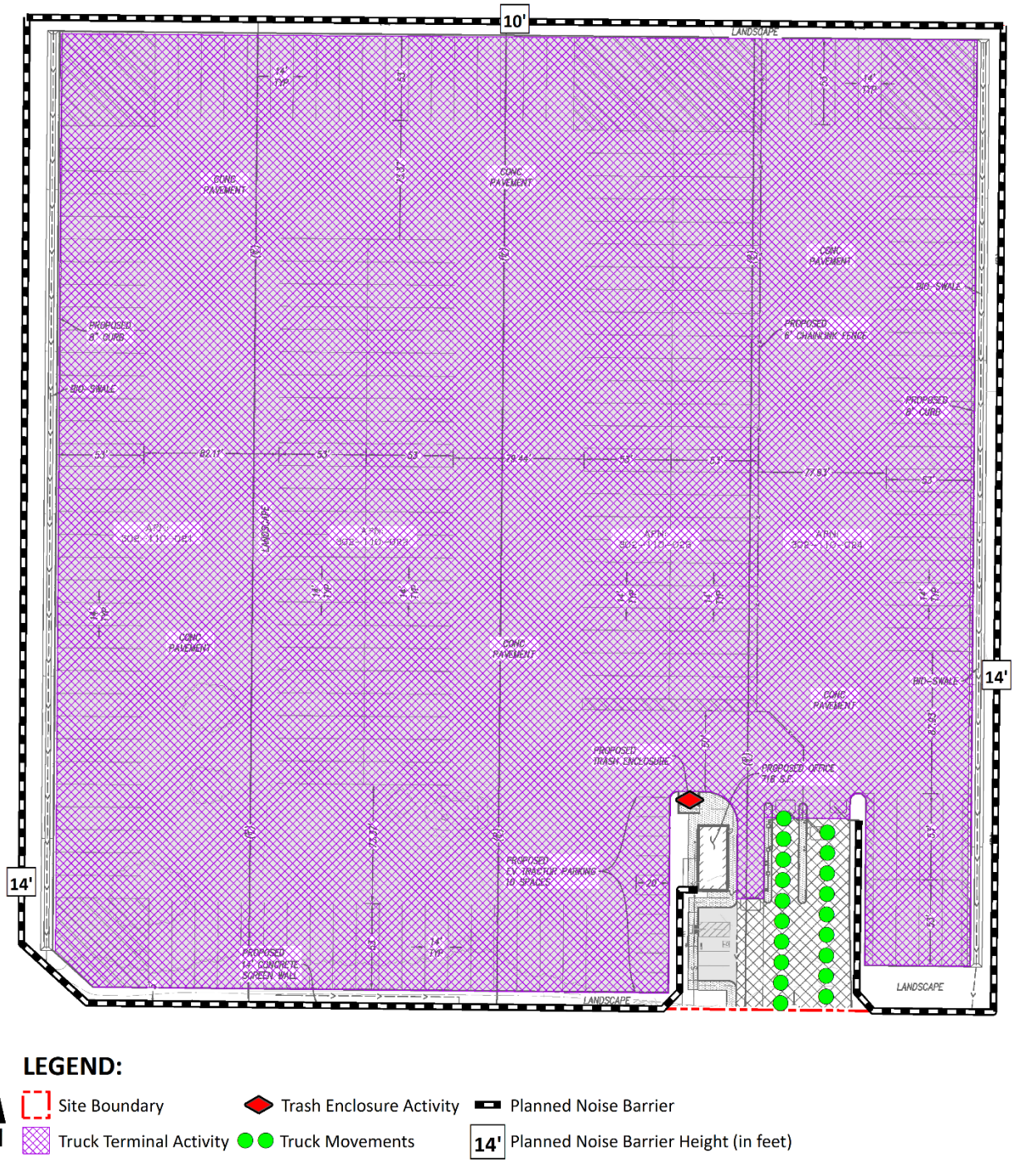


TABLE 7-1: REFERENCE NOISE LEVEL MEASUREMENTS

Noise Source[1]	Noise Source Height (Feet)	Min./Hour[2]		Reference Noise Level @ 50' (dBA L_{eq})	Reference Noise Level @ 50' (dBA L_{max})
		Day	Night		
Truck Terminal Activity	8'	60	60	62.8	71.2
Truck Movements	8'	60'	60'	58.0	73.1
Trash Enclosure Activity	5'	10	10	56.8	71.1

[1] As measured by Urban Crossroads, Inc.
[2] Anticipated duration (minutes within the hour) of noise activity during typical hourly conditions expected at the Project site. "Daytime" = 7:00 a.m. to 10:00 p.m.; "Nighttime" = 10:00 p.m. to 7:00 a.m.

7.2.1 MEASUREMENT PROCEDURES

The reference noise level measurements presented in this section were collected using a Larson Davis LxT Type 1 precisions sound level meter (serial number 01146). The LxT sound level meter was calibrated using a Larson-Davis calibrator, Model CAL 200, was programmed in "slow" mode to record noise levels in "A" weighted form and was located at approximately five feet above the ground elevation for each measurement. The sound level meters and microphones were equipped with a windscreen during all measurements. All noise level measurement equipment satisfies the American National Standards Institute (ANSI) standard specifications for sound level meters ANSI S1.4-2014/IEC 61672-1:2013. (10)

7.2.2 TRUCK TERMINAL ACTIVITY

To evaluate the noise levels associated with truck idling, backup alarms, trailer movements and storage activities, Urban Crossroads collected a reference noise level measurement at an existing parcel hub facility to describe the potential operational noise levels associated with Project operational activities. The measured reference noise level at 50 feet from activity was measured at 62.8 dBA L_{eq}. The reference noise level measurement includes a semi-truck with trailer pass-by event, background switcher cab trailer towing, drop-off, idling, and backup alarm events. Noise associated with trailer storage activity is expected to operate for the entire hour (60 minutes).

7.2.3 TRASH ENCLOSURE ACTIVITY

To describe the noise levels associated with a trash enclosure activity, Urban Crossroads collected a reference noise level measurement at an existing trash enclosure containing two dumpster bins. The trash enclosure noise levels describe metal gates opening and closing, metal scraping against concrete floor sounds, dumpster movement on metal wheels, and trash dropping into the metal dumpster. The reference noise levels describe trash enclosure noise activities when trash is dropped into an empty metal dumpster, as would occur at the Project site. The measured reference noise level at the uniform 50-foot reference distance is 56.8 dBA L_{eq} for the trash enclosure activity. The reference noise level describes the expected noise source activities associated with the trash enclosures for the Project's proposed building. Typical trash enclosure activities are estimated to occur for 5 minutes per hour.

7.2.4 TRUCK MOVEMENTS

A truck movements reference noise level measurement was taken over a 15-minute period and represents multiple noise sources producing a reference noise level of 73.1 dBA L_{max} at 50 feet. The noise sources included at this measurement location account for the rattling and squeaking during normal opening and closing operations, the gate closure equipment, truck engines idling outside the entry gate, truck movements through the entry gate, and background truck court activities.

7.3 CADNAA NOISE PREDICTION MODEL

To fully describe the exterior operational noise levels from the Project, Urban Crossroads, Inc. developed a noise prediction model using the CadnaA (Computer Aided Noise Abatement) computer program. CadnaA can analyze multiple types of noise sources using the spatially accurate Project site plan, georeferenced Nearmap aerial imagery, topography, buildings, and barriers in its calculations to predict outdoor noise levels. Using the ISO 9613-2 protocol, CadnaA will calculate the distance from each noise source to the noise receiver locations, using the ground absorption, distance, and barrier/building attenuation inputs to provide a summary of noise level at each receiver and the partial noise level contributions by noise source.

Consistent with the ISO 9613-2 protocol, the CadnaA noise prediction model relies on the reference sound power level (L_w) to describe individual noise sources. While sound pressure levels (e.g., L_{eq}) quantify in decibels the intensity of given sound sources at a reference distance, sound power levels (L_w) are connected to the sound source and are independent of distance. Sound pressure levels vary substantially with distance from the source and diminish because of intervening obstacles and barriers, air absorption, wind, and other factors. Sound power is the acoustical energy emitted by the sound source and is an absolute value that is not affected by the environment. The operational noise level calculations provided in this noise study account for the distance attenuation provided due to geometric spreading, when sound from a localized stationary source (i.e., a point source) propagates uniformly outward in a spherical pattern. A default ground attenuation factor of 0.5 was used in the noise analysis to account for mixed ground representing a combination of hard and soft surfaces. Appendix 7.1 includes the detailed noise dBA L_{max} model inputs including the planned 14-foot-high and 10-foot-high screen walls used to estimate the Project operational noise levels presented in this section.

7.4 PROJECT OPERATIONAL NOISE LEVELS

Using the reference noise levels to represent the proposed Project operations that include truck terminal activity, truck movements, and trash enclosure activity, Urban Crossroads, Inc. calculated the operational source noise levels that are expected to be generated at the Project site and the Project-related noise level increases that would be experienced at each of the sensitive receiver locations. Table 7-2 shows the Project operational noise levels during the daytime hours of 7:01 a.m. to 10:00 p.m. The daytime hourly noise levels at the off-site receiver locations are expected to range from 46.6 to 56.4 dBA L_{max}.

TABLE 7-2: DAYTIME PROJECT OPERATIONAL NOISE LEVELS

Noise Source[1]	Operational Noise Levels by Receiver Location (dBA L_{max})		
	R1	R2	R3
Truck Terminal Activity	56.4	49.6	46.5
Truck Movements	28.9	18.7	27.7
Trash Enclosure Activity	36.3	26.1	29.3
Total (All Noise Sources)	**56.4**	**49.6**	**46.6**

[1] See Exhibit 7-A for the noise source locations. CadnaA noise model calculations are included in Appendix 7.1.

Table 7-3 shows the Project operational noise levels during the nighttime hours of 10:01 p.m. to 7:00 a.m. The nighttime hourly noise levels at the off-site receiver locations are expected to range from 46.6 to 56.4 dBA L_{max}. The differences between the daytime and nighttime noise levels are largely related to the duration of noise activity (Table 7-1).

TABLE 7-3: NIGHTTIME PROJECT OPERATIONAL NOISE LEVELS

Noise Source[1]	Operational Noise Levels by Receiver Location (dBA L_{max})		
	R1	R2	R3
Truck Terminal Activity	56.4	49.6	46.5
Truck Movements	28.9	18.7	27.7
Trash Enclosure Activity	36.3	26.1	29.3
Total (All Noise Sources)	**56.4**	**49.6**	**46.6**

[1] See Exhibit 7-A for the noise source locations. CadnaA noise model calculations are included in Appendix 7.1.

7.5 PROJECT OPERATIONAL NOISE LEVEL COMPLIANCE

To demonstrate compliance with local noise regulations, the Project-only operational noise levels are evaluated against exterior noise level thresholds based on the City of Perris exterior noise level standards at nearby noise-sensitive receiver locations. Table 7-4 shows the operational noise levels associated with Perris Truck Terminal Project will satisfy the City of Perris 80 dBA L_{max} daytime and 60 dBA L_{max} nighttime exterior noise level standards at all nearby receiver locations. Therefore, the operational noise impacts are considered *less than significant* at the nearby noise-sensitive receiver locations.

TABLE 7-4: OPERATIONAL NOISE LEVEL COMPLIANCE

Receiver Location[1]	Project Operational Noise Levels (dBA L_{max})[2]		Noise Level Standards (dBA L_{max})[3]		Noise Level Standards Exceeded?[4]	
	Daytime	Nighttime	Daytime	Nighttime	Daytime	Nighttime
R1	56.4	56.4	80	60	No	No
R2	49.6	49.6	80	60	No	No
R3	46.6	46.6	80	60	No	No

[1] See Exhibit 6-A for the receiver locations.
[2] Proposed Project operational noise levels as shown on Tables 7-2 and 7-3.
[3] Exterior noise level standards per the City of Perris Municipal Code, sections 7.34.040 (Appendix 3.1).
[4] Do the estimated Project operational noise source activities exceed the noise level standards?
"Daytime" = 7:01 a.m. to 10:00 p.m.; "Nighttime" = 10:01 p.m. to 7:00 a.m.

Consistent with the City of Perris General Plan Noise Element, Implementation Measure V.A.1, Project operational noise levels at the nearest sensitive receiver locations cannot exceed 60 dBA CNEL. The CNEL metric is typically used to describe 24-hour transportation-related noise levels, however, the City of Perris General Plan Noise Element requires new industrial facilities and large commercial facilities to demonstrate compliance at any noise-sensitive land use within 160 feet of the Project site.

The CNEL is the weighted average of the intensity of a sound, with corrections for time of day, and averaged over 24 hours. The time-of-day corrections require the addition of 5 decibels to dBA L_{eq} sound levels in the evening from 7:00 p.m. to 10:00 p.m., and the addition of 10 decibels to dBA L_{eq} sound levels at night between 10:00 p.m. and 7:00 a.m. These additions are made to account for the noise sensitive time periods during the evening and night hours when noise can become more intrusive particularly for noise sensitive residential land use. CNEL does not represent the actual sound level heard at any time, but rather represents the total sound exposure.

Table 7-5 includes the evening and nighttime adjustments made to the operational noise levels during the applicable hours to convert the hourly operational noise levels (L_{eq}) to 24-hour CNELs. Table 7-5 indicates that the 24-hour noise levels associated with the Perris Truck Terminal at the nearest receiver locations are expected to range from 45.1 to 54.8 dBA CNEL. The Project-related operational noise levels shown on Table 7-5 will satisfy the City of Perris 60 dBA CNEL exterior noise level standards at the nearest receiver locations. The 24-hour noise level calculations are included in Appendix 7.2.

TABLE 7-5: OPERATIONAL NOISE LEVEL COMPLIANCE (CNEL)

Receiver Location[1]	Project Operational Noise Levels[2]			Exterior Noise Level Standards (CNEL)[3]	Noise Level Standards Exceeded?[4]
	Daytime (dBA L_{eq})	Nighttime (dBA L_{eq})	24-Hour (CNEL)		
R1	48.1	48.1	54.8	60	No
R2	41.2	41.2	47.9	60	No
R3	38.4	38.4	45.1	60	No

[1] See Exhibit 6-A for the receiver locations.
[2] Proposed Project operational noise level calculations are included in Appendix 7.2.
[3] City of Perris General Plan Noise Element Implementation Measure V.A.1
[4] Do the estimated Project operational noise source activities exceed the noise level standards? "Daytime" = 7:01 a.m. to 10:00 p.m.; "Nighttime" = 10:01 p.m. to 7:00 a.m.

7.6 PROJECT OPERATIONAL NOISE LEVEL INCREASES

To describe the Project operational noise level increases, the Project operational noise levels are combined with the existing ambient noise levels measurements for the nearby receiver locations potentially impacted by Project operational noise sources. Since the units used to measure noise, decibels (dB), are logarithmic units, the Project-operational and existing ambient noise levels cannot be combined using standard arithmetic equations. (11) 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 to the existing ambient noise environment. As indicated on Table 7-6, the Project will generate a daytime operational noise level increases ranging from 0.1 to 2.2 dBA L_{eq} at the nearest receiver locations. Table 7-7 shows that the Project will generate a nighttime operational noise level increases ranging from 0.1 to 2.6 dBA L_{eq} at the nearest receiver locations. Appendix 7.2 includes the detailed noise dBA L_{eq} model inputs including the planned 14-foot-high and 10-foot-high screen walls used to estimate the Project operational noise levels presented in this section. The Project-related operational noise level increases will satisfy the operational noise level increase significance criteria presented on Table 4-1. Therefore, the incremental Project operational noise level increase is considered *less than significant* at all receiver locations.

7.7 OFF-SITE TRAFFIC NOISE ANALYSIS

Traffic generated by the operation of the proposed Project would influence the traffic noise levels in surrounding off-site areas and at the Project site. According to the October 2022 *Perris Truck Terminal Traffic Analysis Scoping Agreement prepared by Urban Crossroads, Inc*., the proposed Project is anticipated to generate 378 daily trips. The off-site Project-related traffic represents an incremental increase to the existing roadway volumes. Due to the low trip generation, the Project is not expected to create a "barely perceptible" noise level increase of 3 dBA CNEL at the nearby sensitive land uses adjacent to study area roadways since a doubling of the existing traffic

volumes would be required to generate a 3 dBA CNEL increase. For example, the existing average daily traffic volumes (ADT) on Perris Boulevard north of Ramona Expressway is approximately 23,000 vehicles. The Project-related off-site traffic noise levels increase due to the 378 additional Project trips are estimated at less than 1 dBA CNEL. Due to the low traffic volumes, the Project related off-site traffic noise increases are considered *less than significant* and no further analysis is required.

TABLE 7-6: 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]	Noise Sensitive Land Use?	Increase Criteria[7]	Increase Criteria Exceeded?[7]
R1	48.1	L1	49.9	52.1	2.2	Yes	5	No
R2	41.2	L2	50.0	50.5	0.5	Yes	5	No
R3	38.4	L4	56.7	56.8	0.1	Yes	5	No

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

TABLE 7-7: 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]	Noise Sensitive Land Use?	Increase Criteria[7]	Increase Criteria Exceeded?[7]
R1	48.1	L1	49.0	51.6	2.6	Yes	5	No
R2	41.2	L2	49.1	49.8	0.7	Yes	5	No
R3	38.4	L4	53.8	53.9	0.1	Yes	5	No

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

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8 CONSTRUCTION IMPACTS

This section analyzes potential impacts resulting from the short-term construction activities associated with the development of the Project. Exhibit 8-A shows the construction noise source locations in relation to the nearest sensitive receiver locations previously described in Section 6. To prevent high levels of construction noise from impacting noise-sensitive land uses, City of Perris Municipal Code Section 7.34.060 limits construction activities to the hours of 7:00 a.m. to 7:00 p.m. on any day except Sundays and legal holidays (with the exception of Columbus Day and Washington's birthday).

8.1 CONSTRUCTION NOISE LEVELS

Noise generated by the Project construction equipment will include a combination of trucks, power tools, concrete mixers, and portable generators that when operating at the project site boundaries closest the nearest sensitive receiver locations can reach high levels. The number and mix of construction equipment are expected to occur in the following stages:

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

8.2 CONSTRUCTION REFERENCE NOISE LEVELS

This construction noise analysis was prepared using reference construction equipment noise levels from the Federal Highway Administration (FHWA) published the Roadway Construction Noise Model (RCNM), which includes a national database of construction equipment reference noise emission levels. (17) The RCNM equipment database, provides a comprehensive list of the noise generating characteristics for specific types of construction equipment including reference L_{max} noise levels measured at 50 feet.

Noise levels generated by heavy construction equipment can range from approximately 68 dBA to more than 85 dBA L_{max} when measured at 50 feet. However, these noise levels diminish with distance from the construction site at a rate of 6 dBA per doubling of distance. For example, a noise level of 85 dBA L_{max} measured at 50 feet from the noise source to the receiver would be reduced to 79 dBA L_{max} at 100 feet from the source to the receiver and would be further reduced to 73 dBA L_{max} at 200 feet from the source to the receiver. Table 8-1 provides a summary of the construction reference noise levels expected with the Project construction activities.

EXHIBIT 8-A: TYPICAL CONSTRUCTION NOISE SOURCE LOCATIONS

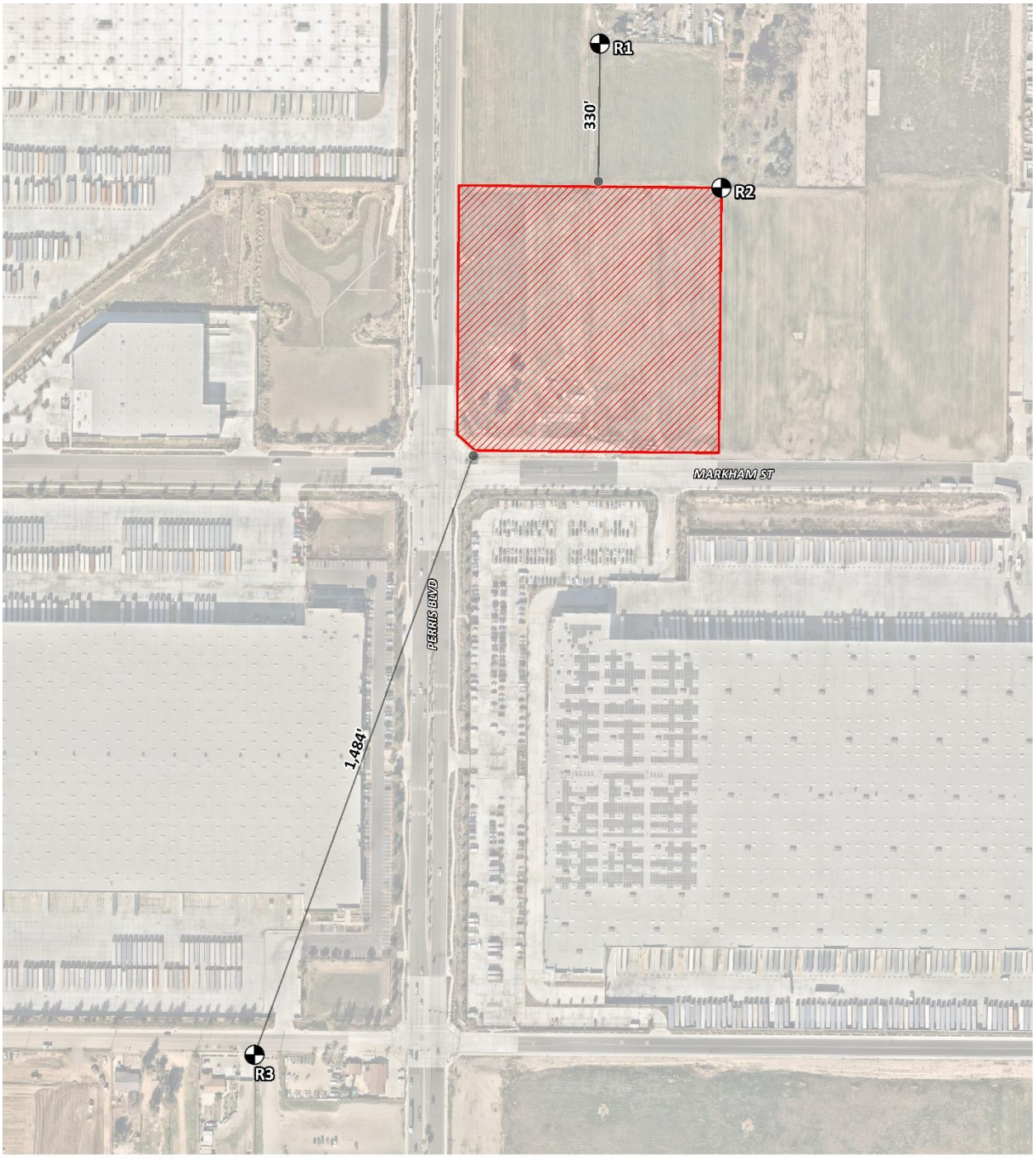

TABLE 8-1: CONSTRUCTION REFERENCE NOISE LEVELS

Construction Stage	Construction Activity	Reference Noise Level @ 50 Feet (dBA L_{max})[1]	Highest Reference Noise Level (dBA L_{max})
Site Preparation	Crawler Tractors	82	82
	Rubber Tired Dozers	79	
Grading	Crawler Tractors	82	85
	Excavators	81	
	Graders	85	
	Rubber Tired Dozers	79	
	Scrapers	84	
Building Construction	Cranes	81	85
	Forklifts	85	
	Generator Sets	73	
	Backhoes	78	
	Welders	74	
Arch. Coating	Air Compressors	78	78
Paving	Pavers	77	85
	Paving Equipment	85	
	Rollers	80	
Landscaping	Cranes	81	85
	Forklifts	85	
	Backhoes	78	
	Welders	74	

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

8.3 CONSTRUCTION NOISE ANALYSIS

Using the reference RCNM L_{max} construction equipment noise levels and the CadnaA noise prediction model, calculations of the Project construction noise level impacts with multiple pieces of equipment operating simultaneously at the nearest receiver locations were completed. To assess the worst-case construction noise levels, the Project construction noise analysis relies on the highest noise level impacts when the equipment with the highest reference noise level is operating at the closest point from the edge of primary construction activity (Project site boundary) to each receiver location.

As shown on Table 8-2, the construction noise levels are expected to range from 56.1 to 83.8 dBA L_{max} at the nearby receiver locations. Appendix 8.1 includes the detailed CadnaA construction noise model inputs.

TABLE 8-2: UNMITIGATED CONSTRUCTION EQUIPMENT NOISE LEVEL SUMMARY

Receiver Location[1]	Land Use	Highest Construction Noise Levels (dBA L_{max})						
		Site Preparation	Grading	Building Construction	Arch. Coating	Paving	Landscaping	Highest Levels[2]
R1	Residential	70.1	73.1	73.1	66.1	73.1	73.1	73.1
R2	Residential	80.8	83.8	83.8	76.8	83.8	83.8	83.8
R3	Residential	60.1	63.1	63.1	56.1	63.1	63.1	63.1

[1] Noise receiver locations are shown on Exhibit 8-A.

[2] Construction noise level calculations based on distance from the construction activity area to nearby receiver locations. CadnaA construction noise model inputs are included in Appendix 8.1.

8.4 CONSTRUCTION NOISE LEVEL COMPLIANCE

To demonstrate compliance with local noise regulations, the Project-only construction noise levels are evaluated against exterior noise level thresholds established by Section 7.34.060 of City of Perris Municipal Code at the adjacent property line. As shown on Table 8-3, the estimated construction noise levels at the adjacent noise sensitive receiver locations R1 and R3 will satisfy the 80 dBA L_{max} construction noise level standard. However, the construction noise levels at the northeastern property line adjacent to the noise sensitive residence at 115 East Nance Street will exceed the City of Perris construction noise level standard 80 dBA L_{max}. Therefore, the unmitigated noise impact due to Project construction activities is considered *potentially significant*.

TABLE 8-3: UNMITIGATED CONSTRUCTION NOISE LEVEL COMPLIANCE

Receiver Location[1]	Land Use	Construction Noise Levels (dBA L_{max})		
		Highest Construction Noise Levels[2]	Threshold[3]	Threshold Exceeded?[4]
R1	Residential	73.1	80	No
R2	Residential	83.8	80	**Yes**
R3	Residential	63.1	80	No

[1] Noise receiver locations are shown on Exhibit 8-A.

[2] Highest construction noise level calculations based on distance from the construction noise source activity to nearby receiver locations as shown on Table 8-2.

[3] Construction noise level thresholds are limited to the noise sensitive receiver locations (Section 3.5).

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

Therefore, a minimum 8-foot-high temporary construction noise barrier or the planned 10-foot-high screen walls at the northeastern Project site boundary adjacent to Receiver Location R2 is required to reduce the typical construction noise levels as shown on Exhibit 8-B. A permanent 10-foot-high screenwall on the northeastern project boundary will also satisfy this requirement provided the noise barrier is installed prior to use of any heavy construction equipment or grading activities. However, if the planned 10-foot-high screenwall is not installed prior to grading permit approval, an 8-foot-high temporary construction noise barrier shall be provided.

EXHIBIT 8-B: CONSTRUCTION NOISE MITIGATION MEASURES

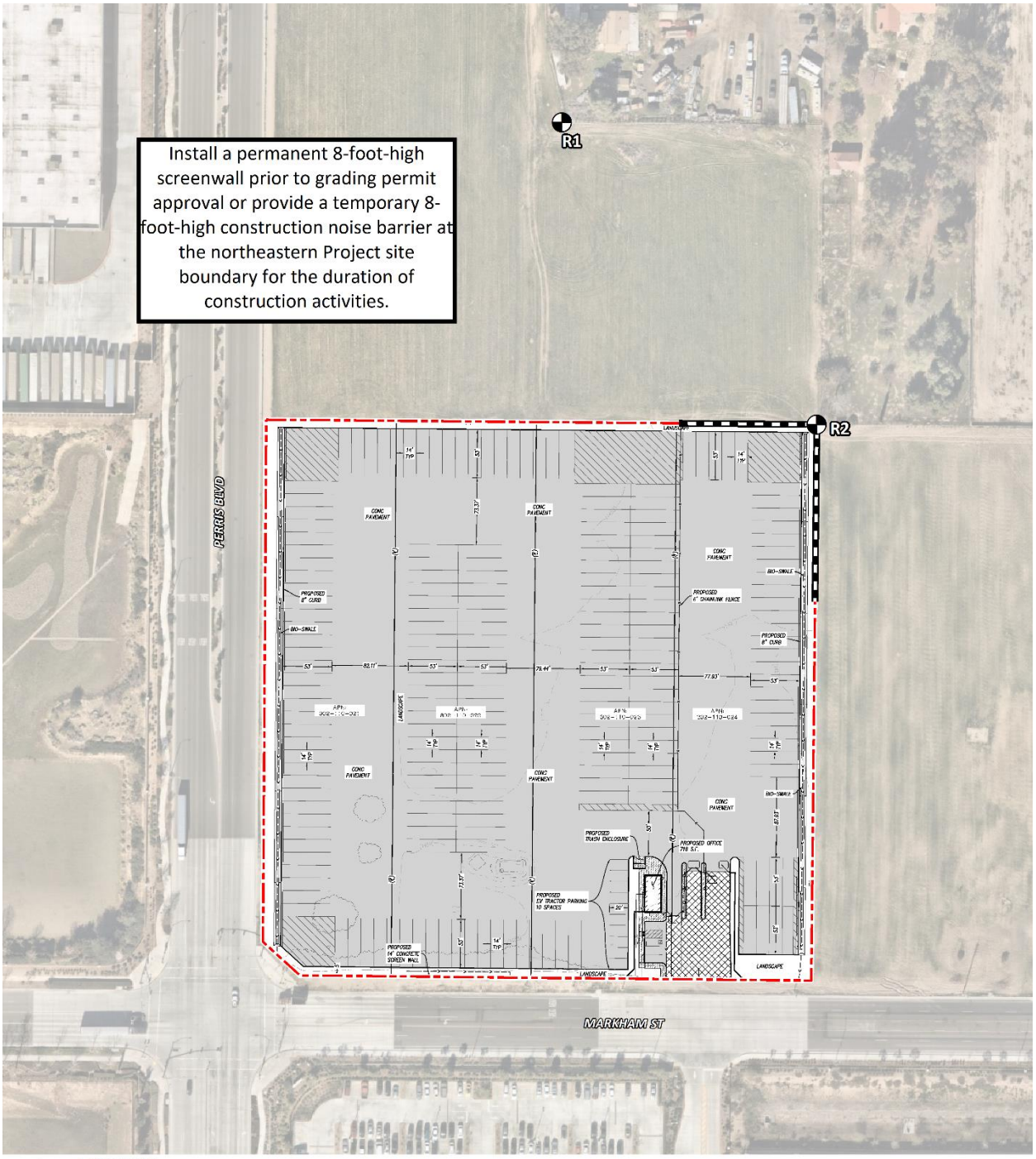

Table 8-4 shows that the mitigated construction noise levels are expected to range from 56.1 to 72.7 dBA L_{eq} at the parcel boundary of adjacent uses. Appendix 8.2 includes the mitigated typical construction CadnaA noise model calculations.

TABLE 8-4: MITIGATED CONSTRUCTION NOISE LEVELS

Receiver Location[1]	Land Use	Highest Construction Noise Levels (dBA L_{max})						
		Site Preparation	Grading	Building Construction	Arch. Coating	Paving	Landscaping	Highest Levels[2]
R1	Residential	69.7	72.7	72.7	65.7	72.7	72.7	72.7
R2	Residential	68.9	71.9	71.9	64.9	71.9	71.9	71.9
R3	Residential	60.1	63.1	63.1	56.1	63.1	63.1	63.1

[1] Noise receiver locations are shown on Exhibit 8-A.
[2] Construction noise level calculations based on distance from the construction activity area to nearby receiver locations. CadnaA construction noise model inputs are included in Appendix 8.1.

Table 8-5 shows that the mitigated construction noise levels will satisfy the City of Perris construction noise level standard 80 dBA L_{max} at the adjacent noise sensitive property line to the northeast. With the required 8-foot-high noise barrier, the mitigated construction noise impacts are considered *less than significant*.

TABLE 8-5: MITIGATED CONSTRUCTION NOISE LEVEL COMPLIANCE

Receiver Location[1]	Land Use	Construction Noise Levels (dBA L_{max})		
		Highest Construction Noise Levels[2]	Threshold[3]	Threshold Exceeded?[4]
R1	Residential	72.7	80	No
R2	Residential	71.9	80	No
R3	Residential	63.1	80	No

[1] Noise receiver locations are shown on Exhibit 8-A.
[2] Highest construction noise level calculations based on distance from the construction noise source activity to nearby receiver locations as shown on Table 8-4.
[3] Construction noise level thresholds are limited to the noise sensitive receiver locations (Section 3.5).
[4] Do the estimated Project construction noise levels exceed the construction noise level threshold?

8.5 PROJECT CONSTRUCTION NOISE MITIGATION MEASURES

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

- To reduce construction noise at the noise sensitive residence at 115 East Nance Street, the contractor shall install a minimum 8-foot-high temporary construction noise barrier or the planned 10-foot-high screen walls at the northeastern Project site boundary for the duration of construction activities. The limits of the noise barrier are shown on Exhibit 8-B. The noise control barrier shall include the following:
    - The noise control barriers must present a solid face from top to bottom.

- The noise barriers shall be maintained, and any damage promptly repaired. Gaps, holes, or weaknesses in the barrier or openings between the barrier and the ground shall be promptly repaired.
- The temporary noise barrier shall be constructed using one of the following materials with no decorative cutouts or line-of-sight openings between shielded areas and the noise source:
  - An acoustical blanket (e.g. vinyl acoustic curtains, quilted blankets, or equivalent) attached to the construction site perimeter fence or equivalent temporary fence posts.
- The permanent noise barrier shall be constructed using one of the following materials with no decorative cutouts or line-of-sight openings between shielded areas and the noise source:
  - Masonry block;
  - Glass (1/4-inch-thick), or other transparent material with sufficient weight per square foot;
  - Earthen berm;
  - Any combination of these construction materials

- During all Project site construction, the construction contractors shall equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers, consistent with manufacturers' standards. The construction contractor shall place all stationary construction equipment so that emitted noise is directed away from the noise sensitive receptors nearest the Project site.

8.6 CONSTRUCTION VIBRATION ANALYSIS

Construction activity can result in varying degrees of ground vibration, depending on the equipment and methods used, distance to the affected structures and soil type. Construction vibration is generally associated with pile driving and rock blasting. However, no pile driving or rock blasting activities are planned for the Project. It is expected that ground-borne vibration from Project construction activities would cause only intermittent, localized intrusion. Ground vibration levels associated with various types of construction equipment are summarized on Table 8-6. Based on the representative vibration levels presented for various construction equipment types, it is possible to estimate the potential Project construction vibration levels using the following vibration assessment methods defined by the FTA. To describe the human response (annoyance) associated with vibration impacts the FTA provides the following equation:
$L_{VdB}(D) = L_{VdB}(25\ ft) - 30\log(D/25)$

TABLE 8-6: VIBRATION SOURCE LEVELS FOR CONSTRUCTION EQUIPMENT

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

Federal Transit Administration, Transit Noise and Vibration Impact Assessment Manual

Using the vibration source level of construction equipment provided on Table 8-6 and the construction vibration assessment methodology published by the FTA, it is possible to estimate the Project vibration building damage impacts. Table 8-7 presents the expected Project related vibration levels at the nearby building structure locations. At distances ranging from 10 to 1,484 feet from the Project construction boundary to the receiver building locations, construction vibration velocity levels are estimated to be between 0.000 and 0.352 PPV (in/sec). Based on maximum acceptable vibration threshold identified in the PVCC SP EIR (Page 4.9-27) of 0.5 PPV (in/sec), the typical Project construction vibration levels will satisfy the building damage thresholds at all receiver building locations. Therefore, the Project-related vibration impacts are considered *less than significant* during the construction activities at the Project site.

In addition, the typical construction vibration levels are unlikely to be sustained during the entire construction period but will occur rather only during the times that heavy construction equipment is operating.

TABLE 8-7: CONSTRUCTION EQUIPMENT VIBRATION LEVELS

Receiver[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	Jackhammer	Loaded Trucks	Large bulldozer	Highest Vibration Level		
R1	330'	0.000	0.001	0.002	0.002	0.002	0.5	No
R2	10'	0.012	0.138	0.300	0.352	0.352	0.5	No
R3	1,484'	0.000	0.000	0.000	0.000	0.000	0.5	No

[1] Receiver locations are shown on Exhibit 8-A.
[2] Distance from Project construction boundary to the receiver building structure.
[3] Based on the Vibration Source Levels of Construction Equipment (Table 8-6).
[4] PVCC SP EIR, Page 4.9-27.
[5] Does the peak vibration exceed the acceptable vibration thresholds?
"PPV" = Peak Particle Velocity

9 REFERENCES

1. **State of California Natural Resources Agency.** *California Environmental Quality Act (CEQA) Statues and Guidelines, Appendix G.* 2022.
2. **City of Perris.** *Perris Valley Commerce Center Specific Plan Environmental Impact Report.* July 2011.
3. **Office of Planning and Research.** *State of California General Plan Guidelines.* 2019.
4. **State of California.** *2016 California Green Building Standards Code.* August 2019 Supplement.
5. **City of Perris.** *General Plan Noise Element.* August 2005.
6. —. *Municipal Code, Chapter 7.34 Noise Control.*
7. **Riverside County Airport Land Use Commission.** *March Air Reserve Base/Inland Port Airport Land Use Compatibility Plan.* November 2014.
8. **California Court of Appeal.** *Gray v. County of Madera, F053661.* 167 Cal.App.4th 1099; - Cal.Rptr.3d, October 2008.
9. **American National Standards Institute (ANSI).** *Specification for Sound Level Meters ANSI S1.4-2014/IEC 61672-1:2013.*
10. **California Department of Transportation Environmental Program.** *Technical Noise Supplement - A Technical Supplement to the Traffic Noise Analysis Protocol.* Sacramento, CA : s.n., September 2013.
11. **U.S. Department of Transportation, Federal Transit Administration.** *Transit Noise and Vibration Impact Assessment Manual.* September 2018.
12. **Urban Crossroads, Inc.** *Perris Truck Terminal (CUP 22-05172) Traffic Study Scoping Agreement.* October 2022.
13. **U.S. Department of Transportation, Federal Highway Administration, Office of Environment and Planning, Noise and Air Quality Branch.** *Highway Traffic Noise Analysis and Abatement Policy and Guidance.* December 2011.
14. **U.S. Department of Transportation, Federal Highway Administration, Office of Environment and Planning.** *FHWA Roadway Construction Noise Model.* January, 2006.
15. **Urban Crossroads, Inc.** *8th Street Industrial raffic Analysis Scoping Agreement.* October 2022.

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10 CERTIFICATION

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

Bill Lawson, P.E., INCE
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(949) 581-3148
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EDUCATION

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

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

PROFESSIONAL REGISTRATIONS

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

PROFESSIONAL AFFILIATIONS

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

PROFESSIONAL CERTIFICATIONS

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

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APPENDIX 3.1:

CITY OF PERRIS MUNICIPAL CODE

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CHAPTER 7.34. - NOISE CONTROL

Sec. 7.34.010. - Declaration of policy.

Excessive noise levels are detrimental to the health and safety of individuals. Noise is considered a public nuisance, and the city discourages unnecessary, excessive or annoying noises from all sources. Creating, maintaining, causing, or allowing to be created, caused or maintained, any noise or vibration in a manner prohibited by the provisions of the ordinance codified in this chapter is a public nuisance and shall be punishable as a misdemeanor.

(Code 1972, § 7.34.010; Ord. No. 1082, § 2(part), 2000)

Sec. 7.34.020. - Definitions.

(a) *General.* The following words, terms and phrases, when used in this chapter, shall have the meanings ascribed to them in this section, except where the context clearly indicates a different meaning:

Ambient noise means the all-encompassing noise associated with a given environment usually being composed of sounds from many sources near and far. For the purpose of this chapter, ambient noise level is the level obtained when the noise level is averaged over a period of five minutes without inclusion of noise from isolated identifiable sources at the location and time of day near that at which a comparison is to be made.

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

Sound amplifying equipment means any machine or device for the amplification of the human voice, music or any other sound. The term "sound amplifying equipment" does not include standard vehicle radios when used and heard only by the occupants of the vehicle in which the vehicle radio is installed. The term "sound amplifying equipment," as used in this chapter, does not include warning devices on any vehicle used only for traffic safety purposes and shall not include communications equipment used by public or private utilities when restoring utility service following a public emergency or when doing work required to protect person or property from an imminent exposure to danger.

Sound level (noise level) in decibels is the value of a sound measurement using the "A" weighting network of a sound level meter. Slow response of the sound level meter needle shall be used except where the sound is impulsive or rapidly varying in nature, in which case, fast response shall be used.

Sound level meter means an instrument, including a microphone, an amplifier, an output meter and frequency weighting networks, for the measurement of sound levels, which satisfies the pertinent requirements in American National Standards Institute's specification S1.4-1971 or the most recent revision for type S-2A general purpose sound level meters.

(b) *Supplementary definitions of technical terms.* Definitions of technical terms not defined in this section shall be obtained from the American National Standards Institute's Acoustical Terminology S1-1971 or the most recent revision thereof.

(Code 1972, § 7.34.020; Ord. No. 1082, § 2(part), 2000)

Sec. 7.34.030. - Measurement methods.

(a) Sound shall be measured with a sound level meter as defined in section 7.34.020.

(b) Unless otherwise provided, outdoor measurements shall be taken with the microphone located at any point on the property line of the noise source but no closer than five feet from any wall or vertical obstruction and three to five feet above ground level whenever possible.

(c) Unless otherwise provided, indoor measurements shall be taken inside the structure with the microphone located at any point as follows:

(1) No less than three feet above floor level;

(2) No less than five feet from any wall or vertical obstruction; and

(3) Not under common possession and control with the building or portion of the building from which the sound is emanating.

(Code 1972, § 7.34.030; Ord. No. 1082, § 2(part), 2000)

Sec. 7.34.040. - Sound amplification.

No person shall amplify sound using sound amplifying equipment contrary to any of the following:

(1) The only amplified sound permitted shall be either music or the human voice, or both.

(2) The volume of amplified sound shall not exceed the noise levels set forth in this subsection when measured outdoors at or beyond the property line of the property from which the sound emanates.

Time Period	Maximum Noise Level
10:01 p.m.—7:00 a.m.	60 dBA
7:01 a.m.—10:00 p.m.	80 dBA

(Code 1972, § 7.34.040; Ord. No. 1082, § 2(part), 2000)

Sec. 7.34.050. - General prohibition.

(a) It unlawful for any person to willfully make, cause or suffer, or permit to be made or caused, any loud excessive or offensive noises or sounds which unreasonably disturb the peace and quiet of any residential neighborhood or which are physically annoying to persons of ordinary sensitivity or which are so harsh, prolonged or unnatural or unusual in their use, time or place as to occasion physical discomfort to the inhabitants of the city, or any section thereof. The standards for dBA noise level in section 7.34.040 shall apply to this section. To the extent that the noise created causes the noise level at the property line to exceed the ambient noise level by more than 1.0 decibels, it shall be presumed that the noise being created also is in violation of this section.

(b) The characteristics and conditions which should be considered in determining whether a violation of the provisions of this section exists should include, but not be limited to, the following:

(1) The level of the noise;

(2) Whether the nature of the noise is usual or unusual;

(3) Whether the origin of the noise is natural or unnatural;

(4) The level of the ambient noise;

(5) The proximity of the noise to sleeping facilities;

(6) The nature and zoning of the area from which the noise emanates and the area where it is received;

(7) The time of day or night the noise occurs;

(8) The duration of the noise; and

(9) Whether the noise is recurrent, intermittent or constant.

(Code 1972, § 7.34.050; Ord. No. 1082, § 2(part), 2000)

Sec. 7.34.060. - Construction noise.

It is unlawful for any person between the hours of 7:00 p.m. of any day and 7:00 a.m. of the following day, or on a legal holiday, with the exception of Columbus Day and Washington's birthday, or on Sundays to erect, construct, demolish, excavate, alter or repair any building or structure in such a manner as to create disturbing, excessive or offensive noise. Construction activity shall not exceed 80 dBA in residential zones in the city.

(Code 1972, § 7.34.060; Ord. No. 1082, § 2(part), 2000)

Sec. 7.34.070. - Refuse vehicles and parking lot sweepers.

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

(Code 1972, § 7.34.070; Ord. No. 1082, § 2(part), 2000)

Sec. 7.34.080. - Disturbing, excessive, offensive noises; declaration of certain acts constituting.

The following activities, among others, are declared to cause loud, disturbing, excessive or offensive noises in violation of this section and are unlawful, namely:

(1) *Horns, signaling devices, etc.* Unnecessary use or operation of horns, signaling devices or other similar devices on automobiles, motorcycles or any other vehicle.

(2) *Radios, television sets, phonographs, loud speaking amplifiers and similar devices.* The use or operation of any sound production or reproduction device, radio receiving set, musical instrument, drums, phonograph, television set, loudspeakers, sound amplifier, or other similar machine or device for the producing or reproducing of sound, in such a manner as to disturb the peace, quiet or comfort of any reasonable person of normal sensitivity in any area of the city is prohibited. This provision shall not apply to any participant in a licensed parade or to any person who has been otherwise duly authorized by the city to engage in such conduct.

(3) *Animals.*

a. The keeping or maintenance, or the permitting to be kept or maintained, upon any premises owned, occupied or controlled by any person of any animal or animals which by any frequent or long-continued noise shall cause annoyance or discomfort to a reasonable person of normal sensitiveness

in the vicinity.

b. The noise from any such animal or animals that disturbs two or more residents residing in separate residences adjacent to any part of the property on which the subject animal or animals are kept or maintained, or three or more residents residing in separate residences in close proximity to the property on which the subject animal or animals are kept or maintained, shall be prima facie evidence of a violation of this section.

(4) *Hospitals, schools, libraries, rest homes, long-term medical or mental care facilities.* To make loud, disturbing, excessive noises adjacent to a hospital, school, library, rest home or long-term medical or mental care facility, which noise unreasonably interferes with the workings of such institutions or which disturbs or unduly annoys occupants in said institutions.

(5) *Playing of radios on buses and trolleys.* The operation of any radio, phonograph or tape player on an urban transit bus or trolley so as to emit noise that is audible to any other person in the vehicle is prohibited.

(6) *Playing of radios, phonographs and other sound production or reproduction devices in public parks and public parking lots and streets adjacent thereto.* The operation of any radio, phonograph, television set or any other sound production or reproduction device in any public park or any public parking lot, or street adjacent to such park or beach, without the prior written approval of the city manager or the administrator, in such a manner that such radio, phonograph, television set or sound production or reproduction device emits a sound level exceeding those found in the table in section 7.34.040.

(7) *Leaf blowers.*

a. The term "leaf blower" means any portable, hand-held or backpack, engine-powered device with a nozzle that creates a directable airstream which is capable of and intended for moving leaves and light materials.

b. No person shall operate a leaf blower in any residential zoned area between the hours of 7:00 p.m. and 8:00 a.m. on weekdays and 5:00 p.m. and 9:00 a.m. on weekends or on legal holidays.

c. No person may operate any leaf blower at a sound level in excess of 80 decibels measured at a distance of 50 feet or greater from the point of noise origin.

d. Leaf blowers shall be equipped with functional mufflers and an approved sound limiting device required to ensure that the leaf blower is not capable of generating a sound level exceeding any limit prescribed in this section.

(Code 1972, § 7.34.080; Ord. No. 1082, § 2(part), 2000)

Sec. 7.34.090. - Burglar alarms.

(a) Audible burglar alarms for structures or motor vehicles are prohibited unless the operation of such burglar alarm can be terminated within 20 minutes of being activated.

(b) Notwithstanding the requirements of this provision, any member of the county sheriff's department, Perris Division, shall have the right to take such steps as may be reasonable and necessary to disconnect any such alarm installed in any building, dwelling or motor vehicle at any time during the period of its activation. On or after 30 days from the effective date of the ordinance codified in this chapter, any building, dwelling or motor vehicle upon which a burglar alarm has been installed shall prominently display the telephone number at which communication may be made with the owner of such building, dwelling or motor vehicle.

(Code 1972, § 7.34.090; Ord. No. 1082, § 2(part), 2000)

Sec. 7.34.100. - Motor vehicles.

(a) Off-highway.

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

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

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

100	+6

(b) Nothing in this section shall apply to authorized emergency vehicles when being used in emergency situations including the blowing of sirens and/or horns.

(Code 1972, § 7.34.100; Ord. No. 1082, § 2(part), 2000)

APPENDIX 5.1:

STUDY AREA PHOTOS

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JN: 14786 Study Area Photos

L1_E
33, 51' 16.490000"117, 13' 28.540000"

L1_N
33, 51' 16.540000"117, 13' 28.480000"

L1_S
33, 51' 16.500000"117, 13' 28.540000"

L1_W
33, 51' 16.470000"117, 13' 28.510000"

L2_E
33, 51' 13.260000"117, 13' 26.040000"

L2_N
33, 51' 13.290000"117, 13' 26.070000"

JN: 14786 Study Area Photos

L2_S
33, 51' 13.260000"117, 13' 26.070000"

L2_W
33, 51' 13.270000"117, 13' 26.040000"

L3_E
33, 50' 37.860000"117, 13' 18.210000"

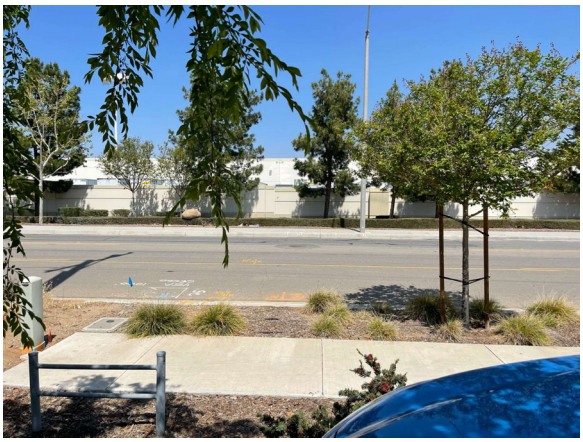
L3_N
33, 50' 37.800000"117, 13' 18.180000"

L3_S
33, 50' 37.820000"117, 13' 18.180000"

L3_W
33, 50' 37.860000"117, 13' 18.180000"

JN: 14786 Study Area Photos

L4_E
33, 50' 53.280000"117, 13' 40.050000"



L4_N
33, 50' 53.270000"117, 13' 40.100000"

L4_S
33, 50' 53.270000"117, 13' 40.070000"

L4_W
33, 50' 53.280000"117, 13' 40.050000"

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APPENDIX 5.2:

NOISE LEVEL MEASUREMENT WORKSHEETS

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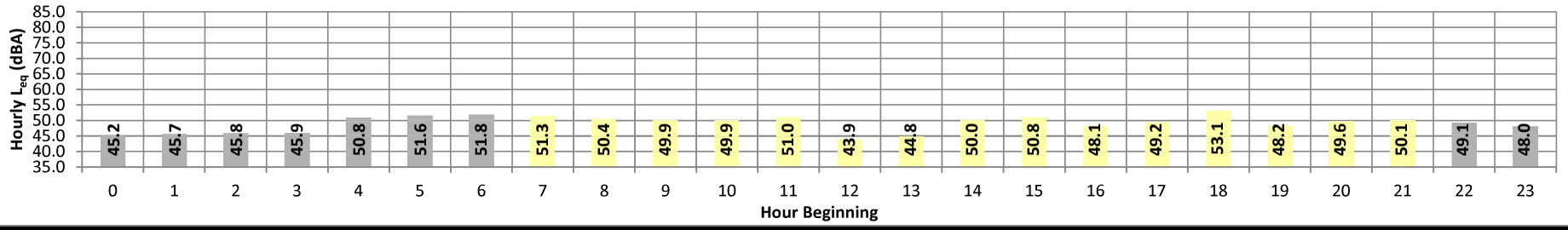
24-Hour Noise Level Measurement Summary

Date: Tuesday, April 5, 2022 *Location:* L1 - Located north of the Project site near the property line of *Meter:* Piccolo II *JN:* 14786

Project: Perris Truck Storage *Source:* single-family residence at 75 East Nance Street. *Analyst:* A. Khan

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	45.2	50.5	41.3	50.2	49.8	49.0	48.3	45.8	44.1	42.1	41.7	41.4	45.2	10.0	55.2
	1	45.7	52.1	41.2	51.8	51.5	50.7	50.0	45.8	43.7	41.8	41.6	41.3	45.7	10.0	55.7
	2	45.8	50.7	42.4	50.5	50.2	49.5	48.7	46.4	45.0	43.1	42.8	42.5	45.8	10.0	55.8
	3	45.9	50.5	42.7	50.2	49.9	49.2	48.6	46.6	45.2	43.3	43.1	42.8	45.9	10.0	55.9
	4	50.8	55.8	47.6	55.4	54.9	54.0	53.4	51.6	50.1	48.2	48.0	47.7	50.8	10.0	60.8
	5	51.6	55.7	49.3	55.4	55.1	54.3	53.7	52.1	51.1	49.8	49.6	49.4	51.6	10.0	61.6
	6	51.8	55.7	48.9	55.4	55.1	54.4	53.9	52.6	51.3	49.5	49.3	49.0	51.8	10.0	61.8
Day	7	51.3	55.5	48.7	55.2	55.0	54.2	53.6	51.8	50.8	49.2	49.0	48.8	51.3	0.0	51.3
	8	50.4	56.9	44.3	56.7	56.4	55.9	55.2	52.0	46.8	44.9	44.7	44.4	50.4	0.0	50.4
	9	49.9	56.4	41.8	56.0	55.7	55.0	54.3	51.4	47.5	43.2	42.5	42.0	49.9	0.0	49.9
	10	49.9	59.0	38.9	58.7	58.5	57.8	56.6	46.9	43.5	40.0	39.6	39.1	49.9	0.0	49.9
	11	51.0	59.1	40.3	58.8	58.3	57.1	56.2	52.3	46.0	41.2	40.8	40.4	51.0	0.0	51.0
	12	43.9	50.7	38.7	50.3	49.7	48.7	48.1	44.9	41.8	39.4	39.2	38.9	43.9	0.0	43.9
	13	44.8	51.5	39.4	51.1	50.7	49.5	48.6	45.4	42.9	40.3	40.0	39.6	44.8	0.0	44.8
	14	50.0	56.3	40.6	56.0	55.7	55.1	54.5	52.2	47.2	42.1	41.5	40.9	50.0	0.0	50.0
	15	50.8	59.2	42.3	58.6	58.0	56.4	55.4	51.7	47.8	43.8	43.2	42.5	50.8	0.0	50.8
	16	48.1	54.0	42.1	53.6	53.1	52.2	51.5	49.3	46.8	43.6	43.0	42.4	48.1	0.0	48.1
	17	49.2	55.6	42.7	55.1	54.5	53.4	52.7	50.4	47.8	44.4	43.7	42.9	49.2	0.0	49.2
	18	53.1	59.0	42.0	58.6	58.3	57.7	57.2	55.0	51.6	43.5	42.8	42.1	53.1	0.0	53.1
	19	48.2	55.0	41.9	54.6	54.1	53.0	52.3	49.3	46.1	43.0	42.5	42.1	48.2	5.0	53.2
	20	49.6	55.2	43.9	54.9	54.5	53.7	53.1	51.0	48.1	45.0	44.4	44.0	49.6	5.0	54.6
	21	50.1	56.0	44.3	55.7	55.4	54.4	53.6	51.2	48.7	45.5	44.9	44.4	50.1	5.0	55.1
Night	22	49.1	56.5	42.8	55.9	55.5	54.3	53.6	49.2	46.8	43.9	43.4	43.0	49.1	10.0	59.1
	23	48.0	53.3	43.4	53.0	52.6	51.8	51.2	48.9	47.0	44.4	44.0	43.5	48.0	10.0	58.0

Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%
Day	Min	43.9	50.7	38.7	50.3	49.7	48.7	48.1	44.9	41.8	39.4	39.2	38.9
	Max	53.1	59.2	48.7	58.8	58.5	57.8	57.2	55.0	51.6	49.2	49.0	48.8
Energy Average		49.9	Average:		55.6	55.2	54.3	53.5	50.3	46.9	43.3	42.8	42.3
Night	Min	45.2	50.5	41.2	50.2	49.8	49.0	48.3	45.8	43.7	41.8	41.6	41.3
	Max	51.8	56.5	49.3	55.9	55.5	54.4	53.9	52.6	51.3	49.8	49.6	49.4
Energy Average		49.0	Average:		53.1	52.7	51.9	51.3	48.8	47.1	45.1	44.8	44.5

L_{eq} (dBA)		
24-Hour	Daytime (7am-10pm)	Nighttime (10pm-7am)
49.5	49.9	49.0

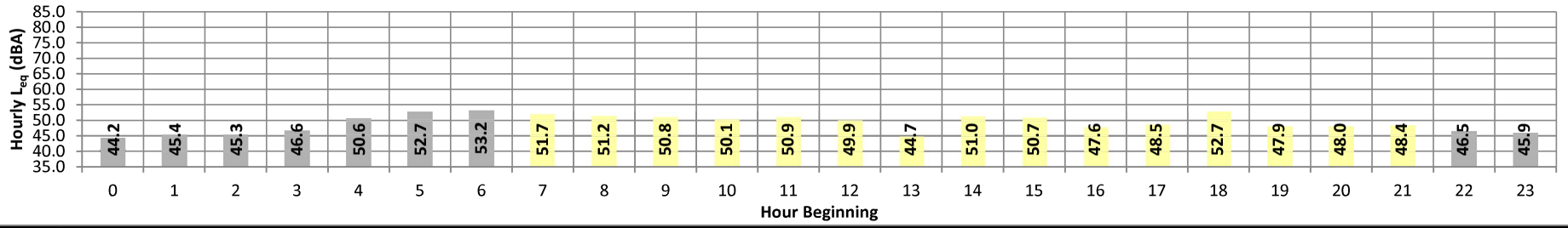
URBAN CROSSROADS

24-Hour Noise Level Measurement Summary

Date: Tuesday, April 5, 2022 | *Location:* L2 - Located northeast of the Project site near the property | *Meter:* Piccolo II | *JN:* 14786

Project: Perris Truck Storage | *Source:* line of single-family residence at 115 East Nance Street. | *Analyst:* A. Khan

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	44.2	48.8	41.5	48.6	48.1	47.2	46.6	44.8	43.4	42.1	41.9	41.6	44.2	10.0	54.2
	1	45.4	51.3	41.9	50.9	50.6	49.9	49.2	46.0	43.6	42.4	42.2	42.0	45.4	10.0	55.4
	2	45.3	50.6	42.7	50.2	49.6	48.8	48.1	45.5	44.5	43.3	43.0	42.8	45.3	10.0	55.3
	3	46.6	49.8	44.1	49.5	49.3	48.8	48.5	47.3	46.3	44.7	44.4	44.1	46.6	10.0	56.6
	4	50.6	55.0	48.0	54.7	54.4	53.6	52.7	51.1	49.9	48.5	48.3	48.0	50.6	10.0	60.6
	5	52.7	55.9	50.9	55.6	55.3	54.6	54.1	53.1	52.4	51.3	51.1	51.0	52.7	10.0	62.7
	6	53.2	57.8	50.9	57.3	57.1	56.2	55.4	53.4	52.6	51.4	51.2	50.9	53.2	10.0	63.2
Day	7	51.7	54.2	50.1	54.0	53.8	53.3	53.0	52.1	51.5	50.5	50.3	50.2	51.7	0.0	51.7
	8	51.2	58.9	46.5	58.6	58.3	57.5	56.4	50.6	48.5	47.1	46.8	46.6	51.2	0.0	51.2
	9	50.8	57.8	43.5	57.1	56.7	55.5	54.8	52.0	49.5	44.3	43.9	43.6	50.8	0.0	50.8
	10	50.1	59.0	39.2	58.8	58.7	58.1	56.3	49.1	43.2	40.1	39.7	39.4	50.1	0.0	50.1
	11	50.9	59.2	39.9	58.7	58.1	57.3	56.7	52.1	44.6	40.9	40.5	40.1	50.9	0.0	50.9
	12	49.9	63.5	40.7	61.7	59.9	56.6	54.8	47.2	44.4	41.8	41.4	41.0	49.9	0.0	49.9
	13	44.7	50.9	39.9	50.4	49.9	48.8	48.0	45.9	43.1	40.8	40.5	40.1	44.7	0.0	44.7
	14	51.0	57.6	40.3	57.0	56.7	56.1	55.5	53.3	48.5	41.7	41.2	40.5	51.0	0.0	51.0
	15	50.7	58.5	42.5	57.9	57.3	56.1	55.0	51.8	47.9	43.9	43.2	42.7	50.7	0.0	50.7
	16	47.6	52.7	42.6	52.2	51.7	50.9	50.3	48.7	46.9	44.1	43.5	42.8	47.6	0.0	47.6
	17	48.5	54.3	41.8	53.9	53.5	52.6	52.1	50.0	47.2	43.1	42.6	42.0	48.5	0.0	48.5
	18	52.7	58.8	44.0	58.4	58.1	57.0	56.5	54.3	51.1	46.2	44.9	44.2	52.7	0.0	52.7
	19	47.9	54.5	42.5	54.1	53.6	52.4	51.5	48.9	46.4	43.5	43.1	42.6	47.9	5.0	52.9
	20	48.0	53.7	42.4	53.4	53.1	52.3	51.8	49.6	46.5	43.0	42.7	42.5	48.0	5.0	53.0
	21	48.4	54.5	43.2	54.2	53.8	52.8	52.1	49.8	46.6	44.0	43.7	43.3	48.4	5.0	53.4
Night	22	46.5	52.7	41.9	52.3	52.0	51.2	50.6	46.7	44.7	42.7	42.4	42.0	46.5	10.0	56.5
	23	45.9	51.1	42.6	50.8	50.4	49.3	48.7	46.3	44.9	43.3	43.0	42.7	45.9	10.0	55.9

Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%
Day	Min	44.7	50.9	39.2	50.4	49.9	48.8	48.0	45.9	43.1	40.1	39.7	39.4
	Max	52.7	63.5	50.1	61.7	59.9	58.1	56.7	54.3	51.5	50.5	50.3	50.2
Energy Average		50.0	Average:		56.0	55.5	54.5	53.7	50.4	47.1	43.7	43.2	42.8
Night	Min	44.2	48.8	41.5	48.6	48.1	47.2	46.6	44.8	43.4	42.1	41.9	41.6
	Max	53.2	57.8	50.9	57.3	57.1	56.2	55.4	53.4	52.6	51.4	51.2	51.0
Energy Average		49.1	Average:		52.2	51.9	51.1	50.4	48.2	46.9	45.5	45.3	45.0

L_{eq} (dBA)		
24-Hour	Daytime (7am-10pm)	Nighttime (10pm-7am)
49.7	50.0	49.1

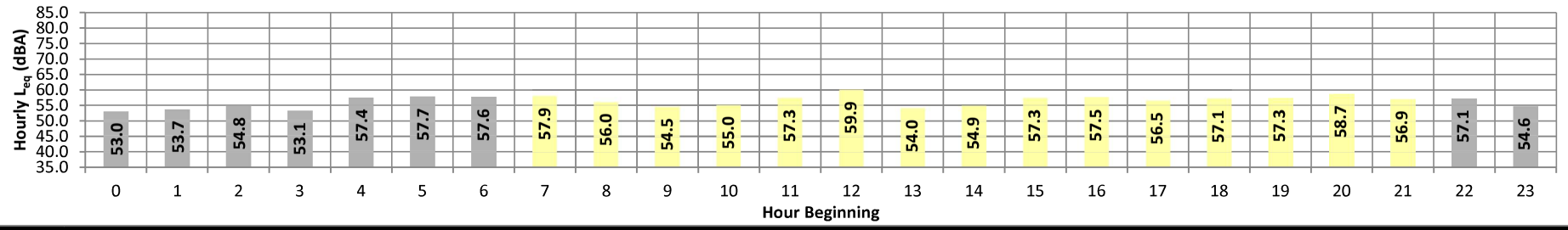
URBAN CROSSROADS

24-Hour Noise Level Measurement Summary

Date: Tuesday, April 5, 2022 *Location:* L3 - Located southeast of the Project site near the property line of Park Place Mobile Home Park at 80 East Dawes Street. *Meter:* Piccolo II *JN:* 14786

Project: Perris Truck Storage *Source:* *Analyst:* A. Khan

Hourly L_{eq} dBA Readings (unadjusted)



Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L_{eq}	Adj.	Adj. L_{eq}
Night	0	53.0	62.9	41.4	62.6	62.1	59.9	58.0	52.6	48.5	43.0	42.3	41.5	53.0	10.0	63.0
	1	53.7	65.0	41.4	64.7	64.2	61.2	58.4	51.7	47.7	42.9	42.4	41.6	53.7	10.0	63.7
	2	54.8	65.0	42.2	64.8	64.5	63.1	60.6	52.6	48.9	43.7	43.0	42.4	54.8	10.0	64.8
	3	53.1	61.4	44.6	61.1	60.6	58.8	57.4	53.7	50.8	46.1	45.5	44.8	53.1	10.0	63.1
	4	57.4	67.2	46.8	66.9	66.4	64.0	61.4	57.4	54.4	48.5	47.5	47.0	57.4	10.0	67.4
	5	57.7	66.3	49.4	65.9	65.3	63.7	62.1	58.0	55.4	50.8	50.1	49.5	57.7	10.0	67.7
	6	57.6	65.1	50.1	64.9	64.5	62.7	61.4	58.5	55.8	51.3	50.8	50.2	57.6	10.0	67.6
Day	7	57.9	66.8	51.4	66.6	66.2	64.0	61.6	57.6	55.5	52.6	52.0	51.6	57.9	0.0	57.9
	8	56.0	65.6	48.7	65.1	64.4	62.0	60.2	55.8	52.9	49.8	49.3	48.9	56.0	0.0	56.0
	9	54.5	63.4	47.5	62.9	62.2	59.6	58.3	54.7	52.1	48.8	48.3	47.7	54.5	0.0	54.5
	10	55.0	64.1	45.0	63.8	63.0	61.2	59.8	55.2	51.7	47.0	46.2	45.2	55.0	0.0	55.0
	11	57.3	66.7	47.9	66.3	65.8	63.9	62.1	57.0	53.8	49.5	48.8	48.1	57.3	0.0	57.3
	12	59.9	71.6	47.0	70.2	69.1	66.7	64.6	60.0	53.8	48.8	48.0	47.3	59.9	0.0	59.9
	13	54.0	64.0	43.7	63.6	63.0	60.7	58.7	53.6	50.2	45.4	44.7	44.0	54.0	0.0	54.0
	14	54.9	63.6	46.8	63.3	62.8	60.8	59.0	55.0	52.3	48.6	47.9	47.1	54.9	0.0	54.9
	15	57.3	66.4	47.6	66.0	65.5	64.1	62.4	57.1	53.3	49.4	48.7	47.9	57.3	0.0	57.3
	16	57.5	66.6	48.3	66.2	65.7	63.6	62.1	57.7	54.3	50.0	49.3	48.6	57.5	0.0	57.5
	17	56.5	64.9	47.4	64.5	64.0	62.5	60.9	56.7	53.8	49.5	48.6	47.7	56.5	0.0	56.5
	18	57.1	65.8	44.8	65.5	65.1	63.4	61.9	57.9	53.4	47.1	46.1	45.0	57.1	0.0	57.1
	19	57.3	66.9	46.2	66.5	66.1	64.3	62.0	56.7	53.8	48.4	47.3	46.5	57.3	5.0	62.3
	20	58.7	68.9	47.5	68.6	68.2	66.4	64.0	57.1	54.1	49.4	48.6	47.7	58.7	5.0	63.7
	21	56.9	66.2	47.0	65.8	65.3	63.5	61.7	56.6	53.7	49.0	48.2	47.2	56.9	5.0	61.9
Night	22	57.1	67.5	44.1	67.2	66.9	64.6	62.0	55.9	52.3	46.1	44.9	44.2	57.1	10.0	67.1
	23	54.6	64.9	42.5	64.6	64.1	61.7	59.6	53.8	49.9	44.2	43.5	42.7	54.6	10.0	64.6

Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%
Day	Min	54.0	63.4	43.7	62.9	62.2	59.6	58.3	53.6	50.2	45.4	44.7	44.0
	Max	59.9	71.6	51.4	70.2	69.1	66.7	64.6	60.0	55.5	52.6	52.0	51.6
Energy Average		57.0	Average:		65.7	65.1	63.1	61.3	56.6	53.2	48.9	48.1	47.4
Night	Min	53.0	61.4	41.4	61.1	60.6	58.8	57.4	51.7	47.7	42.9	42.3	41.5
	Max	57.7	67.5	50.1	67.2	66.9	64.6	62.1	58.5	55.8	51.3	50.8	50.2
Energy Average		55.9	Average:		64.7	64.3	62.2	60.1	54.9	51.5	46.3	45.5	44.9

L_{eq} (dBA)		
24-Hour	Daytime (7am-10pm)	Nighttime (10pm-7am)
56.6	57.0	55.9

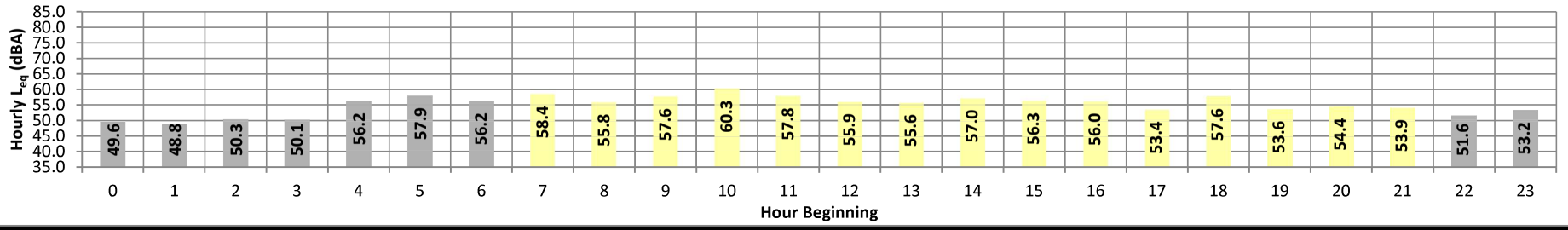
URBAN CROSSROADS

24-Hour Noise Level Measurement Summary

Date: Tuesday, April 5, 2022 | *Location:* L4 - Located southwest of the Project site near single-family residence at 77 Perry Street. | *Meter:* Piccolo II | *JN:* 14786

Project: Perris Truck Storage | *Source:* | *Analyst:* A. Khan

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	49.6	58.5	44.8	57.9	56.9	54.7	53.5	49.6	47.4	45.4	45.1	44.9	49.6	10.0	59.6
	1	48.8	57.0	43.9	56.7	56.1	54.1	52.5	48.8	46.5	44.5	44.3	44.0	48.8	10.0	58.8
	2	50.3	57.4	46.0	56.8	56.3	54.8	53.9	50.6	48.6	46.7	46.5	46.1	50.3	10.0	60.3
	3	50.1	55.3	47.0	55.0	54.6	53.5	52.7	50.7	49.2	47.7	47.4	47.1	50.1	10.0	60.1
	4	56.2	64.0	50.7	63.6	63.2	61.7	60.2	56.4	54.0	51.6	51.2	50.8	56.2	10.0	66.2
	5	57.9	66.4	52.8	66.0	65.5	64.1	62.4	57.0	55.0	53.4	53.2	52.9	57.9	10.0	67.9
	6	56.2	61.5	53.3	61.1	60.6	59.5	58.8	56.6	55.4	53.9	53.7	53.4	56.2	10.0	66.2
Day	7	58.4	66.3	54.8	65.7	65.1	63.1	61.4	58.3	56.9	55.4	55.2	54.9	58.4	0.0	58.4
	8	55.8	62.3	51.8	61.9	61.4	60.0	58.9	56.2	54.4	52.6	52.3	51.9	55.8	0.0	55.8
	9	57.6	66.6	50.0	66.2	65.7	63.7	62.1	57.8	54.2	50.9	50.6	50.1	57.6	0.0	57.6
	10	60.3	66.1	58.4	65.5	64.6	62.9	62.0	60.4	59.6	58.8	58.7	58.5	60.3	0.0	60.3
	11	57.8	68.1	48.2	67.0	66.4	64.5	62.8	57.7	53.2	49.7	49.1	48.4	57.8	0.0	57.8
	12	55.9	66.0	47.8	65.3	64.6	62.2	60.3	55.5	52.2	48.9	48.5	48.0	55.9	0.0	55.9
	13	55.6	65.1	46.2	64.6	63.9	62.3	60.7	55.4	52.0	47.7	47.0	46.4	55.6	0.0	55.6
	14	57.0	65.5	48.9	65.1	64.6	63.4	62.3	57.0	52.9	49.8	49.4	49.1	57.0	0.0	57.0
	15	56.3	65.9	49.1	65.4	64.6	62.5	60.7	55.9	53.2	50.3	49.9	49.4	56.3	0.0	56.3
	16	56.0	67.9	48.0	66.8	65.4	61.8	59.9	54.8	52.3	49.5	48.9	48.3	56.0	0.0	56.0
	17	53.4	61.2	44.9	60.7	60.2	58.9	57.9	54.3	50.5	46.5	45.8	45.2	53.4	0.0	53.4
	18	57.6	67.5	46.1	67.1	66.5	64.4	62.6	57.2	53.3	47.8	47.1	46.3	57.6	0.0	57.6
	19	53.6	62.5	44.9	61.7	61.0	59.3	58.2	54.1	50.4	46.4	45.9	45.2	53.6	5.0	58.6
	20	54.4	62.8	45.1	62.2	61.7	60.3	58.9	55.3	51.3	46.7	46.1	45.3	54.4	5.0	59.4
	21	53.9	62.1	46.4	61.4	60.7	59.2	58.3	54.8	51.3	47.6	47.1	46.5	53.9	5.0	58.9
Night	22	51.6	61.1	44.3	60.9	60.2	57.6	55.5	51.6	48.8	45.3	44.9	44.4	51.6	10.0	61.6
	23	53.2	64.4	44.8	64.2	63.3	58.9	57.4	51.4	48.3	45.6	45.2	44.9	53.2	10.0	63.2

Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%
Day	Min	53.4	61.2	44.9	60.7	60.2	58.9	57.9	54.1	50.4	46.4	45.8	45.2
	Max	60.3	68.1	58.4	67.1	66.5	64.5	62.8	60.4	59.6	58.8	58.7	58.5
Energy Average		56.7	Average:		64.4	63.8	61.9	60.5	56.3	53.2	49.9	49.4	48.9
Night	Min	48.8	55.3	43.9	55.0	54.6	53.5	52.5	48.8	46.5	44.5	44.3	44.0
	Max	57.9	66.4	53.3	66.0	65.5	64.1	62.4	57.0	55.4	53.9	53.7	53.4
Energy Average		53.8	Average:		60.2	59.6	57.6	56.3	52.5	50.3	48.2	47.9	47.6

L_{eq} (dBA)		
24-Hour	Daytime (7am-10pm)	Nighttime (10pm-7am)
55.8	56.7	53.8

URBAN CROSSROADS

APPENDIX 7.1:

CADNAA OPERATIONAL NOISE MODEL INPUTS (LMAX)

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14786 - Perris Truck Storage/Parking Lot

CadnaA Noise Prediction Model: 14786_05.cna
Date: 22.11.22
Analyst: S. Shami

Calculation Configuration

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

Receiver Noise Levels

Name	M.	ID	Level Lr			Limit. Value			Land Use			Height		Coordinates		
			Day	Night	CNEL	Day	Night	CNEL	Type	Auto	Noise Type			X	Y	Z
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)				(ft)		(ft)	(ft)	(ft)
RECEIVERS		R1	56.5	56.5	63.2	80.0	60.0	0.0				5.00	a	6265698.84	2255960.58	5.00
RECEIVERS		R2	49.6	49.6	56.3	80.0	60.0	0.0				5.00	a	6265978.98	2255627.97	5.00
RECEIVERS		R3	46.6	46.6	53.3	80.0	60.0	0.0				5.00	a	6264902.07	2253627.57	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)
POINTSOURCE		TRASH01	102.8	102.8	102.8	Lw	102.8					5.00	a	6265784.17	2255147.82	5.00

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)	
LINESOURCE		TRUCK01	91.4	91.4	91.4	75.8	75.8	75.8	Lw	91.4									8	a
LINESOURCE		TRUCK02	91.4	91.4	91.4	75.8	75.8	75.8	Lw	91.4									8	a

Name	Height				Coordinates			
	Begin		End		x	y	z	Ground
	(ft)		(ft)		(ft)	(ft)	(ft)	(ft)
LINESOURCE	8.00	a			6265842.78	2255136.71	8.00	0.00
					6265840.67	2255017.42	8.00	0.00

Name	Height				Coordinates			
	Begin		End		x	y	z	Ground
	(ft)		(ft)		(ft)	(ft)	(ft)	(ft)
LINESOURCE	8.00	a			6265869.86	2255136.31	8.00	0.00
					6265868.74	2255017.14	8.00	0.00

Area Source(s)

Name	M.	ID	Result. PWL			Result. PWL''			Lw / Li			Operating Time			Height	
			Day	Evening	Night	Day	Evening	Night	Type	Value	norm.	Day	Special	Night	(ft)	
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)		
AREASOURCE		DOCK01	118.5	118.5	118.5	73.7	73.7	73.7	Lw	118.5					8	a

Name	Height				Coordinates			
	Begin		End		x	y	z	Ground
	(ft)		(ft)		(ft)	(ft)	(ft)	(ft)
AREASOURCE	8.00	a			6265958.57	2255044.51	8.00	0.00
					6265893.12	2255045.50	8.00	0.00
					6265893.71	2255148.88	8.00	0.00
					6265891.35	2255151.44	8.00	0.00
					6265888.21	2255151.63	8.00	0.00
					6265885.65	2255151.04	8.00	0.00
					6265884.08	2255148.68	8.00	0.00
					6265883.69	2255136.11	8.00	0.00
					6265830.62	2255136.89	8.00	0.00
					6265830.23	2255086.77	8.00	0.00
					6265813.32	2255086.38	8.00	0.00
					6265814.30	2255132.96	8.00	0.00
					6265812.93	2255139.45	8.00	0.00
					6265809.98	2255145.34	8.00	0.00
					6265805.26	2255150.06	8.00	0.00
					6265797.01	2255153.01	8.00	0.00
					6265775.58	2255153.21	8.00	0.00
					6265773.82	2255152.03	8.00	0.00
					6265772.44	2255149.86	8.00	0.00
					6265771.26	2255027.81	8.00	0.00
					6265414.68	2255031.62	8.00	0.00
					6265390.84	2255054.41	8.00	0.00
					6265394.55	2255622.94	8.00	0.00
					6265962.49	2255619.19	8.00	0.00

Barrier(s)

Name	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)
BARRIERPLANNED		0						14.00	a			6265889.22	2255134.86	14.00	0.00
												6265887.96	2255028.25	14.00	0.00
												6265898.03	2255016.85	14.00	0.00
												6265972.81	2255016.09	14.00	0.00
												6265978.91	2255628.02	14.00	0.00
BARRIERPLANNED		0						14.00	a			6265789.31	2255091.97	14.00	0.00
												6265778.20	2255092.18	14.00	0.00
												6265778.04	2255029.22	14.00	0.00
												6265767.59	2255018.16	14.00	0.00
												6265410.41	2255021.76	14.00	0.00
												6265369.65	2255058.89	14.00	0.00
												6265373.24	2255633.38	14.00	0.00
BARRIERPLANNED		0						10.00	a			6265978.91	2255628.02	10.00	0.00
												6265373.24	2255633.38	10.00	0.00
BARRIERTEMP		0						0.00	a			6265827.38	2255629.36	0.00	0.00
												6265978.91	2255628.02	0.00	0.00
												6265976.97	2255432.93	0.00	0.00

Building(s)

Name	M.	ID	RB	Residents	Absorption	Height		Coordinates			
						Begin		x	y	z	Ground
						(ft)		(ft)	(ft)	(ft)	(ft)
BUILDING		BUILDING00001	x	0		15.00	a	6265789.62	2255132.29	15.00	0.00
								6265808.37	2255131.51	15.00	0.00
								6265807.90	2255091.81	15.00	0.00
								6265789.31	2255091.97	15.00	0.00

APPENDIX 7.2:

CADNAA OPERATIONAL NOISE MODEL INPUTS (LEQ)

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14786 - Perris Truck Storage/Parking Lot

CadnaA Noise Prediction Model: 14786_05 - CNEL.cna
Date: 22.11.22
Analyst: S. Shami

Calculation Configuration

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

Receiver Noise Levels

Name	M.	ID	Level Lr			Limit. Value			Land Use			Height		Coordinates		
			Day	Night	CNEL	Day	Night	CNEL	Type	Auto	Noise Type			X	Y	Z
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)				(ft)		(ft)	(ft)	(ft)
RECEIVERS		R1	48.1	48.1	54.8	80.0	60.0	0.0				5.00	a	6265698.84	2255960.58	5.00
RECEIVERS		R2	41.2	41.2	47.9	80.0	60.0	0.0				5.00	a	6265978.98	2255627.97	5.00
RECEIVERS		R3	38.4	38.4	45.1	80.0	60.0	0.0				5.00	a	6264902.07	2253627.57	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)
POINTSOURCE		TRASH01	88.5	88.5	88.5	Lw	88.5					5.00	a	6265784.17	2255147.82	5.00

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)	
LINESOURCE		TRUCK01	89.7	89.7	89.7	74.1	74.1	74.1	Lw	89.7									8	a
LINESOURCE		TRUCK02	89.7	89.7	89.7	74.1	74.1	74.1	Lw	89.7									8	a

Name	Height				Coordinates			
	Begin		End		x	y	z	Ground
	(ft)		(ft)		(ft)	(ft)	(ft)	(ft)
LINESOURCE	8.00	a			6265842.78	2255136.71	8.00	0.00
					6265840.67	2255017.42	8.00	0.00

Name	Height				Coordinates			
	Begin		End		x	y	z	Ground
	(ft)		(ft)		(ft)	(ft)	(ft)	(ft)
LINESOURCE	8.00	a			6265869.86	2255136.31	8.00	0.00
					6265868.74	2255017.14	8.00	0.00

Area Source(s)

Name	M.	ID	Result. PWL			Result. PWL''			Lw / Li			Operating Time			Height	
			Day	Evening	Night	Day	Evening	Night	Type	Value	norm.	Day	Special	Night	(ft)	
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)		
AREASOURCE		DOCK01	110.1	110.1	110.1	65.3	65.3	65.3	Lw	110.1					8	a

Name	Height				Coordinates			
	Begin		End		x	y	z	Ground
	(ft)		(ft)		(ft)	(ft)	(ft)	(ft)
AREASOURCE	8.00	a			6265958.57	2255044.51	8.00	0.00
					6265893.12	2255045.50	8.00	0.00
					6265893.71	2255148.88	8.00	0.00
					6265891.35	2255151.44	8.00	0.00
					6265888.21	2255151.63	8.00	0.00
					6265885.65	2255151.04	8.00	0.00
					6265884.08	2255148.68	8.00	0.00
					6265883.69	2255136.11	8.00	0.00
					6265830.62	2255136.89	8.00	0.00
					6265830.23	2255086.77	8.00	0.00
					6265813.32	2255086.38	8.00	0.00
					6265814.30	2255132.96	8.00	0.00
					6265812.93	2255139.45	8.00	0.00
					6265809.98	2255145.34	8.00	0.00
					6265805.26	2255150.06	8.00	0.00
					6265797.01	2255153.01	8.00	0.00
					6265775.58	2255153.21	8.00	0.00
					6265773.82	2255152.03	8.00	0.00
					6265772.44	2255149.86	8.00	0.00
					6265771.26	2255027.81	8.00	0.00
					6265414.68	2255031.62	8.00	0.00
					6265390.84	2255054.41	8.00	0.00
					6265394.55	2255622.94	8.00	0.00
					6265962.49	2255619.19	8.00	0.00

Barrier(s)

Name	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)
BARRIERPLANNED		0						14.00	a			6265889.22	2255134.86	14.00	0.00
												6265887.96	2255028.25	14.00	0.00
												6265898.03	2255016.85	14.00	0.00
												6265972.81	2255016.09	14.00	0.00
												6265978.91	2255628.02	14.00	0.00
BARRIERPLANNED		0						14.00	a			6265789.31	2255091.97	14.00	0.00
												6265778.20	2255092.18	14.00	0.00
												6265778.04	2255029.22	14.00	0.00
												6265767.59	2255018.16	14.00	0.00
												6265410.41	2255021.76	14.00	0.00
												6265369.65	2255058.89	14.00	0.00
												6265373.24	2255633.38	14.00	0.00
BARRIERPLANNED		0						10.00	a			6265978.91	2255628.02	10.00	0.00
												6265373.24	2255633.38	10.00	0.00
BARRIERTEMP		0						0.00	a			6265827.38	2255629.36	0.00	0.00
												6265978.91	2255628.02	0.00	0.00
												6265976.97	2255432.93	0.00	0.00

Building(s)

Name	M.	ID	RB	Residents	Absorption	Height		Coordinates			
						Begin		x	y	z	Ground
						(ft)		(ft)	(ft)	(ft)	(ft)
BUILDING		BUILDING00001	x	0		0.00	a	6265789.62	2255132.29	0.00	0.00
								6265808.37	2255131.51	0.00	0.00
								6265807.90	2255091.81	0.00	0.00
								6265789.31	2255091.97	0.00	0.00

APPENDIX 8.1:

CADNAA CONSTRUCTION NOISE MODEL INPUTS

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14786 - Perris Truck Storage/Parking Lot

CadnaA Noise Prediction Model: 14786_05 - Construction.cna
Date: 22.11.22
Analyst: S. Shami

Calculation Configuration

Configuration	
Parameter	**Value**
General	
Max. Error (dB)	**0.00**
Max. Search Radius (#(Unit,LEN))	**2000.01**
Min. Dist Src to Rcvr	**0.00**
Partition	
Raster Factor	**0.50**
Max. Length of Section (#(Unit,LEN))	**999.99**
Min. Length of Section (#(Unit,LEN))	**1.01**
Min. Length of Section (%)	**0.00**
Proj. Line Sources	**On**
Proj. Area Sources	**On**
Ref. Time	
Reference Time Day (min)	**960.00**
Reference Time Night (min)	**480.00**
Daytime Penalty (dB)	**0.00**
Recr. Time Penalty (dB)	**5.00**
Night-time Penalty (dB)	**10.00**
DTM	
Standard Height (m)	**0.00**
Model of Terrain	**Triangulation**
Reflection	
max. Order of Reflection	**2**
Search Radius Src	**100.00**
Search Radius Rcvr	**100.00**
Max. Distance Source - Rcvr	**1000.00 1000.00**
Min. Distance Rvcr - Reflector	**1.00 1.00**
Min. Distance Source - Reflector	**0.10**
Industrial (ISO 9613)	
Lateral Diffraction	**some Obj**
Obst. within Area Src do not shield	**On**
Screening	**Incl. Ground Att. over Barrier**
	Dz with limit (20/25)
Barrier Coefficients C1,2,3	**3.0 20.0 0.0**
Temperature (#(Unit,TEMP))	**10**
rel. Humidity (%)	**70**
Ground Absorption G	**0.50**
Wind Speed for Dir. (#(Unit,SPEED))	**3.0**
Roads (RLS-90)	
Strictly acc. to RLS-90	
Railways (Schall 03 (1990))	
Strictly acc. to Schall 03 / Schall-Transrapid	
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)
RECEIVERS		R1	73.1	73.1	79.7	80.0	60.0	0.0				5.00	a	6265698.84	2255960.58	5.00
RECEIVERS		R2	83.8	83.8	90.5	80.0	60.0	0.0				5.00	a	6265978.91	2255628.02	5.00
RECEIVERS		R3	63.1	63.1	69.7	80.0	60.0	0.0				5.00	a	6264902.07	2253627.57	5.00

Area Source(s)

Name	M.	ID	Result. PWL			Result. PWL"			Lw / Li			Operating Time			Height	
			Day	Evening	Night	Day	Evening	Night	Type	Value	norm.	Day	Special	Night	(ft)	
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)		
SITEBOUNDARY		CONSTRUCTION	130.4	130.4	130.4	85.0	85.0	85.0	Lw"	85					8	a

Name	Height			Coordinates			
	Begin		End	x	y	z	Ground
	(ft)		(ft)	(ft)	(ft)	(ft)	(ft)
SITEBOUNDARY	8.00	a		6265373.24	2255633.38	8.00	0.00
				6265978.91	2255628.02	8.00	0.00
				6265972.81	2255016.09	8.00	0.00
				6265410.41	2255021.76	8.00	0.00
				6265369.65	2255058.89	8.00	0.00

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APPENDIX 8.2:

CADNAA MITIGATED CONSTRUCTION NOISE MODEL INPUTS

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14786 - Perris Truck Storage/Parking Lot

CadnaA Noise Prediction Model: 14786_05 - Construction_Mitigated.cna
Date: 22.11.22
Analyst: S. Shami

Calculation Configuration

Configuration	
Parameter	**Value**
General	
Max. Error (dB)	**0.00**
Max. Search Radius (#(Unit,LEN))	**2000.01**
Min. Dist Src to Rcvr	**0.00**
Partition	
Raster Factor	**0.50**
Max. Length of Section (#(Unit,LEN))	**999.99**
Min. Length of Section (#(Unit,LEN))	**1.01**
Min. Length of Section (%)	**0.00**
Proj. Line Sources	**On**
Proj. Area Sources	**On**
Ref. Time	
Reference Time Day (min)	**960.00**
Reference Time Night (min)	**480.00**
Daytime Penalty (dB)	**0.00**
Recr. Time Penalty (dB)	**5.00**
Night-time Penalty (dB)	**10.00**
DTM	
Standard Height (m)	**0.00**
Model of Terrain	**Triangulation**
Reflection	
max. Order of Reflection	**2**
Search Radius Src	**100.00**
Search Radius Rcvr	**100.00**
Max. Distance Source - Rcvr	**1000.00 1000.00**
Min. Distance Rvcr - Reflector	**1.00 1.00**
Min. Distance Source - Reflector	**0.10**
Industrial (ISO 9613)	
Lateral Diffraction	**some Obj**
Obst. within Area Src do not shield	**On**
Screening	**Incl. Ground Att. over Barrier**
	Dz with limit (20/25)
Barrier Coefficients C1,2,3	**3.0 20.0 0.0**
Temperature (#(Unit,TEMP))	**10**
rel. Humidity (%)	**70**
Ground Absorption G	**0.50**
Wind Speed for Dir. (#(Unit,SPEED))	**3.0**
Roads (RLS-90)	
Strictly acc. to RLS-90	
Railways (Schall 03 (1990))	
Strictly acc. to Schall 03 / Schall-Transrapid	
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)
RECEIVERS		R1	72.7	72.7	79.4	80.0	60.0	0.0				5.00	a	6265698.84	2255960.58	5.00
RECEIVERS		R2	71.9	71.9	78.6	80.0	60.0	0.0				5.00	a	6265979.77	2255628.39	5.00
RECEIVERS		R3	63.1	63.1	69.7	80.0	60.0	0.0				5.00	a	6264902.07	2253627.57	5.00

Area Source(s)

Name	M.	ID	Result. PWL			Result. PWL"			Lw / Li			Operating Time			Height	
			Day	Evening	Night	Day	Evening	Night	Type	Value	norm.	Day	Special	Night	(ft)	
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)		
SITEBOUNDARY		CONSTRUCTION	130.3	130.3	130.3	85.0	85.0	85.0	Lw"	85					8	a

Name	Height			Coordinates			
	Begin		End	x	y	z	Ground
	(ft)		(ft)	(ft)	(ft)	(ft)	(ft)
SITEBOUNDARY	8.00	a		6265373.24	2255633.38	8.00	0.00
				6265978.21	2255626.80	8.00	0.00
				6265972.81	2255016.09	8.00	0.00
				6265410.41	2255021.76	8.00	0.00
				6265369.65	2255058.89	8.00	0.00

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