NOISE IMPACT ANALYSIS

SEATON AVENUE & CAJALCO ROAD WAREHOUSE PROJECT

COUNTY OF RIVERSIDE

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ACRONYMS AND ABBREVIATIONS

ANSI	American National Standards Institute
Caltrans	California Department of Transportation
CEQA	California Environmental Quality Act
CNEL	Community Noise Equivalent Level
County	County of Riverside
dB	Decibel
dBA	A-weighted decibels
DOT	Department of Transportation
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
EPA	Environmental Protection Agency
Hz	Hertz
Ldn	Day-night average noise level
Leq	Equivalent sound level
Lmax	Maximum noise level
ONAC	Federal Office of Noise Abatement and Control
OSHA	Occupational Safety and Health Administration
PPV	Peak particle velocity
RMS	Root mean square
SEL	Single Event Level or Sound Exposure Level
TRU	Transport refrigeration unit
VdB	Vibration velocity level in decibels

1.0 INTRODUCTION

1.1 Purpose of Analysis and Study Objectives

This Noise Impact Analysis has been prepared to determine the noise and vibration impacts associated with the proposed Seaton Avenue & Cajalco Road Warehouse project (proposed project). The following is provided in this report:

- A description of the study area and the proposed project;
- Information regarding the fundamentals of noise;
- Information regarding the fundamentals of vibration;
- A description of the local noise guidelines and standards;
- An evaluation of the current noise environment;
- An analysis of the potential short-term construction-related noise impacts from the proposed project; and
- An analysis of long-term operations-related noise impacts from the proposed project.

1.2 Site Location and Study Area

The project site is located in an unincorporated area of the County of Riverside (County) within the Mead Valley area. The 17.50 gross acre project site currently contains approximately 12 structures that total approximate 21,000 square feet of building space that consist of a mix of residential and commercial uses. The project site is bounded by Cajalco Expressway and vacant land to the north, industrial uses to the east, vacant land to the south, and Seaton Avenue and a combination of residential, industrial and vacant land to the west. The project study area is shown in Figure 1.

Sensitive Receptors in Project Vicinity

The nearest sensitive receptors to the project site are two single-family homes that are located across Seaton Avenue, approximately 140 feet from the southwest corner of the project site. There is also a Buddhist Temple, located approximately 280 feet southwest of the southwest corner of the project site. The nearest school is Val Verde High School, which is located as near as 0.7 mile east of the project site.

1.3 Proposed Project Description

The proposed project consists of development of a 350,481 square foot warehouse, of which 280,385 square feet would be utilized as high-cube transload and short-term storage and 70,096 square feet would be utilized as high-cube cold-storage. The proposed warehouse would have a truck loading area with 43 dock doors on the east side of the building. In addition there will be 66 trailer parking spaces located on the east side of the truck loading area. A total of 244 automobile parking spaces will be provided that will be located on the north, south and west sides of the warehouse. Vehicle access to the project site would be provided by two driveways on Seaton Avenue and one driveway on Cajalco Expressway. The proposed site plan is shown in Figure 2.

1.4 Executive Summary

Standard Noise Regulatory Conditions

The proposed project will be required to comply with the following regulatory conditions from the County.

County of Riverside Noise Regulations

The following lists the noise and vibration regulations from the County Code that are applicable, but not limited to the proposed project.

- Section 9.52.020(I) Construction time limitations
- Section 9.52.040 General sound level standards (exterior and interior residential noise standards)

The following lists the vibration standards from the General Plan that are for railroad vibration impacts.

- General Plan Policy N 16.3 limits train vibration to residential dwellings to perceptible ground vibration, which is defined as a motion velocity of 0.01 inch per second over a range of 1 to 100 Hz.

Summary of Analysis Results

The following is a summary of the proposed project's impacts with regard to the State CEQA Guidelines noise checklist questions.

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?

Less than significant impact.

Generation of excessive groundborne vibration or groundborne noise levels?

Less than significant impact.

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?

No impact.

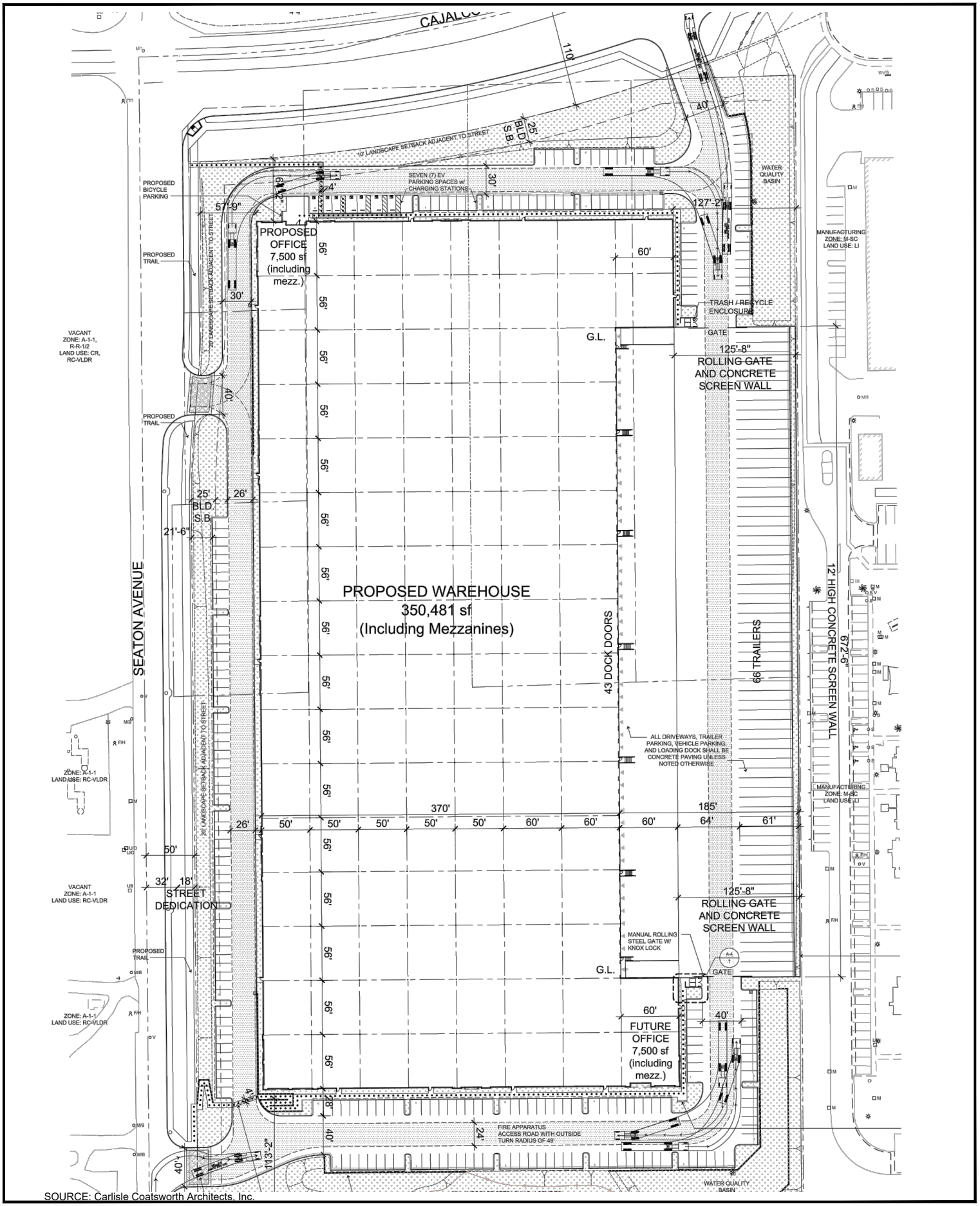
1.5 Mitigation Measures for the Proposed Project

This analysis found that through adherence to the noise and vibration regulations detailed in Section 1.4 above, all noise and vibration impacts would be reduced to less than significant levels.

SOURCE: County of Riverside GIS.

VISTA ENVIRONMENTAL

Figure 1
Project Location Map



SOURCE: Carlisle Coatsworth Architects, Inc.

VISTA ENVIRONMENTAL

Figure 2
Proposed Site Plan

2.0 NOISE FUNDAMENTALS

Noise is defined as unwanted sound. Sound becomes unwanted when it interferes with normal activities, when it causes actual physical harm or when it has adverse effects on health. Sound is produced by the vibration of sound pressure waves in the air. Sound pressure levels are used to measure the intensity of sound and are described in terms of decibels. The decibel (dB) is a logarithmic unit which expresses the ratio of the sound pressure level being measured to a standard reference level. A-weighted decibels (dBA) approximate the subjective response of the human ear to a broad frequency noise source by discriminating against very low and very high frequencies of the audible spectrum.

2.1 Noise Descriptors

Noise Equivalent sound levels are not measured directly, but are calculated from sound pressure levels typically measured in A-weighted decibels (dBA). The equivalent sound level (Leq) represents a steady state sound level containing the same total energy as a time varying signal over a given sample period. The worst-hour traffic Leq is the noise metric used by California Department of Transportation (Caltrans) for all traffic noise impact analyses.

The Day-Night Average Level (Ldn) 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 ten decibels to sound levels at night between 10 p.m. and 7 a.m. While the Community Noise Equivalent Level (CNEL) is similar to the Ldn, except that it has another addition of 4.77 decibels to sound levels during the evening hours between 7 p.m. and 10 p.m. These additions are made to the sound levels at these time periods because during the evening and nighttime hours, when compared to daytime hours, there is a decrease in the ambient noise levels, which creates an increased sensitivity to sounds. For this reason, the sound appears louder in the evening and nighttime hours and is weighted accordingly. The County of Riverside relies on the Ldn noise standard to assess transportation-related impacts on noise sensitive land uses.

2.2 Tone Noise

A pure tone noise is a noise produced at a single frequency and laboratory tests have shown that humans are more perceptible to changes in noise levels of a pure tone. For a noise source to contain a “pure tone,” there must be a significantly higher A-weighted sound energy in a given frequency band than in the neighboring bands, thereby causing the noise source to “stand out” against other noise sources. A pure tone occurs if the sound pressure level in the one-third octave band with the tone exceeds the average of the sound pressure levels of the two contiguous one-third octave bands by:

- 5 dB for center frequencies of 500 hertz (Hz) and above
- 8 dB for center frequencies between 160 and 400 Hz
- 15 dB for center frequencies of 125 Hz or less

2.3 Noise Propagation

From the noise source to the receiver, noise changes both in level and frequency spectrum. The most obvious is the decrease in noise as the distance from the source increases. The manner in which noise reduces with distance depends on whether the source is a point or line source as well as ground absorption, atmospheric effects and refraction, and shielding by natural and manmade features. Sound from point sources, such as air conditioning condensers, radiate uniformly outward as it travels away from

the source in a spherical pattern. The noise drop-off rate associated with this geometric spreading is 6 dBA per each doubling of the distance (dBA/DD) between source and receiver. Transportation noise sources such as roadways are typically analyzed as line sources, since at any given moment the receiver may be impacted by noise from multiple vehicles at various locations along the roadway. Because of the geometry of a line source, the noise drop-off rate associated with the geometric spreading of a line source is 3 dBA/DD.

2.4 Ground Absorption

The sound drop-off rate is highly dependent on the conditions of the land between the noise source and receiver. To account for this ground-effect attenuation (absorption), two types of site conditions are commonly used in traffic noise models, soft-site and hard-site conditions. Soft-site conditions account for the sound propagation loss over natural surfaces such as normal earth and ground vegetation. For point sources, a drop-off rate of 7.5 dBA/DD is typically observed over soft ground with landscaping, as compared with a 6.0 dBA/DD drop-off rate over hard ground such as asphalt, concrete, stone and very hard packed earth. For line sources a 4.5 dBA/DD is typically observed for soft-site conditions compared to the 3.0 dBA/DD drop-off rate for hard-site conditions. Caltrans research has shown that the use of soft-site conditions is more appropriate for the application of the Federal Highway Administration (FHWA) traffic noise prediction model used in this analysis.

3.0 GROUND-BORNE VIBRATION FUNDAMENTALS

Ground-borne vibrations consist of rapidly fluctuating motions within the ground that have an average motion of zero. The effects of ground-borne vibrations typically only cause a nuisance to people, but at extreme vibration levels damage to buildings may occur. Although ground-borne vibration can be felt outdoors, it is typically only an annoyance to people indoors where the associated effects of the shaking of a building can be notable. Ground-borne noise is an effect of ground-borne vibration and only exists indoors, since it is produced from noise radiated from the motion of the walls and floors of a room and may also consist of the rattling of windows or dishes on shelves.

3.1 Vibration Descriptors

There are several different methods that are used to quantify vibration amplitude such as the maximum instantaneous peak in the vibrations velocity, which is known as the peak particle velocity (PPV) or the root mean square (rms) amplitude of the vibration velocity. Due to the typically small amplitudes of vibrations, vibration velocity is often expressed in decibels and is denoted as (L_v) and is based on the rms velocity amplitude. A commonly used abbreviation is "VdB", which in this text, is when L_v is based on the reference quantity of 1 micro inch per second.

3.2 Vibration Perception

Typically, developed areas are continuously affected by vibration velocities of 50 VdB or lower. These continuous vibrations are not noticeable to humans whose threshold of perception is around 65 VdB. Off-site sources that may produce perceptible vibrations are usually caused by construction equipment, steel-wheeled trains, and traffic on rough roads, while smooth roads rarely produce perceptible ground-borne noise or vibration.

3.3 Vibration Propagation

The propagation of ground-borne vibration is not as simple to model as airborne noise. This is due to the fact that noise in the air travels through a relatively uniform medium, while ground-borne vibrations travel through the earth which may contain significant geological differences. There are three main types of vibration propagation; surface, compression, and shear waves. Surface waves, or Rayleigh waves, travel along the ground's surface. These waves carry most of their energy along an expanding circular wave front, similar to ripples produced by throwing a rock into a pool of water. P-waves, or compression waves, are body waves that carry their energy along an expanding spherical wave front. The particle motion in these waves is longitudinal (i.e., in a "push-pull" fashion). P-waves are analogous to airborne sound waves. S-waves, or shear waves, are also body waves that carry energy along an expanding spherical wave front. However, unlike P-waves, the particle motion is transverse or "side-to-side and perpendicular to the direction of propagation."

As vibration waves propagate from a source, the vibration energy decreases in a logarithmic nature and the vibration levels typically decrease by 6 VdB per doubling of the distance from the vibration source. As stated above, this drop-off rate can vary greatly depending on the soil but has been shown to be effective enough for screening purposes, in order to identify potential vibration impacts that may need to be studied through actual field tests.

4.0 REGULATORY SETTING

The project site is located in the County of Riverside. Noise regulations are addressed through the efforts of various federal, state, and local government agencies. The agencies responsible for regulating noise are discussed below.

4.1 Federal Regulations

The adverse impact of noise was officially recognized by the federal government in the Noise Control Act of 1972, which serves three purposes:

- Promulgating noise emission standards for interstate commerce
- Assisting state and local abatement efforts
- Promoting noise education and research

The Federal Office of Noise Abatement and Control (ONAC) was initially tasked with implementing the Noise Control Act. However, the ONAC has since been eliminated, leaving the development of federal noise policies and programs to other federal agencies and interagency committees. For example, the Occupational Safety and Health Administration (OSHA) agency prohibits exposure of workers to excessive sound levels. The Department of Transportation (DOT) assumed a significant role in noise control through its various operating agencies. The Federal Aviation Administration (FAA) regulates noise of aircraft and airports. Surface transportation system noise is regulated by a host of agencies, including the Federal Transit Administration (FTA), which regulates transit noise , while freeways that are part of the interstate highway system are regulated by the Federal Highway Administration (FHWA). Finally, the federal government actively advocates that local jurisdictions use their land use regulatory authority to arrange new development in such a way that "noise sensitive" uses are either prohibited from being sited adjacent to a highway or, alternately that the developments are planned and constructed in such a manner that potential noise impacts are minimized.

Although the proposed project is not under the jurisdiction of the FTA, the *Transit Noise and Vibration Assessment Manual* (FTA Manual), prepared by the FTA, September 2018, is the only guidance document from a government agency that defines what constitutes a significant noise impact from implementing a project. The FTA standards are based on extensive studies by the FTA and other governmental agencies on the human effects and reaction to noise and a summary of the FTA findings are provided below in Table A.

Table A – FTA Project Effects on Cumulative Noise Exposure

	Allowable Noise Impact Exposure dBA Leq or Ldn		
Existing Noise Exposure (dBA Leq or Ldn)	**Allowable Project Noise Exposure Before Moderate Impact**	**Allowable Combined Total Noise Exposure**	**Allowable Noise Exposure Increase Before Moderate Impact**
45	51	52	+7
50	53	55	+5
55	55	58	+3
60	57	62	+2
65	60	66	+1

Existing Noise Exposure (dBA Leq or Ldn)	Allowable Noise Impact Exposure dBA Leq or Ldn		
	Allowable Project Noise Exposure Before Moderate Impact	Allowable Combined Total Noise Exposure	Allowable Noise Exposure Increase Before Moderate Impact
70	64	71	+1
75	65	75	0

Source: Federal Transit Administration, 2018.

The FTA Manual also provides guidance on construction noise and recommends developing construction noise criteria on a project-specific basis that utilizes local noise ordinances if possible. However, local noise ordinances usually relates to nuisance and hours of allowed activity and sometimes specify limits in terms of maximum levels, but are generally not practical for assessing the noise impacts of a construction project. Project construction noise criteria should take into account the existing noise environment, the absolute noise levels during construction activities, the duration of the construction, and the adjacent land uses. The FTA standards are based on extensive studies by the FTA and other governmental agencies on the human effects and reaction to noise and a summary of the FTA findings for a detailed construction noise assessment are provided below in Table B.

Table B – FTA Construction Noise Criteria

Land Use	Day (dBA $Leq_{(8\text{-hour})}$)	Night (dBA $Leq_{(8\text{-hour})}$)	30-day Average (dBA Ldn)
Residential	80	70	75
Commercial	85	85	80[(1)]
Industrial	90	90	85[(1)]

Notes:
[(1)] Use a 24-hour $Leq_{(24\ hour)}$ instead of $Ldn_{(30\ day)}$.
Source: Federal Transit Administration, 2018.

Since the federal government has preempted the setting of standards for noise levels that can be emitted by the transportation sources, the County is restricted to regulating the noise generated by the transportation system through nuisance abatement ordinances and land use planning.

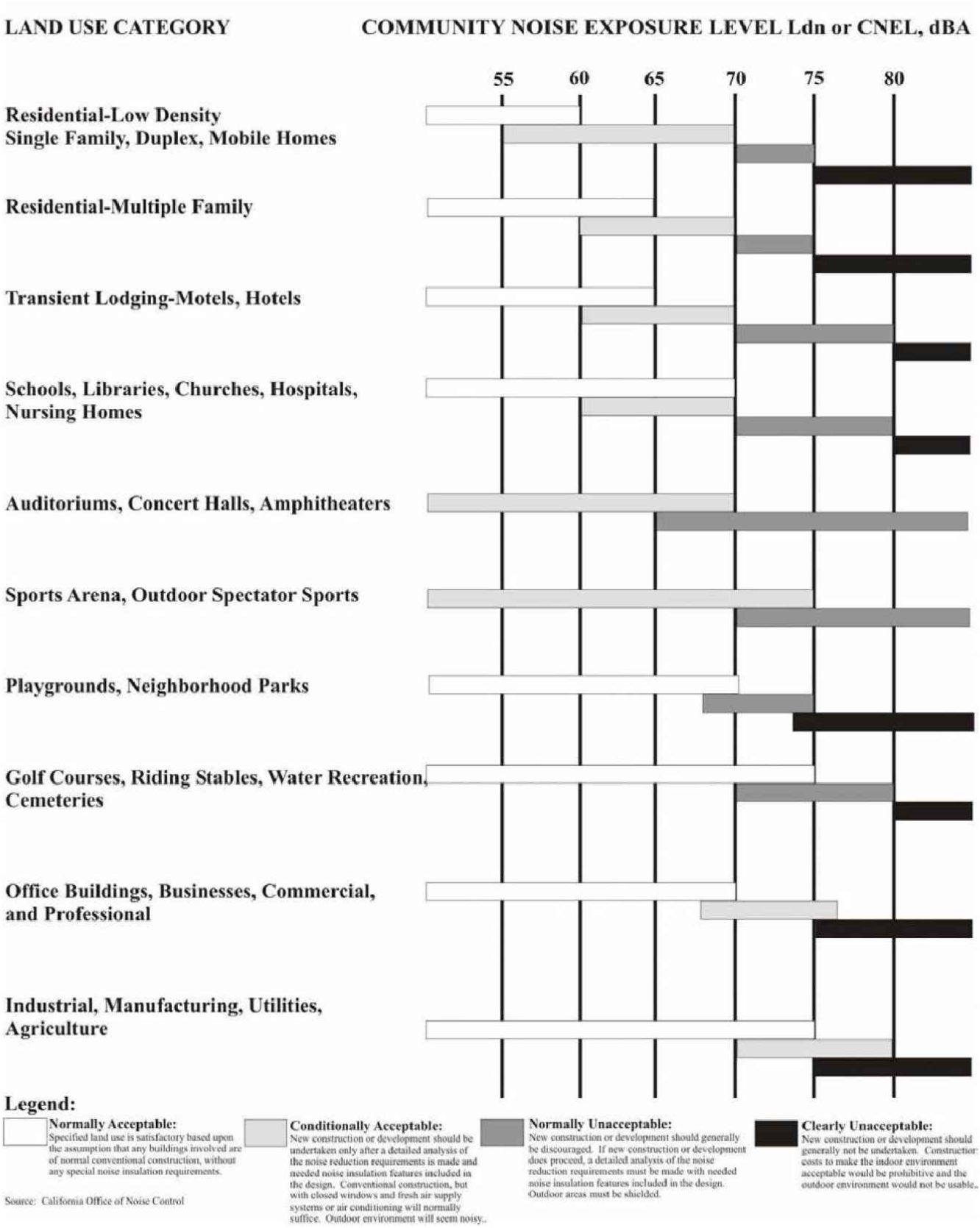
4.2 State Regulations

Noise Standards

California Department of Health Services Office of Noise Control

Established in 1973, the California Department of Health Services Office of Noise Control (ONC) was instrumental in developing regularity tools to control and abate noise for use by local agencies. One significant model is the "Land Use Compatibility for Community Noise Environments Matrix," which allows the local jurisdiction to clearly delineate compatibility of sensitive uses with various incremental levels of noise and which is shown below in Figure 3.

Table N-1
Land Use Compatibility for Community Noise Exposure



SOURCE: County of Riverside General Plan.

VISTA ENVIRONMENTAL

Figure 3
Land Use Compatibility Matrix

California Noise Insulation Standards

Title 24, Chapter 1, Article 4 of the California Administrative Code (California Noise Insulation Standards) requires noise insulation in new hotels, motels, apartment houses, and dwellings (other than single-family detached housing) that provides an annual average noise level of no more than 45 dBA CNEL. When such structures are located within a 60-dBA CNEL (or greater) noise contour, an acoustical analysis is required to ensure that interior levels do not exceed the 45-dBA CNEL annual threshold. In addition, Title 21, Chapter 6, Article 1 of the California Administrative Code requires that all habitable rooms, hospitals, convalescent homes, and places of worship shall have an interior CNEL of 45 dB or less due to aircraft noise.

Government Code Section 65302

Government Code Section 65302 mandates that the legislative body of each county and city in California adopt a noise element as part of its comprehensive general plan. The local noise element must recognize the land use compatibility guidelines published by the State Department of Health Services. The guidelines rank noise land use compatibility in terms of normally acceptable, conditionally acceptable, normally unacceptable, and clearly unacceptable.

California Vehicle Code Section 27200-27207 – On-Road Vehicle Noise

California Vehicle Code Section 27200-27207 provides noise limits for vehicles operated in California. For vehicles over 10,000 pounds noise is limited to 88 dB for vehicles manufactured before 1973, 86 dB for vehicles manufactured before 1975, 83 dB for vehicles manufactured before 1988, and 80 dB for vehicles manufactured after 1987. All measurements are based at 50 feet from the vehicle.

California Vehicle Section 38365-38380 – Off-Road Vehicle Noise

California Vehicle Code Section 38365-38380 provides noise limits for off-highway motor vehicles operated in California. 92 dBA for vehicles manufactured before 1973, 88 dBA for vehicles manufactured before 1975, 86 dBA for vehicles manufactured before 1986, and 82 dBA for vehicles manufactured after December 31, 1985. All measurements are based at 50 feet from the vehicle.

Vibration Standards

Title 14 of the California Administrative Code Section 15000 requires that all state and local agencies implement the California Environmental Quality Act (CEQA) Guidelines, which requires the analysis of exposure of persons to excessive groundborne vibration. However, no statute has been adopted by the state that quantifies the level at which excessive groundborne vibration occurs.

The *Transportation and Construction Vibration Guidance Manual,* prepared by Caltrans, April 2020, provides practical guidance to Caltrans engineers, planners, and consultants who must address vibration issues associated with the construction, operation, and maintenance of Caltrans projects. However, this manual is also used as a reference point by many lead agencies and CEQA practitioners throughout California, as it provides numeric thresholds for vibration impacts. Thresholds are established for continuous (construction-related) and transient (transportation-related) sources of vibration, which found that the human response becomes distinctly perceptible at 0.25 inch per second PPV for transient sources and 0.04 inch per second PPV for continuous sources.

4.3 Local Regulations

The County of Riverside General Plan and County Code establishes the following applicable policies related to noise and vibration.

County of Riverside General Plan Policies

N 1.1 Protect noise sensitive land uses from high levels of noise by restricting noise-producing land uses from these areas. If the noise-producing land use cannot be relocated, then noise buffers such as setbacks, landscaping, or block walls shall be used.

N1.3 Consider the following uses noise-sensitive and discourage these uses in areas in excess of 65 CNEL:

- Schools;
- Hospitals;
- Rest Homes;
- Long Term Care Facilities;
- Mental Care Facilities;
- Residential Uses;
- Libraries;
- Passive Recreation Uses; and
- Places of Worship.

N 1.4 Determine if existing land uses will present noise compatibility issues with proposed projects by undertaking site surveys.

N 1.5 Prevent and mitigate and mitigate the adverse impacts of excessive noise exposure on the residents, employees, visitors, and noise sensitive uses of Riverside County.

N 1.6 Minimize noise spillover or encroachment from commercial and industrial land uses into adjoining residential neighborhoods or noise-sensitive uses.

N 2.3 Mitigate exterior and interior noises to the levels listed in Table N-2 [Table C] below to the extent feasible, for stationary sources:

Table C – County of Riverside Stationary Source Land Use Noise Standards

Land Use	Interior Standards	Exterior Standards
Residential		
10:00 p.m. to 7:00 a.m.	40 L_{eq} (10 minute)	45 L_{eq} (10 minute)
7:00 a.m. to 10:00 p.m.	55 L_{eq} (10 minute)	65 L_{eq} (10 minute)

Notes: These are only preferred standards; final decision will be made by the Riverside County Planning Department and Office of Public Health
Source: County of Riverside, 2015.

N 3.3 Ensure compatibility between industrial development and adjacent land uses. To achieve compatibility, industrial development projects may be required to include noise mitigation measures to avoid or minimize project impacts on adjacent uses.

N 3.5 Require that a noise analysis be conducted by an acoustical specialist for all proposed projects that are noise producers. Include recommendations for design mitigation if the project is to be located either within proximity of a noise-sensitive land use, or land designated for noise-sensitive land uses.

N 4.1 Prohibit facility-related noise, received by any sensitive use from exceeding the following worst-case noise levels:

a. 45 dBA-10-minute L_{eq} between 10:00 p.m. and 7:00 a.m.
b. 65 dBA-10-minute L_{eq} between 7:00 a.m. and 10:00 p.m.

N 4.7 Evaluate noise producers for the possibility of pure-tone producing noises. Mitigate any pure tones that may be emitted from a noise source.

N 4.8 Require that the parking structures, terminals, and loading docks of commercial or industrial land uses be designed to minimize the potential noise impacts of vehicles on the site as well as on adjacent land uses.

N 6.3 Require commercial or industrial truck delivery hours be limited when adjacent to noise-sensitive land uses unless there is no feasible alternative or there are overriding transportation benefits.

N 7.4 Check each development proposal to determine if it is located within an airport noise impact area as depicted in the applicable Area Plan's Policy Area section regarding Airport Influence Areas. Development proposals within a noise impact area shall comply with applicable airport land use noise compatibility criteria.

N 9.3 Require development that generates increased traffic and subsequent increases in the ambient noise level adjacent to noise-sensitive land uses to provide for appropriate mitigation measures.

N 9.4 Require that the loading and shipping facilities of commercial and industrial land uses, which abut residential parcels be located and designed to minimize the potential noise impacts upon residential parcels.

N 9.6 Require that all future exterior noise forecasts use Level of Service C, and be based on designed road capacity or 20-year projection of development (whichever is less) for future noise forecasts.

N 9.7 Require that field noise monitoring be performed prior to siting any sensitive land uses along arterial roadways. Noise level measurements should be at least 10 minutes in duration and should include simultaneous vehicle counts so that more accurate vehicle ratios may be used in modeling ambient noise levels.

N 12.1 Utilize natural barriers such as hills, berms, and dense vegetation to assist in noise reduction.

N 12.2 Utilize dense landscaping to effectively reduce noise. However, when there is a long initial period where the immaturity of new landscaping makes this approach only marginally effective, utilize a large number of highly dense species planted in a fairly mature state, at close intervals, in conjunction with earthen berms, setbacks, or block walls.

N 13.1 Minimize the impacts of construction noise on adjacent uses within acceptable practices.

N13.2 Ensure that construction activities are regulated to establish hours of operation in order to prevent and/or mitigate the generation of excessive or adverse noise impacts on surrounding areas.

N13.3 Condition subdivision approval adjacent to developed/occupied noise-sensitive land uses (see policy N 1.3) by requiring the developer to submit a construction-related noise mitigation plan to the County for review and approval prior to issuance of a grading permit. The plan must depict the location of construction equipment and how the noise from this equipment will be mitigated during construction of this project, through use of such methods as:

a. Temporary noise attenuation fences;

b. Preferential location of equipment; and

c. Use of current noise suppression technology and equipment.

N 13.4 Require that all construction equipment utilizes noise reduction features (e.g. mufflers and engine shrouds) that are no less effective than those originally installed by the manufacturer.

N 14.1 Enforce the California Building Standards that sets standards for building construction to mitigate interior noise levels to tolerable 45 CNEL limit. These standards are utilized in conjunction with the Uniform Building Code by the County's Building Department to ensure that noise protection is provided to the public. Some design features may include extra-dense insulation, double paned windows, and dense construction materials.

N 14.5 Consider the issue of adjacent residential land uses when designing and configuring all new, nonresidential development. Design and configure on-site ingress and egress points that divert traffic away from nearby noise-sensitive land uses to the greatest degree practicable.

N 16.1 Restrict the placement of sensitive land uses in proximity to vibration-producing land uses.

N 16.2 Consider the following land uses sensitive to vibration:

- Hospitals;
- Residential Areas;
- Concert Halls;
- Libraries;
- Sensitive Research Operations;
- Schools; and
- Offices

N 16.3 Prohibit exposure of residential dwellings to perceptible ground vibration from passing trains as perceived at the ground or second floor. Perceptible motion shall be presumed to be a motion velocity of 0.01 inches/second over a range of 1 to 100 Hz.

Riverside County Code

The Riverside County Code establishes the following applicable standards related to noise.

Chapter 9.52 Noise Regulation

9.52.010 Intent

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

9.52.020 Exemptions

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

I. Private construction projects located within one-quarter mile of an inhabited dwelling, provided that:
1. Construction does not occur between the hours of six p.m. and six a.m. during the months of June through September, and
2. Construction does not occur between the hours of six p.m. and seven a.m. during the months of October thru May;

J. Property maintenance, including, but not limited to, the operation of lawnmowers, leaf blowers, etc., provided such maintenance occurs between the hours of seven a.m. and eight p.m.;

K. Motor vehicles, other than off-highway vehicles. This exemption does not include sound emanating from motor vehicle sound systems;

L. Heating and air conditioning equipment;

9.52.040 General sound level standards

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

Table D – County of Riverside Sound Level Standards

General Plan Foundation Component	General Plan Land Use Designation	General Plan Land Use Designation Name	Density	Exterior Standards	
				7 am – 10 pm	10 pm – 7 am
Community Development	LI	Light Industrial		75	55
Rural Community	EDR	Estate Density Residential	2 AC	55	45
	VLDR	Very Low Density Residential	1 AC	55	45
	LDR	Low Density Residential	½ AC	55	45

Notes: The properties located to the north and east of the project are designated as VLDR and the properties to the west and south of the project site are designated as LI in the Mead Valley Area Plan (County of Riverside, 2018)
Source: County of Riverside, 2021.

5.0 EXISTING NOISE CONDITIONS

To determine the existing noise levels, noise measurements have been taken in the vicinity of the project site. The field survey noted that noise within the proposed project area is generally characterized by vehicle traffic on Cajalco Expressway and aircraft overflights from March Air Reserve Base that is located as near as two miles north of the project site. The following describes the measurement procedures, measurement locations, and measurement results.

5.1 Noise Measurement Equipment

The noise measurements were taken using two Extech Model 407780 Class 2 integrating sound level meters programmed in "slow" mode to record the sound pressure level at 3-second intervals for approximately 24 hours in "A" weighted form. In addition, the Leq averaged over the entire measuring time and Lmax were recorded. The sound level meters and microphones were mounted approximately five feet above the ground and were equipped with a windscreen. The sound level meters were calibrated before and after the monitoring using an Extech calibrator, Model 407766. The noise level measurement equipment meets American National Standards Institute (ANSI) specifications for sound level meters (ANSI S1.4-2014 standard).

Noise Measurement Location

The noise monitoring locations were selected in order to obtain noise levels on the project site. Descriptions of the noise monitoring sites are provided below in Table E and are shown in Figure 4. Appendix A includes a photo index of the study area and noise level measurement locations.

Noise Measurement Timing and Climate

The noise measurements were recorded between 6:29 p.m. on Tuesday, May 25, 2021 and 6:42 p.m. on Wednesday, May 26, 2021. When the noise measurements were started the sky was partly cloudy, the temperature was 82 degrees Fahrenheit, the humidity was 32 percent, barometric pressure was 28.26 inches of mercury, and the wind was blowing around six miles per hour. Overnight, the temperature dropped to 60 degrees Fahrenheit and the humidity peaked at 69 percent. At the conclusion of the noise measurements, the sky was clear (no clouds), the temperature was 76 degrees Fahrenheit, the humidity was 45 percent, barometric pressure was 28.31 inches of mercury, and the wind was blowing around four miles per hour.

5.2 Noise Measurement Results

The results of the noise level measurements are presented in Table E. The measured sound pressure levels in dBA have been used to calculate the minimum and maximum L_{eq} averaged over 1-hour intervals. Table E also shows the L_{eq}, L_{max}, and Ldn, based on the entire measurement time. The Ldn was calculated through use of the hourly Leq shown below in Table F that was entered into Equation 2-23 from *Technical Noise Supplement to the Traffic Noise Analysis Protocol* (TeNS), prepared by Caltrans, September 2013. The noise monitoring data printouts are included in Appendix B.

Table E – Existing (Ambient) Noise Measurement Results

Site No.	Site Description	Average (dBA L_{eq})	Maximum (dBA L_{max})	(dBA $L_{eq\ 1\text{-}hour}$/Time) Minimum	(dBA $L_{eq\ 1\text{-}hour}$/Time) Maximum	Average (dBA Ldn)
A	Located on a power pole near the southwest corner of the project site, approximately 20 feet east of Seaton Avenue centerline and 80 feet north of the southwest corner of the project site.	62.1	94.4	50.0 2:55 a.m.	66.0 7:24 p.m.	67.3
B	Located on a palm tree that is next to the east property line and next to the entrance gate to the National Archives at Riverside that was closed to the public at the time of measurement.	57.5	88.9	46.7 2:34 a.m.	63.2 12:32 p.m.	60.0

Source: Noise measurements were taken with two Extech Model 407780 Type 2 sound level meters between Tuesday, May 25, 2021 and Wednesday, May 26, 2021.

Table F – Existing (Ambient) Noise Level Measurements Hourly Data (Leq-hr)

	Leq-hr	
Hour	Site A	Site B
7 pm - 8 pm	65.9	53.0
8 pm - 9 pm	61.7	51.5
9 pm - 10 pm	57.9	51.9
10 pm - 11 pm	58.4	53.0
11 pm - 12 am	64.9	50.9
12 am - 1 am	55.0	48.9
1 am - 2 am	52.4	48.4
2 am - 3 am	53.3	46.8
3 am - 4 am	54.9	48.3
4 am - 5 am	59.9	50.9
5 am - 6 am	64.6	52.5
6 am - 7 am	61.4	54.3
7 am - 8 am	61.0	62.3
8 am - 9 am	61.8	55.8
9 am - 10 am	62.8	61.2
10 am - 11 am	65.6	60.3
11 am - 12 pm	62.6	56.5
12 pm - 1 pm	60.0	63.1
1 pm - 2 pm	64.3	59.6
2 pm - 3 pm	60.3	57.9
3 pm - 4 pm	63.0	59.1
4 pm - 5 pm	62.3	62.0
5 pm - 6 pm	64.1	55.9
6 pm - 7 pm[1]	65.1	55.9

Notes:
[1] Sites A and B were averaged over less than hour of data.
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SOURCE: Google Maps.

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Figure 4
Field Noise Monitoring Locations

6.0 MODELING PARAMETERS AND ASSUMPTIONS

6.1 Construction Noise

The noise impacts from construction of the proposed project have been analyzed through use of the FHWA's Roadway Construction Noise Model (RCNM). The FHWA compiled noise measurement data regarding the noise generating characteristics of several different types of construction equipment used during the Central Artery/Tunnel project in Boston. Table G below provides a list of the construction equipment anticipated to be used for each phase of construction as detailed in the *Air Quality, Energy, Greenhouse Gas Emissions and Health Risk Assessment Impact Analysis Seaton Avenue & Cajalco Road Warehouse Project* (Air Quality Report), prepared by Vista Environmental, September 1, 2021.

Table G – Construction Equipment Noise Emissions and Usage Factors

Equipment Description	Number of Equipment	Acoustical Use Factor[1] (percent)	Spec 721.560 Lmax at 50 feet[2] (dBA, slow[3])	Actual Measured Lmax at 50 feet[4] (dBA, slow[3])
Demolition				
Concrete/Industrial Saw	1	40	85	82
Excavators	3	40	85	81
Rubber Tired Dozers	2	40	85	82
Site Preparation				
Rubber Tired Dozer	3	40	85	82
Crawler Tractors	4	40	84	N/A
Grading				
Excavators	2	40	85	81
Grader	1	40	85	83
Rubber Tired Dozer	1	40	85	82
Scrapers	2	40	85	84
Crawler Tractor	2	40	84	N/A
Building Construction				
Crane	1	16	85	81
Forklift (Gradall)	3	40	85	83
Generator	1	50	82	81
Tractor, Loader or Backhoe[5]	3	40	84	N/A
Welder	1	40	73	74
Paving				
Pavers	2	50	85	77
Paving Equipment	2	50	85	77
Rollers	2	20	85	80
Architectural Coating				
Air Compressor	1	40	80	78

Notes:
[1] Acoustical use factor is the percentage of time each piece of equipment is operational during a typical workday.
[2] Spec 721.560 is the equipment noise level utilized by the RCNM program.
[3] The "slow" response averages sound levels over 1-second increments. A "fast" response averages sound levels over 0.125-second increments.
[4] Actual Measured is the average noise level measured of each piece of equipment during the Central Artery/Tunnel project in Boston, Massachusetts primarily during the 1990s.
[5] For the tractor/loader/backhoe, the tractor noise level is shown, since it is the loudest of the three types of equipment.
Source: Federal Highway Administration, 2006.

Table G also shows the associated measured noise emissions for each piece of equipment from the RCNM model and measured percentage of typical equipment use per day. Construction noise impacts to the nearby sensitive receptors have been calculated according to the equipment noise levels and usage factors listed in Table G and through use of the RCNM. For each phase of construction, all construction equipment was analyzed based on being placed in the middle of the project site, which is based on the analysis methodology detailed in FTA Manual for a General Assessment. However, in order to provide a conservative analysis, all equipment was analyzed, instead of just the two nosiest pieces of equipment as detailed in the FTA Manual. The construction equipment noise levels were analyzed at representative nearby homes that are shown in Figure 5.

6.2 Operations-Related Noise

FHWA Model Methodology

The proposed project would result in increases in traffic noise to the nearby roadways. The project impacts to the offsite roadways as well as the nearby roadway impacts to the proposed homes were analyzed through use of the FHWA Traffic Noise Prediction Model - FHWA-RD-77-108 (FHWA Model). The FHWA Model arrives at a predicted noise level through a series of adjustments to the Reference Energy Mean Emission Level (REMEL). Adjustments are then made to the reference energy mean emission level to account for: the roadway active width (i.e., the distance between the center of the outermost travel lanes on each side of the roadway), the total average daily traffic (ADT) and the percentage of ADT which flows during the day, evening and night, the travel speed, the vehicle mix on the roadway, which is a percentage of the volume of automobiles, medium trucks and heavy trucks, the roadway grade, the angle of view of the observer exposed to the roadway and site conditions ("hard" or "soft" relates to the absorption of the ground, pavement or landscaping). The following section provides a discussion of the software and modeling input parameters used in this analysis and a discussion of the resultant existing noise model.

FHWA Model Traffic Noise Prediction Model Inputs

The roadway parameters used for this study are presented in Table H. The roadway classifications are based on the County's General Plan Circulation Element. The roadway speeds are based on the posted speed limits. The distance to the nearest sensitive receptor was determined by measuring the distance from the roadway centerline to the nearest residence. Since the study area is located in a suburban environment and landscaping or natural vegetation exists along the sides of all analyzed roadways, soft site conditions were modeled.

Table H – FHWA Model Roadway Parameters

Roadway	Segment	General Plan Classification	Vehicle Speed (MPH)	Distance to Nearest Receptor[1] (feet)
Seaton Avenue	North of Cajalco Road	Secondary	45	60
Seaton Avenue	North of Project Driveway 2	Secondary	45	130
Seaton Avenue	South of Project Driveway 2	Secondary	45	130
Cajalco Road	West of Seaton Avenue	Expressway	50	120

Notes:
[1] Distance measured from nearest residential structure to centerline of roadway.
Source: County of Riverside, 2015.

The average daily traffic (ADT) volumes were obtained from the *Seaton Avenue and Cajalco Road High-Cube Warehouse Focused Traffic Analysis* (Traffic Analysis), prepared by Translutions, Inc., August 19, 2021. The without project ADT volumes were calculated by multiplying the PM peak hour volumes by 12. The ADT volumes have been provided for both without project and with project conditions for the existing and project completion (year 2023) with cumulative projects scenarios. The ADT volumes used in this analysis are shown in Table I.

Table I – FHWA Model Average Daily Traffic Volumes

Road	Road Segment	Average Daily Traffic Volumes			
		Existing	Existing + Project	Year 2023 No Project	Year 2023 + Project
Seaton Avenue	North of Cajalco Road	490	575	1,490	1,575
Seaton Avenue	North of Project Driveway 2	1,190	1,461	1,900	2,171
Seaton Avenue	South of Project Driveway 2	1,190	1,233	1,900	1,943
Cajalco Road	West of Seaton Avenue	29,110	29,213	31,910	32,013

Source: Translutions, Inc., 2021.

The County provides the vehicle mixes to be used in the FHWA-RD-77-108 Model that are shown below in Table J.

Table J – County of Riverside Roadway Vehicle Mixes

Vehicle Type	Traffic Flow Distributions			
	Day (7 a.m. to 7 p.m.)	Evening (7 p.m. to 10 p.m.)	Night (10 p.m. to 7 a.m.)	Overall
Secondary, Collector or Smaller				
Automobiles	73.60%	13.60%	10.22%	97.42%
Medium Trucks	0.90%	0.04%	0.9%	1.84%
Heavy Trucks	0.35%	0.04%	0.35%	0.74%
Major, Arterial Highways, and Expressways				
Automobiles	69.50%	12.90%	9.60%	92.00%
Medium Trucks	1.44%	0.06%	1.50%	3.00%
Heavy Trucks	2.40%	0.10%	2.50%	5.00%

Source: County of Riverside, 2015.

FHWA Model Source Assumptions

To assess the roadway noise generation in a uniform manner, all vehicles are analyzed at the single lane equivalent acoustic center of the roadway being analyzed. In order to determine the height above the road grade where the noise is being emitted from, each type of vehicle has been analyzed independently with autos at road grade, medium trucks at 2.3 feet above road grade, and heavy trucks at 8 feet above road grade. These elevations were determined through a noise-weighted average of the elevation of the exhaust pipe, tires and mechanical parts in the engine, which are the primary noise emitters from a vehicle.

6.3 Vibration

Construction activity can result in varying degrees of ground vibration, depending on the equipment used on the site. Operation of construction equipment causes ground vibrations that spread through the ground and diminish in strength with distance. Buildings in the vicinity of the construction site respond to these vibrations with varying results ranging from no perceptible effects at the low levels to damage at the highest levels. Table K gives approximate vibration levels for particular construction activities. The data in Table K provides a reasonable estimate for a wide range of soil conditions.

Table K – Vibration Source Levels for Construction Equipment

Equipment		Peak Particle Velocity at 25 feet (inches/second)	Approximate Vibration Level (L_v)at 25 feet
Pile driver (impact)	Upper range	1.518	112
	typical	0.644	104
Pile driver (sonic)	Upper range	0.734	105
	typical	0.170	93
Clam shovel drop (slurry wall)		0.202	94
Vibratory Roller		0.210	94
Hoe Ram		0.089	87
Large bulldozer		0.089	87
Caisson drill		0.089	87
Loaded trucks		0.076	86
Jackhammer		0.035	79
Small bulldozer		0.003	58

Source: Federal Transit Administration, May 2018.

The construction-related vibration impacts have been calculated through the vibration levels shown above in Table K and through typical vibration propagation rates. The equipment assumptions were based on the equipment lists provided above in Table G.

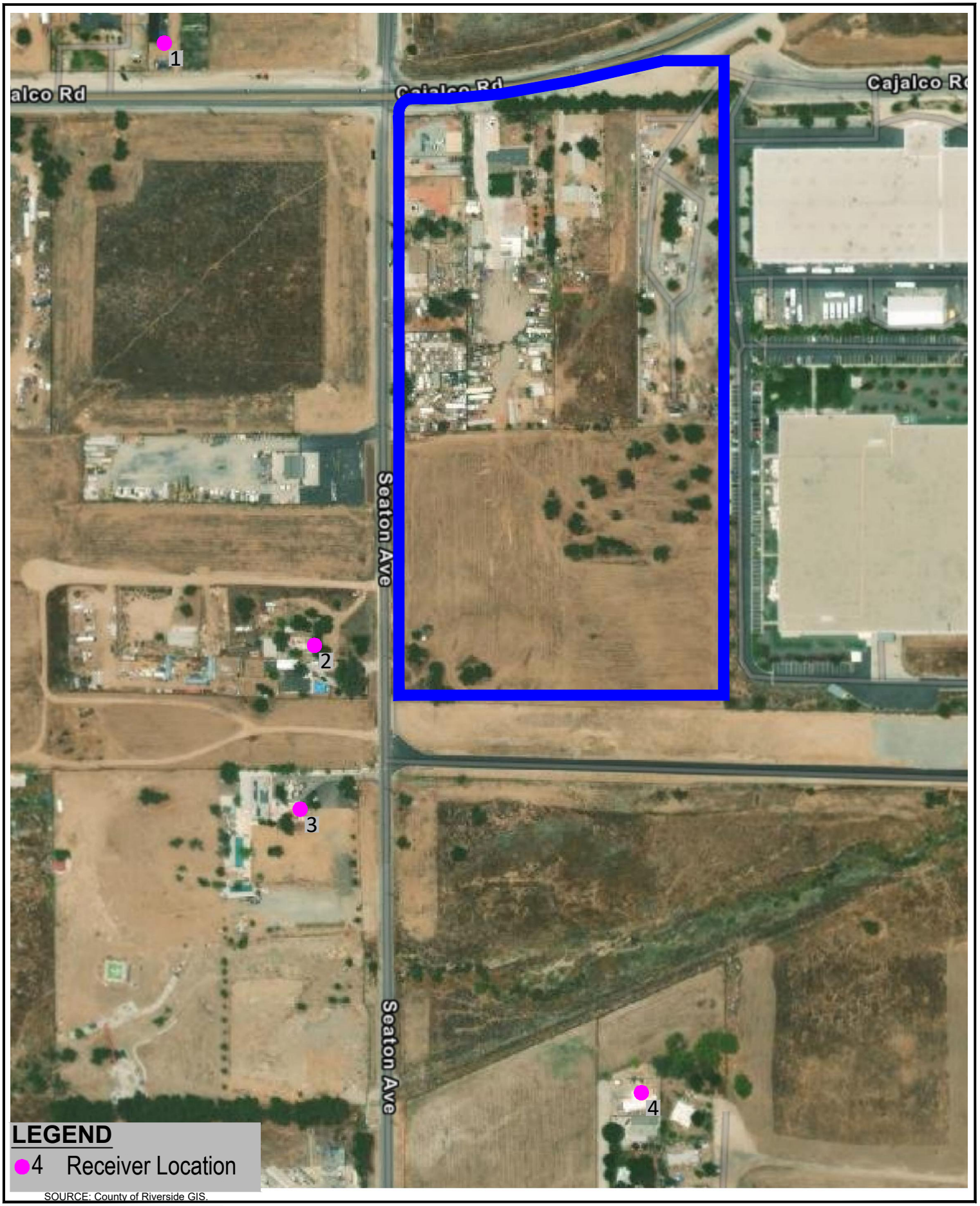

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Figure 5
Locations of Nearby Receptors Analyzed

7.0 IMPACT ANALYSIS

7.1 CEQA Thresholds of Significance

Consistent with the California Environmental Quality Act (CEQA) and the State CEQA Guidelines, a significant impact related to noise would occur if a proposed project is determined to result in:

- 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;
- Generation of excessive groundborne vibration or groundborne noise levels; or
- 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.

7.2 Generation of Noise Levels in Excess of Standards

The proposed project would not generate 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. The following section calculates the potential noise emissions associated with the temporary construction activities and long-term operations of the proposed project and compares the noise levels to the County standards.

Construction-Related Noise

The construction activities for the proposed project are anticipated to include demolition of the approximately 12 structures that are currently on the project site, site preparation and grading of the 17.50 gross acre project site, building construction of the warehouse, paving of the truck loading areas, driveways, and parking lots, and application of architectural coatings. Noise impacts from construction activities associated with the proposed project would be a function of the noise generated by construction equipment, equipment location, sensitivity of nearby land uses, and the timing and duration of the construction activities. The nearest sensitive receptors to the project site are two single-family homes that are located across Seaton Avenue, approximately 140 feet from the southwest corner of the project site. There is also a Buddhist Temple, located approximately 280 feet southwest of the southwest corner of the project site. There are also nearby homes located approximately 760 feet south of the project site on Vista Del Lago and approximately 740 feet west of the project site on Cajalco Road.

General Plan Policy N 13.1 requires that construction noise impacts to be minimized on adjacent uses through acceptable practices. General Plan Policy N 13.2 requires that construction activities are limited to established hours of operation in order to mitigate the generation of excessive or adverse noise impacts on the surrounding community. Section 9.52.020(I) of the Municipal Code provides the established hours of construction operations and details that construction activities that occur between 6:00 a.m. and 6:00 p.m. during the months of June through September and between 7:00 a.m. and 6:00 p.m. during the months of October through May are exempt from the Noise Ordinance. General Plan Policy 13.4 requires that all construction equipment utilize noise reduction features (e.g., mufflers and engine shrouds) that are no less effectively than what was originally installed by the manufacturer. Through adherence to County regulations, construction of the proposed project would not exceed the applicable standards in the General Plan and Municipal Code.

However, the County construction noise standards do not provide any limits to the noise levels that may be created from construction activities and even with adherence to the County standards, the resultant construction noise levels may result in a significant substantial temporary noise increase to the nearby residents. In order to determine if the proposed construction activities would create a significant substantial temporary noise increase, the FTA construction noise criteria thresholds detailed above in Section 4.1 have been utilized, which shows that a significant construction noise impact would occur if construction noise exceeds 80 dBA during the daytime at any of the nearby homes or temple.

Construction noise impacts to the nearby sensitive receptors have been calculated through use of the RCNM and the parameters and assumptions detailed in Section 6.1 of this report including Table G – Construction Equipment Noise Emissions and Usage Factors. The results are shown below in Table L and the RCNM printouts are provided in Appendix C.

Table L – Construction Noise Levels at the Nearby Sensitive Receptors

	Construction Noise Level (dBA Leq) at[1]:			
Construction Phase	**1 - Home to Northwest**	**2 - Home to West**	**3 - Temple to Southwest**	**4 - Home to South**
Demolition	59	64	61	58
Site Preparation	61	65	63	59
Grading	61	66	63	60
Building Construction	60	65	62	58
Paving	55	59	57	53
Painting	47	51	49	45
FTA Construction Noise Threshold[2]	**80**	**80**	**80**	**80**
Exceed Thresholds?	**No**	**No**	**No**	**No**

Notes:
[1] The locations of Receptors 1 – 4 are shown above in Figure 6.
[2] FTA Construction Noise Threshold obtained from Table B above.
Source: RCNM, Federal Highway Administration, 2006

Table L shows that the greatest noise impacts would occur during the grading phase of construction, with a noise level as high as 66 dBA Leq at Receiver 2, which is located at the nearest home to the west side of the project site. All calculated construction noise levels shown in Table L are within the FTA daytime construction noise standard of 80 dBA. Therefore, through adherence to the allowable construction times detailed in Section 9.52.020(I) of the Riverside County Code, the proposed project would not create a substantial temporary increase in ambient noise levels from construction of the proposed project. Impacts would be less than significant.

Operational-Related Noise

The proposed project would consist of the development of a warehouse that will have a truck loading area with 43 dock doors on the east side of the building, with 66 trailer parking spaces located on the east side of the truck loading area. A total of 244 automobile parking spaces will be provided that will be located on the north, south and west sides of the warehouse.

Potential noise impacts associated with the operations of the proposed project would be from project-generated vehicular traffic on the nearby roadways and from onsite activities, which have been analyzed separately below.

Roadway Vehicular Noise Impacts

Vehicle noise is a combination of the noise produced by the engine, exhaust and tires. The level of traffic noise depends on three primary factors (1) the volume of traffic, (2) the speed of traffic, and (3) the number of trucks in the flow of traffic. The proposed project's potential offsite noise impacts have been focused on the noise impacts associated with the change of volume of traffic that would occur with development of the proposed project.

General Plan Policy N 9.3 requires development projects that generate increased traffic and subsequent increases in the ambient noise level adjacent to noise-sensitive land uses to provide appropriate mitigation measures. However, General Plan Policy 9.3 does not, nor does any other General Plan policy define what constitutes a "substantial permanent increase to ambient noise levels". As such, this impact analysis has utilized guidance from the Federal Transit Administration for a moderate impact that has been detailed above in Table A that shows that the project contribution to the noise environment can range between 0 and 7 dB, which is dependent on the existing roadway noise levels.

The potential offsite traffic noise impacts created by the ongoing operations of the proposed project have been analyzed through utilization of the FHWA model and parameters described above in Section 6.2 and the FHWA model traffic noise calculation spreadsheets are provided in Appendix D. The proposed project's potential offsite traffic noise impacts have been analyzed for the existing year and project completion (year 2023) with cumulative projects scenarios that are analyzed separately below.

Existing Conditions

The proposed project's potential offsite traffic noise impacts have been calculated through a comparison of the Existing scenario to the Existing With Project scenario. The results of this comparison are shown in Table M.

Table M – Existing Year Traffic Noise Contributions

		dBA Ldn at Nearest Receptor[1]			
Roadway	Segment	Existing	Existing Plus Project	Project Contribution	Increase Threshold[2]
Seaton Avenue	North of Cajalco Road	51.1	51.8	0.7	+5 dBA
Seaton Avenue	North of Project Driveway 2	49.7	50.6	0.9	+5 dBA
Seaton Avenue	South of Project Driveway 2	49.7	49.9	0.2	+5 dBA
Cajalco Road	West of Seaton Avenue	65.8	65.8	0.0	+1 dBA

Notes:
[1] Distance to nearest residential use shown in Table H, does not take into account existing noise barriers.
[2] Increase Threshold obtained from the FTA's allowable noise impact exposures detailed above in Table A.
Source: FHWA Traffic Noise Prediction Model FHWA-RD-77-108.

Table M shows that the proposed project's permanent roadway noise increases to the nearby homes from the generation of additional vehicular traffic would not exceed the FTA's allowable increase thresholds detailed above. Therefore, the proposed project would not result in a substantial permanent increase in ambient roadway noise levels for the existing conditions. Impacts would be less than significant.

Project Completion Year 2023 With Cumulative Projects Conditions

The proposed project's potential offsite traffic noise impacts have been calculated through a comparison of the project completion year 2023 with cumulative projects scenario to the project completion year 2023 with cumulative projects plus project scenario. The results of this comparison are shown in Table N.

Table N – Year 2023 With Cumulative Projects Traffic Noise Contributions

		dBA Ldn at Nearest Receptor[1]			
Roadway	Segment	Year 2023	Year 2023 Plus Project	Project Contribution	Increase Threshold[2]
Seaton Avenue	North of Cajalco Road	56.0	56.2	0.2	+5 dBA
Seaton Avenue	North of Project Driveway 2	51.7	52.3	0.6	+5 dBA
Seaton Avenue	South of Project Driveway 2	51.7	51.8	0.1	+5 dBA
Cajalco Road	West of Seaton Avenue	66.2	66.2	0.0	+1 dBA

Notes:
[1] Distance to nearest residential use shown in Table H, does not take into account existing noise barriers.
[2] Increase Threshold obtained from the FTA's allowable noise impact exposures detailed above in Table A.
Source: FHWA Traffic Noise Prediction Model FHWA-RD-77-108.

Table N shows that the proposed project's permanent noise increases to the nearby homes from the generation of additional vehicular traffic would not exceed the FTA's allowable increase thresholds detailed above. Therefore, the proposed project would not result in a substantial permanent increase in ambient roadway noise levels for the project completion year 2023 with cumulative projects conditions. Impacts would be less than significant.

Proposed Onsite Noise Sources

The operation of the proposed project may create an increase in onsite noise levels from truck operations, including truck loading/unloading activities, rooftop mechanical equipment, forklift activities, and automobile parking lot activities. Section 9.52.040 of the Riverside County Code limits noise created by the proposed industrial uses on the nearby residential properties to 55 dBA between 7 a.m. and 10 p.m. and to 45 dBA between 10 p.m. and 7 a.m.

In order to determine the noise impacts from the operation of rooftop mechanical equipment, automobile parking lots, forklifts, and truck loading/unloading activities, reference noise measurements were taken of each noise source and the reference noise measurements output files are provided in Appendix E. The noise levels at the nearby sensitive receptors were calculated based on standard geometric spreading of noise, which provides an attenuation rate of 6 dB per doubling the distance between source and receptor. The operational noise levels were calculated at the representative sensitive receptors identified above in Figure 5 and the results are shown in Table O. Appendix E provides the noise calculation worksheets for each receiver.

Table O – Operational Noise Levels at the Nearby Sensitive Receptors

Noise Source	Operational Noise Level[1] (dBA Leq)			
	1 - Home to Northwest	2 - Home to West	3 - Temple to Southwest	4 - Home to South
Rooftop Equipment[2]	29.9	39.4	33.9	27.7
Auto Parking Lot[3]	20.7	32.5	25.5	19.1
Onsite Truck Operations[4]	27.3	39.2	33.8	25.1
Forklift[5]	33.6	37.8	36.1	34.6
Combined Noise Level	**35.9**	**43.9**	**39.7**	**35.9**
County Noise Standards[6] (day/night)	**55/45**	**55/45**	**55/45**	**55/45**
Exceed County Noise Standards?	**No/No**	**No/No**	**No/No**	**No/No**

Notes:
[1] The noise levels were calculated based on standard noise attenuation rate of 6 dB reduction per doubling of distance. The locations of Receptors 1 – 4 are shown above in Figure 5.
[2] Rooftop equipment is based on a reference noise measurement of 66.6 dBA at 10 feet.
[3] Parking lot is based on a reference noise measurement of 63.1 dBA at 5 feet.
[4] Onsite truck operations is based on a truck with an operational transport refrigeration unit (TRU) with a reference noise measurement of 63.3 dBA at 10 feet.
[5] Forklift activities is based on a reference noise measurement of 74.4 dBA at 10 feet.
[6] The County noise standards are from Section 9.52.040 of the Riverside County Code
Source: Noise calculation methodology from Caltrans, 2013 (see Appendix E).

Table O shows that the proposed project's worst-case operational noise from the simultaneous operation of all noise sources on the project site would create a noise level of 43.9 dBA at Receptor 2, that is located at the home that is west of the southwest corner of the project site. The worst-case operational noise level of 43.9 dBA would be within the County's residential noise standards of 55 dBA between 7 a.m. and 10 p.m. and 45 dBA between 10 p.m. and 7 a.m. It should also be noted that the operational noise levels would be well below the measured ambient noise levels that ranged between 57.5 dBA Leq and 62.1 dBA Leq shown above in Table E. Therefore, the onsite operational noise impacts would be less than significant.

Level of Significance

Less than significant impact.

7.3 Generation of Excessive Groundborne Vibration

The proposed project would not expose persons to, or result in the generation of, excessive groundborne vibration or groundborne noise levels. The following section analyzes the potential vibration impacts associated with the construction and operations of the proposed project.

Construction-Related Vibration Impacts

The construction activities for the proposed project are anticipated to include demolition of the approximately 12 structures that are currently on the project site, site preparation and grading of the 17.50 gross acre project site, building construction of the warehouse, paving of the truck loading areas, driveways, and parking lots, and application of architectural coatings. Vibration impacts from construction activities associated with the proposed project would typically be created from the operation of heavy off-road equipment. The nearest sensitive receptors to the project site are two single-family homes that are located across Seaton Avenue, approximately 140 feet from the southwest corner of the project site.

Since neither the County's General Plan nor the County Code provide a quantifiable vibration threshold for construction equipment, Caltrans guidance that is detailed above in Section 4.2 has been utilized, which defines the threshold of distinct perception from transient sources at 0.25 inch per second PPV.

The primary source of vibration during construction would be from the operation of a bulldozer. From Table K above a large bulldozer would create a vibration level of 0.089 inch per second PPV at 25 feet. Based on typical propagation rates, the vibration level at the nearest offsite receptor (140 feet away) would be 0.003 inch per second PPV. The vibration level at the nearest offsite receptor would be within the 0.25 inch per second PPV threshold detailed above. Therefore, a less than significant vibration impact is anticipated from construction of the proposed project.

Operations-Related Vibration Impacts

The proposed project would consist of the development of a warehouse that will have a truck loading area with 43 dock doors on the east side of the building, with 66 trailer parking spaces located on the east side of the truck loading area. A total of 244 automobile parking spaces will be provided that will be located on the north, south and west sides of the warehouse. The nearest homes to the west would be located as near as 160 feet from where trucks would operate on the project site.

Caltrans has done extensive research on vibration level created along freeways and State Routes and their vibration measurements of roads have never exceeded 0.08 inches per second PPV at 15 feet from the center of the nearest lane, with the worst combinations of heavy trucks. As detailed above, truck activities would occur onsite as near as 160 feet from the nearest homes. Based on typical propagation rates, the vibration level at the nearest homes would be 0.001 inch per second PPV. Therefore, vibration created from operation of the proposed project would be within the 0.25 inch per second PPV threshold of detailed above. Impacts would be less than significant.

Level of Significance

Less than significant impact.

7.4 Aircraft Noise

The proposed project may expose people residing or working in the project area to excessive noise levels from aircraft. The nearest airport is March Air Reserve Base is located as near as two miles north of the project site.

County of Riverside General Plan Policy N 7.4 requires that each development proposed is checked with the applicable Area Plan's Airport Influence Areas. The applicable Area Plan is the Mead Valley Area Plan, and the associated Airport Influence Area Plan is shown in Figure 6. Figure 6 shows that the project site is located within Compatibility Zone Area 2 and is located outside of the March Air Reserve Base's 60 dB CNEL noise contours. Since warehouse uses are allowed within Compatibility Zone Area 2, no impact is anticipated to occur from aircraft noise.

Level of Significance

No impact.

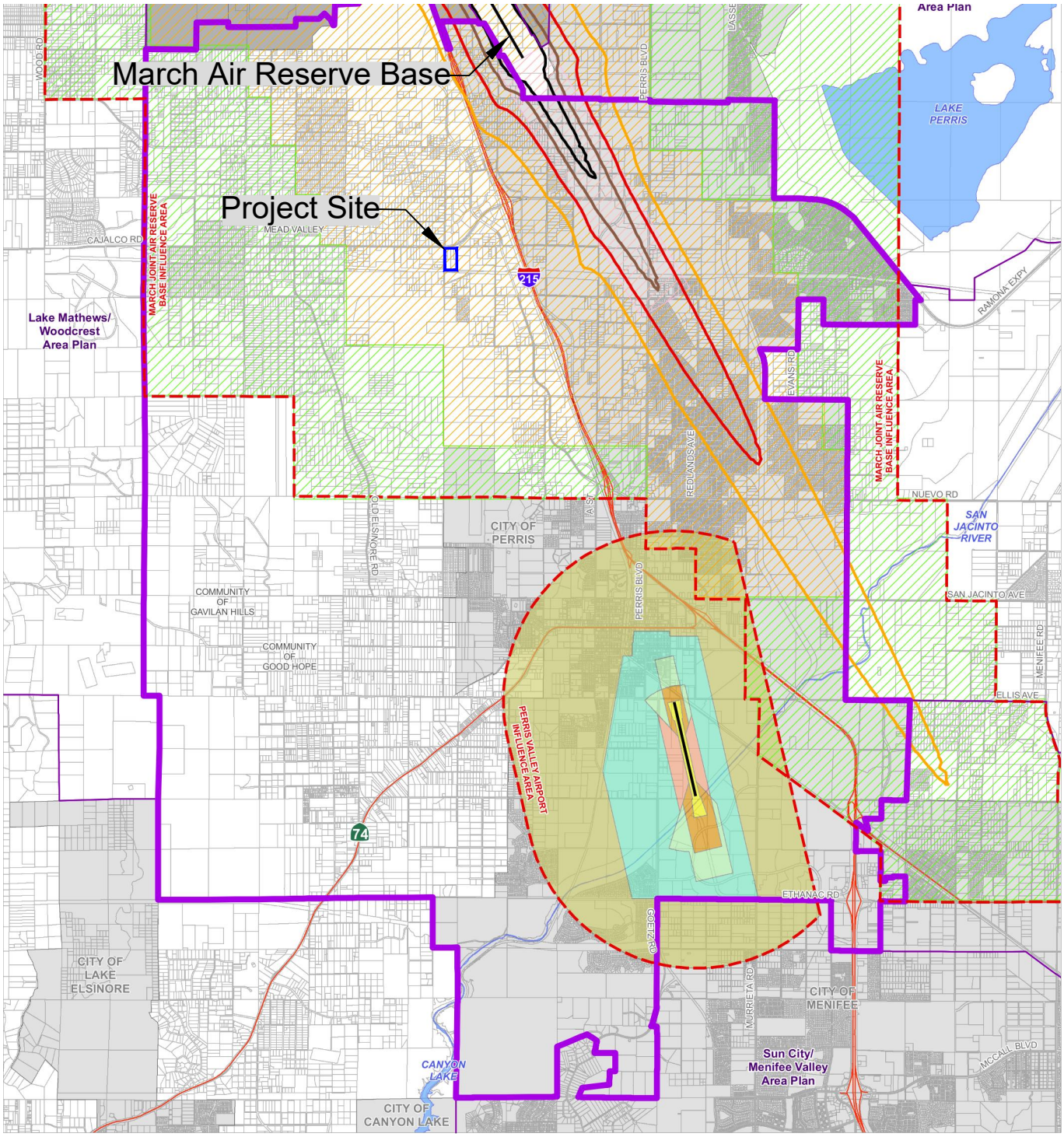

Figure 5

SOURCE: County of Riverside.

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Figure 6
Mead Valley Area Plan Airport Influence Areas

8.0 REFERENCES

California Department of Transportation, *2016 Annual Average Daily Truck Traffic on the California State Highway System*, 2018.

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Vista Environmental, *Air Quality, Energy, Greenhouse Gas Emissions and Health Risk Assessment Impact Analysis Seaton Avenue & Cajalco Road Warehouse Project,* September 1, 2021.

APPENDIX A

Field Noise Measurements Photo Index

Noise Measurement Site A - looking north

Noise Measurement Site A - looking northeast

Noise Measurement Site A - looking east

Noise Measurement Site A - looking southeast

Noise Measurement Site A - looking south

Noise Measurement Site A - looking southwest

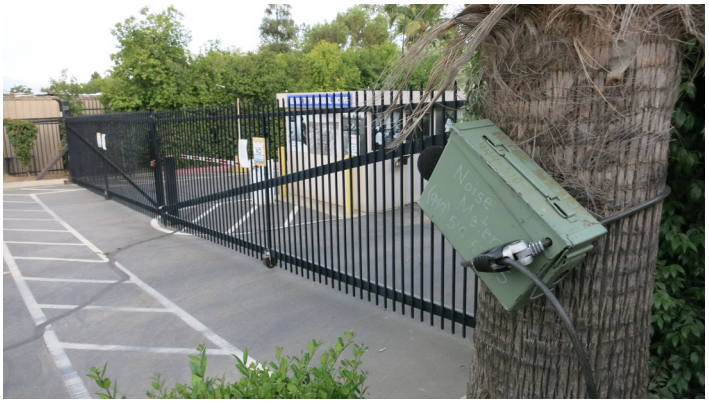
Noise Measurement Site A - looking west

Noise Measurement Site A - looking northwest

Noise Measurement Site B - looking north

Noise Measurement Site B - looking northeast

Noise Measurement Site B - looking east



Noise Measurement Site B - looking southeast

Noise Measurement Site B - looking south

Noise Measurement Site B - looking southwest

Noise Measurement Site B - looking west

Noise Measurement Site B - looking northwest

APPENDIX B

Field Noise Measurements Printouts

Site A - Near SW Corner of Project Site

Date	Time=05/25/21	6:29:00 PM			
Sampling	Time=3	Weighting=A			
Record	Num= 29200	Weighting=Slow	CNEL(24hr)=	67.7	
Leq	62.1 SEL	Value=112.4	Ldn(24hr)=	67.3	
MAX	94.4	Min Leq1hr =	50.0	2:55 AM	
MIN	35.9	Max Leq1hr =	66.0	7:24 PM	

Site A - Near SW Corner of Project Site

SPL	Time	Leq (1 hour Avg.)	Ldn	CNEL
59.6	18:29:00		59.6	59.6
57.2	18:29:03		57.2	57.2
59	18:29:06		59	59.0
63.6	18:29:09		63.6	63.6
59.7	18:29:12		59.7	59.7
59.8	18:29:15		59.8	59.8
65.6	18:29:18		65.6	65.6
57.2	18:29:21		57.2	57.2
56	18:29:24		56	56.0
65.8	18:29:27		65.8	65.8
64.5	18:29:30		64.5	64.5
66	18:29:33		66	66.0
60.2	18:29:36		60.2	60.2
65.2	18:29:39		65.2	65.2
64.8	18:29:42		64.8	64.8
65.3	18:29:45		65.3	65.3
66.7	18:29:48		66.7	66.7
62.7	18:29:51		62.7	62.7
66.3	18:29:54		66.3	66.3
57.8	18:29:57		57.8	57.8
68.3	18:30:00		68.3	68.3
66.9	18:30:03		66.9	66.9
62.6	18:30:06		62.6	62.6
58.7	18:30:09		58.7	58.7
55.2	18:30:12		55.2	55.2
53.8	18:30:15		53.8	53.8
59.5	18:30:18		59.5	59.5
54.9	18:30:21		54.9	54.9
54.2	18:30:24		54.2	54.2
52.5	18:30:27		52.5	52.5
61.8	18:30:30		61.8	61.8
60.5	18:30:33		60.5	60.5
61	18:30:36		61	61.0
55	18:30:39		55	55.0
55.2	18:30:42		55.2	55.2
54.9	18:30:45		54.9	54.9
53.2	18:30:48		53.2	53.2
53.2	18:30:51		53.2	53.2
52.3	18:30:54		52.3	52.3
57.3	18:30:57		57.3	57.3
54.2	18:31:00		54.2	54.2
55.1	18:31:03		55.1	55.1
54	18:31:06		54	54.0
53.2	18:31:09		53.2	53.2
53.5	18:31:12		53.5	53.5
55.1	18:31:15		55.1	55.1
56.7	18:31:18		56.7	56.7
56.6	18:31:21		56.6	56.6
63.8	18:31:24		63.8	63.8
64.8	18:31:27		64.8	64.8
63.7	18:31:30		63.7	63.7
57.1	18:31:33		57.1	57.1
55.4	18:31:36		55.4	55.4
55	18:31:39		55	55.0
55.7	18:31:42		55.7	55.7
56	18:31:45		56	56.0
56	18:31:48		56	56.0
55.2	18:31:51		55.2	55.2
56.3	18:31:54		56.3	56.3
57.3	18:31:57		57.3	57.3
57	18:32:00		57	57.0
56	18:32:03		56	56.0
56	18:32:06		56	56.0
55.5	18:32:09		55.5	55.5
54.8	18:32:12		54.8	54.8
55	18:32:15		55	55.0
54.7	18:32:18		54.7	54.7
54.6	18:32:21		54.6	54.6
54.5	18:32:24		54.5	54.5
56.2	18:32:27		56.2	56.2
54.2	18:32:30		54.2	54.2
55.4	18:32:33		55.4	55.4
54.6	18:32:36		54.6	54.6
54.7	18:32:39		54.7	54.7
53.4	18:32:42		53.4	53.4
54.9	18:32:45		54.9	54.9
55.8	18:32:48		55.8	55.8

Site B - Near NE Corner of Project Site

Date	Time=05/25/21	6:42:00 PM			
Sampling	Time=3	Freq Weighting=A			
Record	Num= 28800	Weighting=Slow	CNEL(24hr)=	60.2	
Leq	57.5 SEL	Value=106.8	Ldn(24hr)=	60.0	
MAX	88.9	Min Leq1hr =	46.7	2:34 AM	
MIN	42.9	Max Leq1hr =	63.2	12:32 PM	

Site B - Near NE Corner of Project Site

SPL	Time	Leq (1 hour Avg.)	Ldn	CNEL
56	18:42:00		56	56
63.6	18:42:03		63.6	63.6
71.5	18:42:06		71.5	71.5
63.3	18:42:09		63.3	63.3
60.9	18:42:12		60.9	60.9
60.5	18:42:15		60.5	60.5
63.8	18:42:18		63.8	63.8
67.7	18:42:21		67.7	67.7
64.1	18:42:24		64.1	64.1
67.1	18:42:27		67.1	67.1
65.9	18:42:30		65.9	65.9
65.5	18:42:33		65.5	65.5
66.1	18:42:36		66.1	66.1
61.3	18:42:39		61.3	61.3
58.8	18:42:42		58.8	58.8
60.4	18:42:45		60.4	60.4
58.5	18:42:48		58.5	58.5
60.8	18:42:51		60.8	60.8
67.7	18:42:54		67.7	67.7
60.8	18:42:57		60.8	60.8
62.4	18:43:00		62.4	62.4
67.3	18:43:03		67.3	67.3
68.5	18:43:06		68.5	68.5
69.4	18:43:09		69.4	69.4
71.8	18:43:12		71.8	71.8
65.6	18:43:15		65.6	65.6
66	18:43:18		66	66
69	18:43:21		69	69
62	18:43:24		62	62
58.2	18:43:27		58.2	58.2
60.2	18:43:30		60.2	60.2
62.7	18:43:33		62.7	62.7
55.5	18:43:36		55.5	55.5
55.1	18:43:39		55.1	55.1
55.6	18:43:42		55.6	55.6
55.6	18:43:45		55.6	55.6
54.8	18:43:48		54.8	54.8
55	18:43:51		55	55
56.3	18:43:54		56.3	56.3
56.9	18:43:57		56.9	56.9
56	18:44:00		56	56
55.3	18:44:03		55.3	55.3
54.9	18:44:06		54.9	54.9
54.8	18:44:09		54.8	54.8
56.1	18:44:12		56.1	56.1
56.3	18:44:15		56.3	56.3
54.9	18:44:18		54.9	54.9
56.1	18:44:21		56.1	56.1
56.3	18:44:24		56.3	56.3
55.5	18:44:27		55.5	55.5
54.7	18:44:30		54.7	54.7
56.7	18:44:33		56.7	56.7
55.7	18:44:36		55.7	55.7
53.7	18:44:39		53.7	53.7
54.6	18:44:42		54.6	54.6
55.4	18:44:45		55.4	55.4
54.5	18:44:48		54.5	54.5
54.4	18:44:51		54.4	54.4
55.4	18:44:54		55.4	55.4
58.4	18:44:57		58.4	58.4
57.7	18:45:00		57.7	57.7
57	18:45:03		57	57
58.2	18:45:06		58.2	58.2
57.6	18:45:09		57.6	57.6
57	18:45:12		57	57
55.5	18:45:15		55.5	55.5
55.4	18:45:18		55.4	55.4
54	18:45:21		54	54
52.9	18:45:24		52.9	52.9
53	18:45:27		53	53
54.2	18:45:30		54.2	54.2
58	18:45:33		58	58
54.3	18:45:36		54.3	54.3
56.9	18:45:39		56.9	56.9
55.4	18:45:42		55.4	55.4
54.8	18:45:45		54.8	54.8
55.5	18:45:48		55.5	55.5

Site A - Near SW Corner of Project Site					Site B - Near NE Corner of Project Site				
SPL	Time	Leq (1 hour Avg.)	Ldn	CNEL	SPL	Time	Leq (1 hour Avg.)	Ldn	CNEL
55.1	18:32:51		55.1	55.1	54.4	18:45:51		54.4	54.4
55.4	18:32:54		55.4	55.4	55	18:45:54		55	55
55.6	18:32:57		55.6	55.6	54.7	18:45:57		54.7	54.7
55	18:33:00		55	55.0	54.4	18:46:00		54.4	54.4
54.9	18:33:03		54.9	54.9	53.6	18:46:03		53.6	53.6
56	18:33:06		56	56.0	53.7	18:46:06		53.7	53.7
55	18:33:09		55	55.0	56.6	18:46:09		56.6	56.6
57.7	18:33:12		57.7	57.7	57.5	18:46:12		57.5	57.5
60.6	18:33:15		60.6	60.6	55.8	18:46:15		55.8	55.8
63.4	18:33:18		63.4	63.4	54.2	18:46:18		54.2	54.2
64.3	18:33:21		64.3	64.3	61.2	18:46:21		61.2	61.2
62	18:33:24		62	62.0	59.3	18:46:24		59.3	59.3
66.2	18:33:27		66.2	66.2	53.7	18:46:27		53.7	53.7
65.3	18:33:30		65.3	65.3	51.6	18:46:30		51.6	51.6
64.8	18:33:33		64.8	64.8	51.4	18:46:33		51.4	51.4
66.1	18:33:36		66.1	66.1	52.9	18:46:36		52.9	52.9
66	18:33:39		66	66.0	55.4	18:46:39		55.4	55.4
61.4	18:33:42		61.4	61.4	59	18:46:42		59	59
57.5	18:33:45		57.5	57.5	56.9	18:46:45		56.9	56.9
57.5	18:33:48		57.5	57.5	54.8	18:46:48		54.8	54.8
59	18:33:51		59	59.0	52.2	18:46:51		52.2	52.2
68.4	18:33:54		68.4	68.4	51	18:46:54		51	51
61.5	18:33:57		61.5	61.5	51.6	18:46:57		51.6	51.6
60.8	18:34:00		60.8	60.8	51.6	18:47:00		51.6	51.6
56.3	18:34:03		56.3	56.3	52.2	18:47:03		52.2	52.2
55.3	18:34:06		55.3	55.3	53.4	18:47:06		53.4	53.4
54.4	18:34:09		54.4	54.4	54.1	18:47:09		54.1	54.1
55.4	18:34:12		55.4	55.4	53.8	18:47:12		53.8	53.8
57.2	18:34:15		57.2	57.2	54.2	18:47:15		54.2	54.2
55.1	18:34:18		55.1	55.1	52.5	18:47:18		52.5	52.5
55.2	18:34:21		55.2	55.2	53.6	18:47:21		53.6	53.6
55	18:34:24		55	55.0	54.1	18:47:24		54.1	54.1
54	18:34:27		54	54.0	53	18:47:27		53	53
54.1	18:34:30		54.1	54.1	55.1	18:47:30		55.1	55.1
55	18:34:33		55	55.0	53.6	18:47:33		53.6	53.6
54.8	18:34:36		54.8	54.8	54.9	18:47:36		54.9	54.9
54.5	18:34:39		54.5	54.5	55.2	18:47:39		55.2	55.2
60	18:34:42		60	60.0	56.6	18:47:42		56.6	56.6
67.4	18:34:45		67.4	67.4	57.9	18:47:45		57.9	57.9
66.8	18:34:48		66.8	66.8	59.6	18:47:48		59.6	59.6
58.6	18:34:51		58.6	58.6	57.6	18:47:51		57.6	57.6
56.6	18:34:54		56.6	56.6	56.9	18:47:54		56.9	56.9
56.2	18:34:57		56.2	56.2	59.8	18:47:57		59.8	59.8
55.5	18:35:00		55.5	55.5	56.4	18:48:00		56.4	56.4
55.1	18:35:03		55.1	55.1	56.1	18:48:03		56.1	56.1
54.7	18:35:06		54.7	54.7	57.2	18:48:06		57.2	57.2
55	18:35:09		55	55.0	57.6	18:48:09		57.6	57.6
55	18:35:12		55	55.0	58.1	18:48:12		58.1	58.1
54.4	18:35:15		54.4	54.4	59.2	18:48:15		59.2	59.2
54.1	18:35:18		54.1	54.1	61.7	18:48:18		61.7	61.7
53	18:35:21		53	53.0	59.8	18:48:21		59.8	59.8
52.5	18:35:24		52.5	52.5	58.5	18:48:24		58.5	58.5
52.3	18:35:27		52.3	52.3	57.5	18:48:27		57.5	57.5
51.5	18:35:30		51.5	51.5	56.5	18:48:30		56.5	56.5
52.2	18:35:33		52.2	52.2	57.8	18:48:33		57.8	57.8
52	18:35:36		52	52.0	57.8	18:48:36		57.8	57.8
52.9	18:35:39		52.9	52.9	59.2	18:48:39		59.2	59.2
51.9	18:35:42		51.9	51.9	57.6	18:48:42		57.6	57.6
52.6	18:35:45		52.6	52.6	57	18:48:45		57	57
53.4	18:35:48		53.4	53.4	55.8	18:48:48		55.8	55.8
54.3	18:35:51		54.3	54.3	55.4	18:48:51		55.4	55.4
56.9	18:35:54		56.9	56.9	56.8	18:48:54		56.8	56.8
65.7	18:35:57		65.7	65.7	56	18:48:57		56	56
69.9	18:36:00		69.9	69.9	55.2	18:49:00		55.2	55.2
63.3	18:36:03		63.3	63.3	53.7	18:49:03		53.7	53.7
64	18:36:06		64	64.0	53.4	18:49:06		53.4	53.4
62.2	18:36:09		62.2	62.2	53.9	18:49:09		53.9	53.9
64.1	18:36:12		64.1	64.1	56.7	18:49:12		56.7	56.7
67.6	18:36:15		67.6	67.6	57.6	18:49:15		57.6	57.6
59.8	18:36:18		59.8	59.8	57.7	18:49:18		57.7	57.7
59.5	18:36:21		59.5	59.5	56.3	18:49:21		56.3	56.3
60.9	18:36:24		60.9	60.9	56	18:49:24		56	56
56.1	18:36:27		56.1	56.1	55.2	18:49:27		55.2	55.2
55.7	18:36:30		55.7	55.7	54.7	18:49:30		54.7	54.7
57.2	18:36:33		57.2	57.2	55.1	18:49:33		55.1	55.1
55.1	18:36:36		55.1	55.1	55.6	18:49:36		55.6	55.6
55	18:36:39		55	55.0	55.3	18:49:39		55.3	55.3
56.7	18:36:42		56.7	56.7	55.6	18:49:42		55.6	55.6
57.8	18:36:45		57.8	57.8	53.9	18:49:45		53.9	53.9
54.2	18:36:48		54.2	54.2	52.6	18:49:48		52.6	52.6
55.2	18:36:51		55.2	55.2	52	18:49:51		52	52
55.3	18:36:54		55.3	55.3	53.3	18:49:54		53.3	53.3
55.8	18:36:57		55.8	55.8	54.4	18:49:57		54.4	54.4
53.6	18:37:00		53.6	53.6	54	18:50:00		54	54
57.1	18:37:03		57.1	57.1	54.8	18:50:03		54.8	54.8
55.4	18:37:06		55.4	55.4	54.7	18:50:06		54.7	54.7
54.5	18:37:09		54.5	54.5	55.9	18:50:09		55.9	55.9
54.4	18:37:12		54.4	54.4	55.8	18:50:12		55.8	55.8

Site A - Near SW Corner of Project Site					Site B - Near NE Corner of Project Site				
SPL	Time	Leq (1 hour Avg.)	Ldn	CNEL	SPL	Time	Leq (1 hour Avg.)	Ldn	CNEL
51.5	18:37:15		51.5	51.5	55.8	18:50:15		55.8	55.8
52.4	18:37:18		52.4	52.4	56.2	18:50:18		56.2	56.2
55.1	18:37:21		55.1	55.1	54.1	18:50:21		54.1	54.1
56.7	18:37:24		56.7	56.7	56	18:50:24		56	56
64.8	18:37:27		64.8	64.8	58.7	18:50:27		58.7	58.7
59	18:37:30		59	59.0	58.7	18:50:30		58.7	58.7
61.8	18:37:33		61.8	61.8	57	18:50:33		57	57
59.2	18:37:36		59.2	59.2	56.6	18:50:36		56.6	56.6
58.9	18:37:39		58.9	58.9	57	18:50:39		57	57
59.4	18:37:42		59.4	59.4	54.8	18:50:42		54.8	54.8
63	18:37:45		63	63.0	54.8	18:50:45		54.8	54.8
62.3	18:37:48		62.3	62.3	54.6	18:50:48		54.6	54.6
56.5	18:37:51		56.5	56.5	55.3	18:50:51		55.3	55.3
55.4	18:37:54		55.4	55.4	55	18:50:54		55	55
55.2	18:37:57		55.2	55.2	55	18:50:57		55	55
54.6	18:38:00		54.6	54.6	55.3	18:51:00		55.3	55.3
55.1	18:38:03		55.1	55.1	56.3	18:51:03		56.3	56.3
54.7	18:38:06		54.7	54.7	56.8	18:51:06		56.8	56.8
53.1	18:38:09		53.1	53.1	55.4	18:51:09		55.4	55.4
54.7	18:38:12		54.7	54.7	54.9	18:51:12		54.9	54.9
53.7	18:38:15		53.7	53.7	56.9	18:51:15		56.9	56.9
54.2	18:38:18		54.2	54.2	55.9	18:51:18		55.9	55.9
54.8	18:38:21		54.8	54.8	55.3	18:51:21		55.3	55.3
56.8	18:38:24		56.8	56.8	54.8	18:51:24		54.8	54.8
56.7	18:38:27		56.7	56.7	54.9	18:51:27		54.9	54.9
57	18:38:30		57	57.0	54.3	18:51:30		54.3	54.3
58.8	18:38:33		58.8	58.8	53.9	18:51:33		53.9	53.9
66	18:38:36		66	66.0	55	18:51:36		55	55
69.6	18:38:39		69.6	69.6	55.2	18:51:39		55.2	55.2
62.6	18:38:42		62.6	62.6	55.8	18:51:42		55.8	55.8
60.4	18:38:45		60.4	60.4	54.9	18:51:45		54.9	54.9
59.2	18:38:48		59.2	59.2	54.1	18:51:48		54.1	54.1
56.1	18:38:51		56.1	56.1	56	18:51:51		56	56
56	18:38:54		56	56.0	55.7	18:51:54		55.7	55.7
55.9	18:38:57		55.9	55.9	54.5	18:51:57		54.5	54.5
56.5	18:39:00		56.5	56.5	55.1	18:52:00		55.1	55.1
57.6	18:39:03		57.6	57.6	57.4	18:52:03		57.4	57.4
58.5	18:39:06		58.5	58.5	53.8	18:52:06		53.8	53.8
58.6	18:39:09		58.6	58.6	55.6	18:52:09		55.6	55.6
58.1	18:39:12		58.1	58.1	55.4	18:52:12		55.4	55.4
58.6	18:39:15		58.6	58.6	56.7	18:52:15		56.7	56.7
55.3	18:39:18		55.3	55.3	57	18:52:18		57	57
55.3	18:39:21		55.3	55.3	57	18:52:21		57	57
56.9	18:39:24		56.9	56.9	57.3	18:52:24		57.3	57.3
54.8	18:39:27		54.8	54.8	58.9	18:52:27		58.9	58.9
56.5	18:39:30		56.5	56.5	56.7	18:52:30		56.7	56.7
55.8	18:39:33		55.8	55.8	56	18:52:33		56	56
56.3	18:39:36		56.3	56.3	56.4	18:52:36		56.4	56.4
56	18:39:39		56	56.0	57.2	18:52:39		57.2	57.2
55.4	18:39:42		55.4	55.4	57.7	18:52:42		57.7	57.7
55.6	18:39:45		55.6	55.6	56.3	18:52:45		56.3	56.3
56.2	18:39:48		56.2	56.2	54.6	18:52:48		54.6	54.6
54.8	18:39:51		54.8	54.8	54.8	18:52:51		54.8	54.8
54.1	18:39:54		54.1	54.1	57.2	18:52:54		57.2	57.2
54.2	18:39:57		54.2	54.2	56.9	18:52:57		56.9	56.9
54.9	18:40:00		54.9	54.9	55.4	18:53:00		55.4	55.4
53.5	18:40:03		53.5	53.5	56.4	18:53:03		56.4	56.4
55.7	18:40:06		55.7	55.7	58.8	18:53:06		58.8	58.8
57.7	18:40:09		57.7	57.7	58.8	18:53:09		58.8	58.8
56.9	18:40:12		56.9	56.9	57.5	18:53:12		57.5	57.5
56.5	18:40:15		56.5	56.5	57.9	18:53:15		57.9	57.9
57.4	18:40:18		57.4	57.4	57.2	18:53:18		57.2	57.2
60.7	18:40:21		60.7	60.7	55.2	18:53:21		55.2	55.2
60.1	18:40:24		60.1	60.1	53.9	18:53:24		53.9	53.9
62.9	18:40:27		62.9	62.9	53.7	18:53:27		53.7	53.7
59.6	18:40:30		59.6	59.6	53.9	18:53:30		53.9	53.9
58.5	18:40:33		58.5	58.5	55.7	18:53:33		55.7	55.7
57.3	18:40:36		57.3	57.3	57.7	18:53:36		57.7	57.7
57.1	18:40:39		57.1	57.1	55	18:53:39		55	55
53.9	18:40:42		53.9	53.9	55.3	18:53:42		55.3	55.3
54.3	18:40:45		54.3	54.3	55.6	18:53:45		55.6	55.6
52.6	18:40:48		52.6	52.6	56.4	18:53:48		56.4	56.4
53.9	18:40:51		53.9	53.9	57	18:53:51		57	57
53.2	18:40:54		53.2	53.2	55.7	18:53:54		55.7	55.7
51.5	18:40:57		51.5	51.5	54.5	18:53:57		54.5	54.5
51.6	18:41:00		51.6	51.6	55.1	18:54:00		55.1	55.1
50.1	18:41:03		50.1	50.1	55.4	18:54:03		55.4	55.4
48.9	18:41:06		48.9	48.9	55.8	18:54:06		55.8	55.8
48.9	18:41:09		48.9	48.9	55	18:54:09		55	55
48.8	18:41:12		48.8	48.8	54.6	18:54:12		54.6	54.6
47.3	18:41:15		47.3	47.3	55.5	18:54:15		55.5	55.5
48.9	18:41:18		48.9	48.9	54.5	18:54:18		54.5	54.5
51.7	18:41:21		51.7	51.7	53.8	18:54:21		53.8	53.8
50.9	18:41:24		50.9	50.9	54.9	18:54:24		54.9	54.9
50.8	18:41:27		50.8	50.8	54.5	18:54:27		54.5	54.5
51.5	18:41:30		51.5	51.5	54.9	18:54:30		54.9	54.9
55.3	18:41:33		55.3	55.3	55.7	18:54:33		55.7	55.7
53.6	18:41:36		53.6	53.6	56.4	18:54:36		56.4	56.4

Site A - Near SW Corner of Project Site					Site B - Near NE Corner of Project Site				
SPL	Time	Leq (1 hour Avg.)	Ldn	CNEL	SPL	Time	Leq (1 hour Avg.)	Ldn	CNEL
53.2	18:41:39		53.2	53.2	55.9	18:54:39		55.9	55.9
52.8	18:41:42		52.8	52.8	55.5	18:54:42		55.5	55.5
54.2	18:41:45		54.2	54.2	53.6	18:54:45		53.6	53.6
54.7	18:41:48		54.7	54.7	51.4	18:54:48		51.4	51.4
56	18:41:51		56	56.0	51.2	18:54:51		51.2	51.2
58.4	18:41:54		58.4	58.4	51.8	18:54:54		51.8	51.8
58	18:41:57		58	58.0	51.3	18:54:57		51.3	51.3
57.9	18:42:00		57.9	57.9	54.3	18:55:00		54.3	54.3
59.1	18:42:03		59.1	59.1	57.9	18:55:03		57.9	57.9
60.7	18:42:06		60.7	60.7	57.4	18:55:06		57.4	57.4
62.4	18:42:09		62.4	62.4	56.2	18:55:09		56.2	56.2
68.8	18:42:12		68.8	68.8	55.6	18:55:12		55.6	55.6
67	18:42:15		67	67.0	55.8	18:55:15		55.8	55.8
63.9	18:42:18		63.9	63.9	55.4	18:55:18		55.4	55.4
65.7	18:42:21		65.7	65.7	55.8	18:55:21		55.8	55.8
64.9	18:42:24		64.9	64.9	56.5	18:55:24		56.5	56.5
66.2	18:42:27		66.2	66.2	55.9	18:55:27		55.9	55.9
62.3	18:42:30		62.3	62.3	54.8	18:55:30		54.8	54.8
59.9	18:42:33		59.9	59.9	54.5	18:55:33		54.5	54.5
56.3	18:42:36		56.3	56.3	55.2	18:55:36		55.2	55.2
55.6	18:42:39		55.6	55.6	54.7	18:55:39		54.7	54.7
56.6	18:42:42		56.6	56.6	54.2	18:55:42		54.2	54.2
56.4	18:42:45		56.4	56.4	53.8	18:55:45		53.8	53.8
54.5	18:42:48		54.5	54.5	55.8	18:55:48		55.8	55.8
57.5	18:42:51		57.5	57.5	55.7	18:55:51		55.7	55.7
62.3	18:42:54		62.3	62.3	56.5	18:55:54		56.5	56.5
65.5	18:42:57		65.5	65.5	57	18:55:57		57	57
59.4	18:43:00		59.4	59.4	57.4	18:56:00		57.4	57.4
57	18:43:03		57	57.0	58.5	18:56:03		58.5	58.5
52.7	18:43:06		52.7	52.7	57.1	18:56:06		57.1	57.1
54.5	18:43:09		54.5	54.5	56.1	18:56:09		56.1	56.1
54.4	18:43:12		54.4	54.4	55	18:56:12		55	55
55.7	18:43:15		55.7	55.7	56	18:56:15		56	56
53.6	18:43:18		53.6	53.6	54.3	18:56:18		54.3	54.3
55.2	18:43:21		55.2	55.2	55.1	18:56:21		55.1	55.1
56	18:43:24		56	56.0	54.5	18:56:24		54.5	54.5
54.8	18:43:27		54.8	54.8	56.1	18:56:27		56.1	56.1
55.9	18:43:30		55.9	55.9	55.6	18:56:30		55.6	55.6
54.1	18:43:33		54.1	54.1	55.7	18:56:33		55.7	55.7
53.5	18:43:36		53.5	53.5	55.8	18:56:36		55.8	55.8
55.5	18:43:39		55.5	55.5	54.2	18:56:39		54.2	54.2
54.4	18:43:42		54.4	54.4	55.6	18:56:42		55.6	55.6
54.5	18:43:45		54.5	54.5	54.9	18:56:45		54.9	54.9
54.7	18:43:48		54.7	54.7	57.7	18:56:48		57.7	57.7
53.2	18:43:51		53.2	53.2	55.9	18:56:51		55.9	55.9
53.4	18:43:54		53.4	53.4	57.3	18:56:54		57.3	57.3
53.7	18:43:57		53.7	53.7	56.5	18:56:57		56.5	56.5
54.1	18:44:00		54.1	54.1	55.8	18:57:00		55.8	55.8
53.9	18:44:03		53.9	53.9	56.9	18:57:03		56.9	56.9
53.5	18:44:06		53.5	53.5	57.3	18:57:06		57.3	57.3
54.1	18:44:09		54.1	54.1	56.2	18:57:09		56.2	56.2
54.3	18:44:12		54.3	54.3	53.8	18:57:12		53.8	53.8
53.8	18:44:15		53.8	53.8	54.9	18:57:15		54.9	54.9
56.1	18:44:18		56.1	56.1	54.4	18:57:18		54.4	54.4
54	18:44:21		54	54.0	54.8	18:57:21		54.8	54.8
54.6	18:44:24		54.6	54.6	55	18:57:24		55	55
53	18:44:27		53	53.0	54.6	18:57:27		54.6	54.6
53.3	18:44:30		53.3	53.3	54.5	18:57:30		54.5	54.5
52.8	18:44:33		52.8	52.8	56	18:57:33		56	56
55.6	18:44:36		55.6	55.6	55.4	18:57:36		55.4	55.4
66.1	18:44:39		66.1	66.1	55.3	18:57:39		55.3	55.3
79.1	18:44:42		79.1	79.1	55.2	18:57:42		55.2	55.2
68	18:44:45		68	68.0	54.4	18:57:45		54.4	54.4
61.9	18:44:48		61.9	61.9	54.7	18:57:48		54.7	54.7
56.8	18:44:51		56.8	56.8	54.4	18:57:51		54.4	54.4
55.7	18:44:54		55.7	55.7	56.5	18:57:54		56.5	56.5
56.3	18:44:57		56.3	56.3	55.5	18:57:57		55.5	55.5
54.9	18:45:00		54.9	54.9	53.5	18:58:00		53.5	53.5
54.7	18:45:03		54.7	54.7	52.7	18:58:03		52.7	52.7
56.2	18:45:06		56.2	56.2	52.6	18:58:06		52.6	52.6
56.7	18:45:09		56.7	56.7	52.1	18:58:09		52.1	52.1
57	18:45:12		57	57.0	51.8	18:58:12		51.8	51.8
57.6	18:45:15		57.6	57.6	50.6	18:58:15		50.6	50.6
54.8	18:45:18		54.8	54.8	49.8	18:58:18		49.8	49.8
55.2	18:45:21		55.2	55.2	49.4	18:58:21		49.4	49.4
55.9	18:45:24		55.9	55.9	50	18:58:24		50	50
66.4	18:45:27		66.4	66.4	51.5	18:58:27		51.5	51.5
71.8	18:45:30		71.8	71.8	56.3	18:58:30		56.3	56.3
60.6	18:45:33		60.6	60.6	55.7	18:58:33		55.7	55.7
58.2	18:45:36		58.2	58.2	54.5	18:58:36		54.5	54.5
54.6	18:45:39		54.6	54.6	51.9	18:58:39		51.9	51.9
54.3	18:45:42		54.3	54.3	53.5	18:58:42		53.5	53.5
53.5	18:45:45		53.5	53.5	52.5	18:58:45		52.5	52.5
53.9	18:45:48		53.9	53.9	53.9	18:58:48		53.9	53.9
53.6	18:45:51		53.6	53.6	54.3	18:58:51		54.3	54.3
54.3	18:45:54		54.3	54.3	54.4	18:58:54		54.4	54.4
53.2	18:45:57		53.2	53.2	56.4	18:58:57		56.4	56.4
54.6	18:46:00		54.6	54.6	57.3	18:59:00		57.3	57.3

Site A - Near SW Corner of Project Site					Site B - Near NE Corner of Project Site				
SPL	Time	Leq (1 hour Avg.)	Ldn	CNEL	SPL	Time	Leq (1 hour Avg.)	Ldn	CNEL
55.1	18:46:03		55.1	55.1	55.6	18:59:03		55.6	55.6
53.6	18:46:06		53.6	53.6	55.1	18:59:06		55.1	55.1
52.9	18:46:09		52.9	52.9	56.9	18:59:09		56.9	56.9
53	18:46:12		53	53.0	59.8	18:59:12		59.8	59.8
52.7	18:46:15		52.7	52.7	57.2	18:59:15		57.2	57.2
53.2	18:46:18		53.2	53.2	58.4	18:59:18		58.4	58.4
53.3	18:46:21		53.3	53.3	62.2	18:59:21		62.2	62.2
52.3	18:46:24		52.3	52.3	62	18:59:24		62	62
52.7	18:46:27		52.7	52.7	64.5	18:59:27		64.5	64.5
53.2	18:46:30		53.2	53.2	61.4	18:59:30		61.4	61.4
54	18:46:33		54	54.0	58.9	18:59:33		58.9	58.9
54.8	18:46:36		54.8	54.8	55.4	18:59:36		55.4	55.4
53.3	18:46:39		53.3	53.3	56	18:59:39		56	56
53	18:46:42		53	53.0	54.1	18:59:42		54.1	54.1
52.8	18:46:45		52.8	52.8	53.6	18:59:45		53.6	53.6
53	18:46:48		53	53.0	54.1	18:59:48		54.1	54.1
52.9	18:46:51		52.9	52.9	53.2	18:59:51		53.2	53.2
54.1	18:46:54		54.1	54.1	53.4	18:59:54		53.4	53.4
53.2	18:46:57		53.2	53.2	53.3	18:59:57		53.3	53.3
54.8	18:47:00		54.8	54.8	53.3	19:00:00		53.3	53.3
53.7	18:47:03		53.7	53.7	54	19:00:03		54	58.77
54.5	18:47:06		54.5	54.5	54.9	19:00:06		54.9	59.67
52.2	18:47:09		52.2	52.2	55.5	19:00:09		55.5	60.27
53.3	18:47:12		53.3	53.3	54.9	19:00:12		54.9	59.67
52.9	18:47:15		52.9	52.9	54.6	19:00:15		54.6	59.37
54.1	18:47:18		54.1	54.1	55.9	19:00:18		55.9	60.67
52.7	18:47:21		52.7	52.7	57.1	19:00:21		57.1	61.87
52.9	18:47:24		52.9	52.9	55.6	19:00:24		55.6	60.37
52.3	18:47:27		52.3	52.3	55.3	19:00:27		55.3	60.07
52.7	18:47:30		52.7	52.7	54.8	19:00:30		54.8	59.57
51.8	18:47:33		51.8	51.8	55.8	19:00:33		55.8	60.57
52.7	18:47:36		52.7	52.7	55.8	19:00:36		55.8	60.57
53.3	18:47:39		53.3	53.3	54.1	19:00:39		54.1	58.87
53.8	18:47:42		53.8	53.8	54.7	19:00:42		54.7	59.47
54	18:47:45		54	54.0	54.7	19:00:45		54.7	59.47
54.4	18:47:48		54.4	54.4	55.2	19:00:48		55.2	59.97
55.6	18:47:51		55.6	55.6	54.7	19:00:51		54.7	59.47
55.2	18:47:54		55.2	55.2	56.1	19:00:54		56.1	60.87
56.4	18:47:57		56.4	56.4	58.5	19:00:57		58.5	63.27
55	18:48:00		55	55.0	53.3	19:01:00		53.3	58.07
56.8	18:48:03		56.8	56.8	52.3	19:01:03		52.3	57.07
58.7	18:48:06		58.7	58.7	55.1	19:01:06		55.1	59.87
78.3	18:48:09		78.3	78.3	54.9	19:01:09		54.9	59.67
67.6	18:48:12		67.6	67.6	53.4	19:01:12		53.4	58.17
62.7	18:48:15		62.7	62.7	51.4	19:01:15		51.4	56.17
59.6	18:48:18		59.6	59.6	52.9	19:01:18		52.9	57.67
56.7	18:48:21		56.7	56.7	53.6	19:01:21		53.6	58.37
55.4	18:48:24		55.4	55.4	53.6	19:01:24		53.6	58.37
58.6	18:48:27		58.6	58.6	53.8	19:01:27		53.8	58.57
56.8	18:48:30		56.8	56.8	53.4	19:01:30		53.4	58.17
55.8	18:48:33		55.8	55.8	53.5	19:01:33		53.5	58.27
55.8	18:48:36		55.8	55.8	54.3	19:01:36		54.3	59.07
55	18:48:39		55	55.0	52.8	19:01:39		52.8	57.57
55.8	18:48:42		55.8	55.8	52.6	19:01:42		52.6	57.37
60.3	18:48:45		60.3	60.3	51.9	19:01:45		51.9	56.67
68.3	18:48:48		68.3	68.3	51.5	19:01:48		51.5	56.27
77.9	18:48:51		77.9	77.9	50.8	19:01:51		50.8	55.57
66.3	18:48:54		66.3	66.3	50.4	19:01:54		50.4	55.17
61.5	18:48:57		61.5	61.5	52.4	19:01:57		52.4	57.17
56.2	18:49:00		56.2	56.2	54.6	19:02:00		54.6	59.37
51.9	18:49:03		51.9	51.9	55	19:02:03		55	59.77
52.2	18:49:06		52.2	52.2	55.5	19:02:06		55.5	60.27
52.3	18:49:09		52.3	52.3	55.1	19:02:09		55.1	59.87
53	18:49:12		53	53.0	54.8	19:02:12		54.8	59.57
53.2	18:49:15		53.2	53.2	54.7	19:02:15		54.7	59.47
54.9	18:49:18		54.9	54.9	54.6	19:02:18		54.6	59.37
55.2	18:49:21		55.2	55.2	54.2	19:02:21		54.2	58.97
56	18:49:24		56	56.0	54.1	19:02:24		54.1	58.87
64	18:49:27		64	64.0	54.6	19:02:27		54.6	59.37
70	18:49:30		70	70.0	53.7	19:02:30		53.7	58.47
62.5	18:49:33		62.5	62.5	53.3	19:02:33		53.3	58.07
69.7	18:49:36		69.7	69.7	54.2	19:02:36		54.2	58.97
70.4	18:49:39		70.4	70.4	54.4	19:02:39		54.4	59.17
57.1	18:49:42		57.1	57.1	55.7	19:02:42		55.7	60.47
56.8	18:49:45		56.8	56.8	54.4	19:02:45		54.4	59.17
55.6	18:49:48		55.6	55.6	54.7	19:02:48		54.7	59.47
53.1	18:49:51		53.1	53.1	55.4	19:02:51		55.4	60.17
52	18:49:54		52	52.0	55.1	19:02:54		55.1	59.87
52.2	18:49:57		52.2	52.2	55.9	19:02:57		55.9	60.67
51.3	18:50:00		51.3	51.3	54.3	19:03:00		54.3	59.07
49.3	18:50:03		49.3	49.3	53.7	19:03:03		53.7	58.47
51.6	18:50:06		51.6	51.6	54	19:03:06		54	58.77
50.6	18:50:09		50.6	50.6	52.6	19:03:09		52.6	57.37
50.9	18:50:12		50.9	50.9	52.2	19:03:12		52.2	56.97
52.2	18:50:15		52.2	52.2	52.8	19:03:15		52.8	57.57
52.4	18:50:18		52.4	52.4	53.1	19:03:18		53.1	57.87
50.3	18:50:21		50.3	50.3	52.5	19:03:21		52.5	57.27
52.8	18:50:24		52.8	52.8	52.1	19:03:24		52.1	56.87

Site A - Near SW Corner of Project Site					Site B - Near NE Corner of Project Site				
SPL	Time	Leq (1 hour Avg.)	Ldn	CNEL	SPL	Time	Leq (1 hour Avg.)	Ldn	CNEL
53.7	18:50:27		53.7	53.7	50.3	19:03:27		50.3	55.07
53.3	18:50:30		53.3	53.3	50.1	19:03:30		50.1	54.87
53.1	18:50:33		53.1	53.1	50.3	19:03:33		50.3	55.07
52.5	18:50:36		52.5	52.5	50.7	19:03:36		50.7	55.47
53.8	18:50:39		53.8	53.8	50.5	19:03:39		50.5	55.27
56.1	18:50:42		56.1	56.1	50.7	19:03:42		50.7	55.47
76.1	18:50:45		76.1	76.1	51.4	19:03:45		51.4	56.17
68	18:50:48		68	68.0	53.9	19:03:48		53.9	58.67
61.4	18:50:51		61.4	61.4	51.6	19:03:51		51.6	56.37
57	18:50:54		57	57.0	52.3	19:03:54		52.3	57.07
51.9	18:50:57		51.9	51.9	51.8	19:03:57		51.8	56.57
53	18:51:00		53	53.0	54.2	19:04:00		54.2	58.97
52.8	18:51:03		52.8	52.8	54.4	19:04:03		54.4	59.17
54.2	18:51:06		54.2	54.2	54.4	19:04:06		54.4	59.17
51.8	18:51:09		51.8	51.8	53.4	19:04:09		53.4	58.17
51.6	18:51:12		51.6	51.6	52.1	19:04:12		52.1	56.87
53.1	18:51:15		53.1	53.1	52.8	19:04:15		52.8	57.57
51.3	18:51:18		51.3	51.3	54.4	19:04:18		54.4	59.17
49.7	18:51:21		49.7	49.7	53.6	19:04:21		53.6	58.37
50.2	18:51:24		50.2	50.2	54.8	19:04:24		54.8	59.57
50	18:51:27		50	50.0	53.2	19:04:27		53.2	57.97
52.2	18:51:30		52.2	52.2	52.9	19:04:30		52.9	57.67
54.9	18:51:33		54.9	54.9	53.8	19:04:33		53.8	58.57
52.5	18:51:36		52.5	52.5	53.7	19:04:36		53.7	58.47
52.2	18:51:39		52.2	52.2	54.1	19:04:39		54.1	58.87
55.5	18:51:42		55.5	55.5	52.7	19:04:42		52.7	57.47
58	18:51:45		58	58.0	52.8	19:04:45		52.8	57.57
56.8	18:51:48		56.8	56.8	53.3	19:04:48		53.3	58.07
57.7	18:51:51		57.7	57.7	52.5	19:04:51		52.5	57.27
58.2	18:51:54		58.2	58.2	52	19:04:54		52	56.77
62.4	18:51:57		62.4	62.4	52.9	19:04:57		52.9	57.67
64.5	18:52:00		64.5	64.5	53.2	19:05:00		53.2	57.97
63.1	18:52:03		63.1	63.1	52.6	19:05:03		52.6	57.37
64.4	18:52:06		64.4	64.4	53.1	19:05:06		53.1	57.87
61.7	18:52:09		61.7	61.7	55.2	19:05:09		55.2	59.97
60.1	18:52:12		60.1	60.1	54.6	19:05:12		54.6	59.37
58	18:52:15		58	58.0	56.2	19:05:15		56.2	60.97
55.4	18:52:18		55.4	55.4	56.1	19:05:18		56.1	60.87
54.3	18:52:21		54.3	54.3	54.3	19:05:21		54.3	59.07
54.1	18:52:24		54.1	54.1	54.9	19:05:24		54.9	59.67
54.4	18:52:27		54.4	54.4	59.3	19:05:27		59.3	64.07
55	18:52:30		55	55.0	59.4	19:05:30		59.4	64.17
54.2	18:52:33		54.2	54.2	57.8	19:05:33		57.8	62.57
54.2	18:52:36		54.2	54.2	59.2	19:05:36		59.2	63.97
54.5	18:52:39		54.5	54.5	58.6	19:05:39		58.6	63.37
56	18:52:42		56	56.0	52.4	19:05:42		52.4	57.17
56.3	18:52:45		56.3	56.3	49.3	19:05:45		49.3	54.07
53.8	18:52:48		53.8	53.8	50.1	19:05:48		50.1	54.87
56.4	18:52:51		56.4	56.4	53.1	19:05:51		53.1	57.87
68.6	18:52:54		68.6	68.6	53.4	19:05:54		53.4	58.17
67.3	18:52:57		67.3	67.3	56.8	19:05:57		56.8	61.57
62.8	18:53:00		62.8	62.8	50.5	19:06:00		50.5	55.27
59	18:53:03		59	59.0	53.4	19:06:03		53.4	58.17
57	18:53:06		57	57.0	52.1	19:06:06		52.1	56.87
56.7	18:53:09		56.7	56.7	52.4	19:06:09		52.4	57.17
60.6	18:53:12		60.6	60.6	51	19:06:12		51	55.77
61.3	18:53:15		61.3	61.3	49.9	19:06:15		49.9	54.67
59.6	18:53:18		59.6	59.6	49.4	19:06:18		49.4	54.17
57.6	18:53:21		57.6	57.6	50.4	19:06:21		50.4	55.17
55	18:53:24		55	55.0	51.7	19:06:24		51.7	56.47
53.2	18:53:27		53.2	53.2	52.6	19:06:27		52.6	57.37
54.7	18:53:30		54.7	54.7	55.6	19:06:30		55.6	60.37
53.9	18:53:33		53.9	53.9	55.9	19:06:33		55.9	60.67
53.7	18:53:36		53.7	53.7	56.5	19:06:36		56.5	61.27
54.1	18:53:39		54.1	54.1	56.9	19:06:39		56.9	61.67
54	18:53:42		54	54.0	56	19:06:42		56	60.77
55.7	18:53:45		55.7	55.7	54.5	19:06:45		54.5	59.27
56.3	18:53:48		56.3	56.3	56.1	19:06:48		56.1	60.87
54.3	18:53:51		54.3	54.3	56.6	19:06:51		56.6	61.37
53.9	18:53:54		53.9	53.9	52.8	19:06:54		52.8	57.57
58.1	18:53:57		58.1	58.1	51.1	19:06:57		51.1	55.87
55.8	18:54:00		55.8	55.8	51.5	19:07:00		51.5	56.27
54.4	18:54:03		54.4	54.4	53.9	19:07:03		53.9	58.67
54.4	18:54:06		54.4	54.4	54.4	19:07:06		54.4	59.17
54.6	18:54:09		54.6	54.6	55.1	19:07:09		55.1	59.87
53.4	18:54:12		53.4	53.4	52.8	19:07:12		52.8	57.57
52.8	18:54:15		52.8	52.8	52.4	19:07:15		52.4	57.17
51.8	18:54:18		51.8	51.8	52.8	19:07:18		52.8	57.57
51.9	18:54:21		51.9	51.9	55.1	19:07:21		55.1	59.87
53.7	18:54:24		53.7	53.7	55.3	19:07:24		55.3	60.07
61	18:54:27		61	61.0	57.2	19:07:27		57.2	61.97
73.5	18:54:30		73.5	73.5	55	19:07:30		55	59.77
72.8	18:54:33		72.8	72.8	54	19:07:33		54	58.77
65.6	18:54:36		65.6	65.6	51.5	19:07:36		51.5	56.27
59.4	18:54:39		59.4	59.4	51	19:07:39		51	55.77
54.8	18:54:42		54.8	54.8	53.4	19:07:42		53.4	58.17
53.1	18:54:45		53.1	53.1	53.2	19:07:45		53.2	57.97
53.2	18:54:48		53.2	53.2	54.1	19:07:48		54.1	58.87
51.2	18:54:51		51.2	51.2	53.1	19:07:51		53.1	57.87
54	18:54:54		54	54.0	54.1	19:07:54		54.1	58.87
54.6	18:54:57		54.6	54.6	53.6	19:07:57		53.6	58.37
54.7	18:55:00		54.7	54.7	55.5	19:08:00		55.5	60.27
56.4	18:55:03		56.4	56.4	54	19:08:03		54	58.77
55.2	18:55:06		55.2	55.2	53.4	19:08:06		53.4	58.17
55.6	18:55:09		55.6	55.6	52.4	19:08:09		52.4	57.17

Site A - Near SW Corner of Project Site					Site B - Near NE Corner of Project Site				
SPL	Time	Leq (1 hour Avg.)	Ldn	CNEL	SPL	Time	Leq (1 hour Avg.)	Ldn	CNEL
55.6	18:55:12		55.6	55.6	52.3	19:08:12		52.3	57.07
55.1	18:55:15		55.1	55.1	53.7	19:08:15		53.7	58.47
58.9	18:55:18		58.9	58.9	54.3	19:08:18		54.3	59.07
74	18:55:21		74	74.0	53.8	19:08:21		53.8	58.57
64.6	18:55:24		64.6	64.6	51.5	19:08:24		51.5	56.27
58.9	18:55:27		58.9	58.9	52.3	19:08:27		52.3	57.07
57.7	18:55:30		57.7	57.7	52.2	19:08:30		52.2	56.97
55.6	18:55:33		55.6	55.6	52.9	19:08:33		52.9	57.67
56.3	18:55:36		56.3	56.3	54.9	19:08:36		54.9	59.67
54	18:55:39		54	54.0	53.5	19:08:39		53.5	58.27
55.1	18:55:42		55.1	55.1	53.3	19:08:42		53.3	58.07
55.1	18:55:45		55.1	55.1	53.8	19:08:45		53.8	58.57
54.4	18:55:48		54.4	54.4	55.4	19:08:48		55.4	60.17
55.1	18:55:51		55.1	55.1	55.3	19:08:51		55.3	60.07
53.2	18:55:54		53.2	53.2	54.9	19:08:54		54.9	59.67
53.4	18:55:57		53.4	53.4	54.1	19:08:57		54.1	58.87
53.1	18:56:00		53.1	53.1	54.7	19:09:00		54.7	59.47
54.8	18:56:03		54.8	54.8	52	19:09:03		52	56.77
53	18:56:06		53	53.0	54.8	19:09:06		54.8	59.57
54.5	18:56:09		54.5	54.5	54.2	19:09:09		54.2	58.97
55.3	18:56:12		55.3	55.3	55.6	19:09:12		55.6	60.37
53.5	18:56:15		53.5	53.5	55.6	19:09:15		55.6	60.37
55.1	18:56:18		55.1	55.1	55.2	19:09:18		55.2	59.97
53.5	18:56:21		53.5	53.5	55.4	19:09:21		55.4	60.17
53.5	18:56:24		53.5	53.5	55	19:09:24		55	59.77
52.6	18:56:27		52.6	52.6	54.6	19:09:27		54.6	59.37
55.4	18:56:30		55.4	55.4	54.4	19:09:30		54.4	59.17
54.5	18:56:33		54.5	54.5	54.5	19:09:33		54.5	59.27
55.4	18:56:36		55.4	55.4	54.3	19:09:36		54.3	59.07
53.2	18:56:39		53.2	53.2	55.1	19:09:39		55.1	59.87
53.1	18:56:42		53.1	53.1	53.3	19:09:42		53.3	58.07
54	18:56:45		54	54.0	53.4	19:09:45		53.4	58.17
53.5	18:56:48		53.5	53.5	54.2	19:09:48		54.2	58.97
53.9	18:56:51		53.9	53.9	54.1	19:09:51		54.1	58.87
54.5	18:56:54		54.5	54.5	53.6	19:09:54		53.6	58.37
55.6	18:56:57		55.6	55.6	54	19:09:57		54	58.77
57.4	18:57:00		57.4	57.4	52.4	19:10:00		52.4	57.17
58.2	18:57:03		58.2	58.2	53	19:10:03		53	57.77
75.2	18:57:06		75.2	75.2	55.5	19:10:06		55.5	60.27
66.9	18:57:09		66.9	66.9	54.8	19:10:09		54.8	59.57
58.2	18:57:12		58.2	58.2	53.7	19:10:12		53.7	58.47
55.8	18:57:15		55.8	55.8	54.5	19:10:15		54.5	59.27
55.4	18:57:18		55.4	55.4	55.5	19:10:18		55.5	60.27
52.7	18:57:21		52.7	52.7	56.4	19:10:21		56.4	61.17
52.8	18:57:24		52.8	52.8	53.9	19:10:24		53.9	58.67
54.1	18:57:27		54.1	54.1	56.4	19:10:27		56.4	61.17
59.5	18:57:30		59.5	59.5	57.6	19:10:30		57.6	62.37
78.5	18:57:33		78.5	78.5	58.5	19:10:33		58.5	63.27
69.6	18:57:36		69.6	69.6	60.4	19:10:36		60.4	65.17
60.1	18:57:39		60.1	60.1	61.8	19:10:39		61.8	66.57
58	18:57:42		58	58.0	61.4	19:10:42		61.4	66.17
54.9	18:57:45		54.9	54.9	57.8	19:10:45		57.8	62.57
52.1	18:57:48		52.1	52.1	55.3	19:10:48		55.3	60.07
52.9	18:57:51		52.9	52.9	55.8	19:10:51		55.8	60.57
53.6	18:57:54		53.6	53.6	55.9	19:10:54		55.9	60.67
55.4	18:57:57		55.4	55.4	61	19:10:57		61	65.77
54.3	18:58:00		54.3	54.3	56.8	19:11:00		56.8	61.57
57.2	18:58:03		57.2	57.2	56.7	19:11:03		56.7	61.47
65.7	18:58:06		65.7	65.7	55.4	19:11:06		55.4	60.17
70.5	18:58:09		70.5	70.5	54.2	19:11:09		54.2	58.97
62.2	18:58:12		62.2	62.2	54.7	19:11:12		54.7	59.47
58.8	18:58:15		58.8	58.8	54.2	19:11:15		54.2	58.97
55.2	18:58:18		55.2	55.2	54.5	19:11:18		54.5	59.27
53.4	18:58:21		53.4	53.4	53.8	19:11:21		53.8	58.57
52	18:58:24		52	52.0	55.8	19:11:24		55.8	60.57
53.9	18:58:27		53.9	53.9	56.4	19:11:27		56.4	61.17
51	18:58:30		51	51.0	57.3	19:11:30		57.3	62.07
54.4	18:58:33		54.4	54.4	57.2	19:11:33		57.2	61.97
54.9	18:58:36		54.9	54.9	55.3	19:11:36		55.3	60.07
54.3	18:58:39		54.3	54.3	54.5	19:11:39		54.5	59.27
54.3	18:58:42		54.3	54.3	57.9	19:11:42		57.9	62.67
55.5	18:58:45		55.5	55.5	61.1	19:11:45		61.1	65.87
56.1	18:58:48		56.1	56.1	57.9	19:11:48		57.9	62.67
60.8	18:58:51		60.8	60.8	56	19:11:51		56	60.77
61	18:58:54		61	61.0	55.6	19:11:54		55.6	60.37
65	18:58:57		65	65.0	55.4	19:11:57		55.4	60.17
69.1	18:59:00	65.6	69.1	69.1	55.1	19:12:00	55.6	55.1	59.87
73.3	18:59:03	65.6	73.3	73.3	54.4	19:12:03	55.6	54.4	59.17
72.7	18:59:06	65.6	72.7	72.7	53.3	19:12:06	55.5	53.3	58.07
74.3	18:59:09	65.6	74.3	74.3	52.9	19:12:09	55.4	52.9	57.67
74.4	18:59:12	65.6	74.4	74.4	53.5	19:12:12	55.4	53.5	58.27
64.4	18:59:15	65.6	64.4	64.4	53	19:12:15	55.4	53	57.77
60.5	18:59:18	65.6	60.5	60.5	53	19:12:18	55.3	53	57.77
61.8	18:59:21	65.6	61.8	61.8	53.3	19:12:21	55.3	53.3	58.07
76.2	18:59:24	65.6	76.2	76.2	52.2	19:12:24	55.3	52.2	56.97
65.8	18:59:27	65.6	65.8	65.8	52.2	19:12:27	55.2	52.2	56.97
62.4	18:59:30	65.6	62.4	62.4	53.5	19:12:30	55.2	53.5	58.27
59	18:59:33	65.6	59	59.0	54.9	19:12:33	55.1	54.9	59.67
58.6	18:59:36	65.6	58.6	58.6	55.4	19:12:36	55.1	55.4	60.17
59	18:59:39	65.6	59	59.0	53.9	19:12:39	55.1	53.9	58.67
59.2	18:59:42	65.6	59.2	59.2	56.3	19:12:42	55.0	56.3	61.07
64.6	18:59:45	65.6	64.6	64.6	58.9	19:12:45	55.0	58.9	63.67
72.5	18:59:48	65.6	72.5	72.5	59	19:12:48	55.0	59	63.77
77	18:59:51	65.6	77	77.0	60.8	19:12:51	55.0	60.8	65.57
69.1	18:59:54	65.6	69.1	69.1	59.7	19:12:54	55.0	59.7	64.47
60.1	18:59:57	65.6	60.1	60.1	61.5	19:12:57	54.9	61.5	66.27
55.8	19:00:00	65.6	55.8	55.8	60.3	19:13:00	54.9	60.3	65.07
56.3	19:00:03	65.6	56.3	61.1	59.2	19:13:03	54.9	59.2	63.97
58.8	19:00:06	65.6	58.8	63.6	62	19:13:06	54.8	62	66.77
64.8	19:00:09	65.6	64.8	69.6	57.4	19:13:09	54.8	57.4	62.17
77.7	19:00:12	65.6	77.7	82.5	58.1	19:13:12	54.6	58.1	62.87
73	19:00:15	65.6	73	77.8	56.3	19:13:15	54.5	56.3	61.07
61.3	19:00:18	65.6	61.3	66.1	55.4	19:13:18	54.4	55.4	60.17
58.4	19:00:21	65.6	58.4	63.2	54.7	19:13:21	54.4	54.7	59.47
58	19:00:24	65.6	58	62.8	54	19:13:24	54.3	54	58.77

APPENDIX C

RCNM Model Construction Noise Calculation Printouts

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 8/31/2021
Case Description: Seaton Ave & Cajalco Rd Warehouse - Demolition

				---- Receptor #1 ----
		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
1 - Home to Northwest	Residential	62.1	62.1	62.1

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Concrete Saw	No	20		89.6	1140	0
Excavator	No	40		80.7	1140	0
Excavator	No	40		80.7	1140	0
Excavator	No	40		80.7	1140	0
Dozer	No	40		81.7	1140	0
Dozer	No	40		81.7	1140	0

			Results			
	Calculated (dBA)		Noise Limits (dBA)			
			Day		Evening	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq
Concrete Saw	62.4	55.4	N/A	N/A	N/A	N/A
Excavator	53.6	49.6	N/A	N/A	N/A	N/A
Excavator	53.6	49.6	N/A	N/A	N/A	N/A
Excavator	53.6	49.6	N/A	N/A	N/A	N/A
Dozer	54.5	50.5	N/A	N/A	N/A	N/A
Dozer	54.5	50.5	N/A	N/A	N/A	N/A
Total	**62**	**59**	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 8/31/2021
Case Description: Seaton Ave & Cajalco Rd Warehouse - Demolition

				---- Receptor #2 ----
		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
2 - Home to West	Residential	62.1	62.1	62.1

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Concrete Saw	No	20		89.6	650	0
Excavator	No	40		80.7	650	0
Excavator	No	40		80.7	650	0
Excavator	No	40		80.7	650	0
Dozer	No	40		81.7	650	0
Dozer	No	40		81.7	650	0

			Results			
	Calculated (dBA)		Noise Limits (dBA)			
			Day		Evening	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq
Concrete Saw	67.3	60.3	N/A	N/A	N/A	N/A
Excavator	58.4	54.5	N/A	N/A	N/A	N/A
Excavator	58.4	54.5	N/A	N/A	N/A	N/A
Excavator	58.4	54.5	N/A	N/A	N/A	N/A
Dozer	59.4	55.4	N/A	N/A	N/A	N/A
Dozer	59.4	55.4	N/A	N/A	N/A	N/A
Total	**67**	**64**	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 8/31/2021
Case Description: Seaton Ave & Cajalco Rd Warehouse - Demolition

---- Receptor #3 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
3 - Temple to Southwest	Residential	62.1	62.1	62.1

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Concrete Saw	No	20		89.6	900	0
Excavator	No	40		80.7	900	0
Excavator	No	40		80.7	900	0
Excavator	No	40		80.7	900	0
Dozer	No	40		81.7	900	0
Dozer	No	40		81.7	900	0

		Calculated (dBA)		Results Noise Limits (dBA) Day		Evening	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq
Concrete Saw		64.5	57.5	N/A	N/A	N/A	N/A
Excavator		55.6	51.6	N/A	N/A	N/A	N/A
Excavator		55.6	51.6	N/A	N/A	N/A	N/A
Excavator		55.6	51.6	N/A	N/A	N/A	N/A
Dozer		56.6	52.6	N/A	N/A	N/A	N/A
Dozer		56.6	52.6	N/A	N/A	N/A	N/A
	Total	**65**	**61**	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 8/31/2021
Case Description: Seaton Ave & Cajalco Rd Warehouse - Demolition

---- Receptor #4 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
4 - Home to South	Residential	57.5	57.5	57.5

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Concrete Saw	No	20		89.6	1350	0
Excavator	No	40		80.7	1350	0
Excavator	No	40		80.7	1350	0
Excavator	No	40		80.7	1350	0
Dozer	No	40		81.7	1350	0
Dozer	No	40		81.7	1350	0

		Calculated (dBA)		Results Noise Limits (dBA)			
				Day		Evening	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq
Concrete Saw		61.0	54.0	N/A	N/A	N/A	N/A
Excavator		52.1	48.1	N/A	N/A	N/A	N/A
Excavator		52.1	48.1	N/A	N/A	N/A	N/A
Excavator		52.1	48.1	N/A	N/A	N/A	N/A
Dozer		53.0	49.1	N/A	N/A	N/A	N/A
Dozer		53.0	49.1	N/A	N/A	N/A	N/A
	Total	**61**	**58**	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 8/31/2021
Case Description: Seaton Ave & Cajalco Rd Warehouse - Site Preparation

---- Receptor #1 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
1 - Home to Northwest	Residential	62.1	62.1	62.1

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Dozer	No	40		81.7	1140	0
Dozer	No	40		81.7	1140	0
Dozer	No	40		81.7	1140	0
Tractor	No	40	84		1140	0
Tractor	No	40	84		1140	0
Tractor	No	40	84		1140	0
Tractor	No	40	84		1140	0

Equipment		Calculated (dBA) *Lmax	Leq	Results Day Lmax	Noise Limits (dBA) Day Leq	Evening Lmax	Evening Leq
Dozer		54.5	50.5	N/A	N/A	N/A	N/A
Dozer		54.5	50.5	N/A	N/A	N/A	N/A
Dozer		54.5	50.5	N/A	N/A	N/A	N/A
Tractor		56.8	52.9	N/A	N/A	N/A	N/A
Tractor		56.8	52.9	N/A	N/A	N/A	N/A
Tractor		56.8	52.9	N/A	N/A	N/A	N/A
Tractor		56.8	52.9	N/A	N/A	N/A	N/A
	Total	**57**	**61**	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 8/31/2021
Case Description: Seaton Ave & Cajalco Rd Warehouse - Site Preparation

---- Receptor #2 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
2 - Home to West	Residential	62.1	62.1	62.1

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Dozer	No	40		81.7	650	0
Dozer	No	40		81.7	650	0
Dozer	No	40		81.7	650	0
Tractor	No	40	84		650	0
Tractor	No	40	84		650	0
Tractor	No	40	84		650	0
Tractor	No	40	84		650	0

Equipment		Calculated (dBA) *Lmax	Leq	Results Noise Limits (dBA) Day Lmax	Leq	Evening Lmax	Leq
Dozer		59.4	55.4	N/A	N/A	N/A	N/A
Dozer		59.4	55.4	N/A	N/A	N/A	N/A
Dozer		59.4	55.4	N/A	N/A	N/A	N/A
Tractor		61.7	57.7	N/A	N/A	N/A	N/A
Tractor		61.7	57.7	N/A	N/A	N/A	N/A
Tractor		61.7	57.7	N/A	N/A	N/A	N/A
Tractor		61.7	57.7	N/A	N/A	N/A	N/A
	Total	**62**	**65**	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 8/31/2021
Case Description: Seaton Ave & Cajalco Rd Warehouse - Site Preparation

---- Receptor #3 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
3 - Temple to Southwest	Residential	62.1	62.1	62.1

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Dozer	No	40		81.7	900	0
Dozer	No	40		81.7	900	0
Dozer	No	40		81.7	900	0
Tractor	No	40	84		900	0
Tractor	No	40	84		900	0
Tractor	No	40	84		900	0
Tractor	No	40	84		900	0

		Results Calculated (dBA)		Noise Limits (dBA) Day		Evening	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq
Dozer		56.6	52.6	N/A	N/A	N/A	N/A
Dozer		56.6	52.6	N/A	N/A	N/A	N/A
Dozer		56.6	52.6	N/A	N/A	N/A	N/A
Tractor		58.9	54.9	N/A	N/A	N/A	N/A
Tractor		58.9	54.9	N/A	N/A	N/A	N/A
Tractor		58.9	54.9	N/A	N/A	N/A	N/A
Tractor		58.9	54.9	N/A	N/A	N/A	N/A
	Total	**59**	**63**	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 8/31/2021
Case Description: Seaton Ave & Cajalco Rd Warehouse - Site Preparation

---- Receptor #4 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
4 - Home to South	Residential	57.5	57.5	57.5

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Dozer	No	40		81.7	1350	0
Dozer	No	40		81.7	1350	0
Dozer	No	40		81.7	1350	0
Tractor	No	40	84		1350	0
Tractor	No	40	84		1350	0
Tractor	No	40	84		1350	0
Tractor	No	40	84		1350	0

		Calculated (dBA)		Results			
				Noise Limits (dBA)			
				Day		Evening	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq
Dozer		53.0	49.1	N/A	N/A	N/A	N/A
Dozer		53.0	49.1	N/A	N/A	N/A	N/A
Dozer		53.0	49.1	N/A	N/A	N/A	N/A
Tractor		55.4	51.4	N/A	N/A	N/A	N/A
Tractor		55.4	51.4	N/A	N/A	N/A	N/A
Tractor		55.4	51.4	N/A	N/A	N/A	N/A
Tractor		55.4	51.4	N/A	N/A	N/A	N/A
	Total	**55**	**59**	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 8/31/2021
Case Description: Seaton Ave & Cajalco Rd Warehouse - Grading

		Baselines (dBA)		**---- Receptor #1 ----**
Description	Land Use	Daytime	Evening	Night
1 - Home to Northwest	Residential	62.1	62.1	62.1

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	1140	0
Excavator	No	40		80.7	1140	0
Grader	No	40	85		1140	0
Dozer	No	40		81.7	1140	0
Scraper	No	40		83.6	1140	0
Scraper	No	40		83.6	1140	0
Tractor	No	40	84		1140	0
Tractor	No	40	84		1140	0

		Calculated (dBA)		Results	Noise Limits (dBA)		
				Day		Evening	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq
Excavator		53.6	49.6	N/A	N/A	N/A	N/A
Excavator		53.6	49.6	N/A	N/A	N/A	N/A
Grader		57.8	53.9	N/A	N/A	N/A	N/A
Dozer		54.5	50.5	N/A	N/A	N/A	N/A
Scraper		56.4	52.4	N/A	N/A	N/A	N/A
Scraper		56.4	52.4	N/A	N/A	N/A	N/A
Tractor		56.8	52.9	N/A	N/A	N/A	N/A
Tractor		56.8	52.9	N/A	N/A	N/A	N/A
	Total	**58**	**61**	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 8/31/2021
Case Description: Seaton Ave & Cajalco Rd Warehouse - Grading

---- Receptor #2 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
2 - Home to West	Residential	62.1	62.1	62.1

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	650	0
Excavator	No	40		80.7	650	0
Grader	No	40	85		650	0
Dozer	No	40		81.7	650	0
Scraper	No	40		83.6	650	0
Scraper	No	40		83.6	650	0
Tractor	No	40	84		650	0
Tractor	No	40	84		650	0

		Results					
		Calculated (dBA)		Noise Limits (dBA)			
				Day		Evening	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq
Excavator		58.4	54.5	N/A	N/A	N/A	N/A
Excavator		58.4	54.5	N/A	N/A	N/A	N/A
Grader		62.7	58.7	N/A	N/A	N/A	N/A
Dozer		59.4	55.4	N/A	N/A	N/A	N/A
Scraper		61.3	57.3	N/A	N/A	N/A	N/A
Scraper		61.3	57.3	N/A	N/A	N/A	N/A
Tractor		61.7	57.7	N/A	N/A	N/A	N/A
Tractor		61.7	57.7	N/A	N/A	N/A	N/A
	Total	**63**	**66**	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 8/31/2021
Case Description: Seaton Ave & Cajalco Rd Warehouse - Grading

---- Receptor #3 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
3 - Temple to Southwest	Residential	62.1	62.1	62.1

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	900	0
Excavator	No	40		80.7	900	0
Grader	No	40	85		900	0
Dozer	No	40		81.7	900	0
Scraper	No	40		83.6	900	0
Scraper	No	40		83.6	900	0
Tractor	No	40	84		900	0
Tractor	No	40	84		900	0

		Calculated (dBA)		Results	Noise Limits (dBA)		
				Day		Evening	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq
Excavator		55.6	51.6	N/A	N/A	N/A	N/A
Excavator		55.6	51.6	N/A	N/A	N/A	N/A
Grader		59.9	55.9	N/A	N/A	N/A	N/A
Dozer		56.6	52.6	N/A	N/A	N/A	N/A
Scraper		58.5	54.5	N/A	N/A	N/A	N/A
Scraper		58.5	54.5	N/A	N/A	N/A	N/A
Tractor		58.9	54.9	N/A	N/A	N/A	N/A
Tractor		58.9	54.9	N/A	N/A	N/A	N/A
	Total	**60**	**63**	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 8/31/2021
Case Description: Seaton Ave & Cajalco Rd Warehouse - Grading

---- Receptor #4 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
4 - Home to South	Residential	57.5	57.5	57.5

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	1350	0
Excavator	No	40		80.7	1350	0
Grader	No	40	85		1350	0
Dozer	No	40		81.7	1350	0
Scraper	No	40		83.6	1350	0
Scraper	No	40		83.6	1350	0
Tractor	No	40	84		1350	0
Tractor	No	40	84		1350	0

		Calculated (dBA)		Results			
				Day		Evening	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq
Excavator		52.1	48.1	N/A	N/A	N/A	N/A
Excavator		52.1	48.1	N/A	N/A	N/A	N/A
Grader		56.4	52.4	N/A	N/A	N/A	N/A
Dozer		53.0	49.1	N/A	N/A	N/A	N/A
Scraper		55.0	51.0	N/A	N/A	N/A	N/A
Scraper		55.0	51.0	N/A	N/A	N/A	N/A
Tractor		55.4	51.4	N/A	N/A	N/A	N/A
Tractor		55.4	51.4	N/A	N/A	N/A	N/A
	Total	**56**	**60**	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 8/31/2021
Case Description: Seaton Ave & Cajalco Rd Warehouse - Building Construction

---- Receptor #1 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
1 - Home to Northwest	Residential	62.1	62.1	62.1

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Crane	No	16		80.6	1140	0
Gradall	No	40		83.4	1140	0
Gradall	No	40		83.4	1140	0
Gradall	No	40		83.4	1140	0
Generator	No	50		80.6	1140	0
Tractor	No	40	84		1140	0
Front End Loader	No	40		79.1	1140	0
Backhoe	No	40		77.6	1140	0
Welder / Torch	No	40		74	1140	0

Equipment	Calculated (dBA) *Lmax	Leq	Results Day Lmax	Noise Limits (dBA) Leq	Evening Lmax	Leq
Crane	53.4	45.4	N/A	N/A	N/A	N/A
Gradall	56.2	52.3	N/A	N/A	N/A	N/A
Gradall	56.2	52.3	N/A	N/A	N/A	N/A
Gradall	56.2	52.3	N/A	N/A	N/A	N/A
Generator	53.5	50.5	N/A	N/A	N/A	N/A
Tractor	56.8	52.9	N/A	N/A	N/A	N/A
Front End Loader	52.0	48.0	N/A	N/A	N/A	N/A
Backhoe	50.4	46.4	N/A	N/A	N/A	N/A
Welder / Torch	46.8	42.9	N/A	N/A	N/A	N/A
Total	**57**	**60**	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 8/31/2021
Case Description: Seaton Ave & Cajalco Rd Warehouse - Building Construction

---- Receptor #2 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
2 - Home to West	Residential	62.1	62.1	62.1

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Crane	No	16		80.6	650	0
Gradall	No	40		83.4	650	0
Gradall	No	40		83.4	650	0
Gradall	No	40		83.4	650	0
Generator	No	50		80.6	650	0
Tractor	No	40	84		650	0
Front End Loader	No	40		79.1	650	0
Backhoe	No	40		77.6	650	0
Welder / Torch	No	40		74	650	0

Equipment	Calculated (dBA) *Lmax	Leq	Results Day Lmax	Noise Limits (dBA) Leq	Evening Lmax	Leq
Crane	58.3	50.3	N/A	N/A	N/A	N/A
Gradall	61.1	57.1	N/A	N/A	N/A	N/A
Gradall	61.1	57.1	N/A	N/A	N/A	N/A
Gradall	61.1	57.1	N/A	N/A	N/A	N/A
Generator	58.4	55.3	N/A	N/A	N/A	N/A
Tractor	61.7	57.7	N/A	N/A	N/A	N/A
Front End Loader	56.8	52.9	N/A	N/A	N/A	N/A
Backhoe	55.3	51.3	N/A	N/A	N/A	N/A
Welder / Torch	51.7	47.7	N/A	N/A	N/A	N/A
Total	**62**	**65**	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 8/31/2021
Case Description: Seaton Ave & Cajalco Rd Warehouse - Building Construction

---- Receptor #3 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
3 - Temple to Southwest	Residential	62.1	62.1	62.1

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Crane	No	16		80.6	900	0
Gradall	No	40		83.4	900	0
Gradall	No	40		83.4	900	0
Gradall	No	40		83.4	900	0
Generator	No	50		80.6	900	0
Tractor	No	40	84		900	0
Front End Loader	No	40		79.1	900	0
Backhoe	No	40		77.6	900	0
Welder / Torch	No	40		74	900	0

Equipment		Calculated (dBA) *Lmax	Leq	Results Day Lmax	Noise Limits (dBA) Leq	Evening Lmax	Leq
Crane		55.4	47.5	N/A	N/A	N/A	N/A
Gradall		58.3	54.3	N/A	N/A	N/A	N/A
Gradall		58.3	54.3	N/A	N/A	N/A	N/A
Gradall		58.3	54.3	N/A	N/A	N/A	N/A
Generator		55.5	52.5	N/A	N/A	N/A	N/A
Tractor		58.9	54.9	N/A	N/A	N/A	N/A
Front End Loader		54.0	50.0	N/A	N/A	N/A	N/A
Backhoe		52.5	48.5	N/A	N/A	N/A	N/A
Welder / Torch		48.9	44.9	N/A	N/A	N/A	N/A
	Total	**59**	**62**	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 8/31/2021
Case Description: Seaton Ave & Cajalco Rd Warehouse - Building Construction

---- Receptor #4 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
4 - Home to South	Residential	57.5	57.5	57.5

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Crane	No	16		80.6	1350	0
Gradall	No	40		83.4	1350	0
Gradall	No	40		83.4	1350	0
Gradall	No	40		83.4	1350	0
Generator	No	50		80.6	1350	0
Tractor	No	40	84		1350	0
Front End Loader	No	40		79.1	1350	0
Backhoe	No	40		77.6	1350	0
Welder / Torch	No	40		74	1350	0

Equipment		Calculated (dBA) *Lmax	Leq	Results Noise Limits (dBA) Day Lmax	Leq	Evening Lmax	Leq
Crane		51.9	44.0	N/A	N/A	N/A	N/A
Gradall		54.8	50.8	N/A	N/A	N/A	N/A
Gradall		54.8	50.8	N/A	N/A	N/A	N/A
Gradall		54.8	50.8	N/A	N/A	N/A	N/A
Generator		52.0	49.0	N/A	N/A	N/A	N/A
Tractor		55.4	51.4	N/A	N/A	N/A	N/A
Front End Loader		50.5	46.5	N/A	N/A	N/A	N/A
Backhoe		48.9	45.0	N/A	N/A	N/A	N/A
Welder / Torch		45.4	41.4	N/A	N/A	N/A	N/A
	Total	**55**	**58**	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 8/31/2021
Case Description: Seaton Ave & Cajalco Rd Warehouse - Paving

				---- Receptor #1 ----
		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
1 - Home to Northwest	Residential	62.1	62.1	62.1

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Paver	No	50		77.2	1140	0
Paver	No	50		77.2	1140	0
Paver	No	50		77.2	1140	0
Paver	No	50		77.2	1140	0
Roller	No	20		80	1140	0
Roller	No	20		80	1140	0

		Calculated (dBA)		Results	Noise Limits (dBA)		
				Day		Evening	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq
Paver		50.1	47.1	N/A	N/A	N/A	N/A
Paver		50.1	47.1	N/A	N/A	N/A	N/A
Paver		50.1	47.1	N/A	N/A	N/A	N/A
Paver		50.1	47.1	N/A	N/A	N/A	N/A
Roller		52.8	45.9	N/A	N/A	N/A	N/A
Roller		52.8	45.9	N/A	N/A	N/A	N/A
	Total	**53**	**55**	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 8/31/2021
Case Description: Seaton Ave & Cajalco Rd Warehouse - Paving

---- Receptor #2 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
2 - Home to West	Residential	62.1	62.1	62.1

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Paver	No	50		77.2	650	0
Paver	No	50		77.2	650	0
Paver	No	50		77.2	650	0
Paver	No	50		77.2	650	0
Roller	No	20		80	650	0
Roller	No	20		80	650	0

		Calculated (dBA)		Results	Noise Limits (dBA)		
				Day		Evening	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq
Paver		54.9	51.9	N/A	N/A	N/A	N/A
Paver		54.9	51.9	N/A	N/A	N/A	N/A
Paver		54.9	51.9	N/A	N/A	N/A	N/A
Paver		54.9	51.9	N/A	N/A	N/A	N/A
Roller		57.7	50.7	N/A	N/A	N/A	N/A
Roller		57.7	50.7	N/A	N/A	N/A	N/A
	Total	**58**	**59**	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 8/31/2021
Case Description: Seaton Ave & Cajalco Rd Warehouse - Paving

---- Receptor #3 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
3 - Temple to Southwest	Residential	62.1	62.1	62.1

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Paver	No	50		77.2	900	0
Paver	No	50		77.2	900	0
Paver	No	50		77.2	900	0
Paver	No	50		77.2	900	0
Roller	No	20		80	900	0
Roller	No	20		80	900	0

		Calculated (dBA)		Results Noise Limits (dBA)			
				Day		Evening	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq
Paver		52.1	49.1	N/A	N/A	N/A	N/A
Paver		52.1	49.1	N/A	N/A	N/A	N/A
Paver		52.1	49.1	N/A	N/A	N/A	N/A
Paver		52.1	49.1	N/A	N/A	N/A	N/A
Roller		54.9	47.9	N/A	N/A	N/A	N/A
Roller		54.9	47.9	N/A	N/A	N/A	N/A
	Total	**55**	**57**	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 8/31/2021
Case Description: Seaton Ave & Cajalco Rd Warehouse - Paving

---- Receptor #4 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
4 - Home to South	Residential	57.5	57.5	57.5

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Paver	No	50		77.2	1350	0
Paver	No	50		77.2	1350	0
Paver	No	50		77.2	1350	0
Paver	No	50		77.2	1350	0
Roller	No	20		80	1350	0
Roller	No	20		80	1350	0

		Calculated (dBA)		Results Day		Noise Limits (dBA) Evening	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq
Paver		48.6	45.6	N/A	N/A	N/A	N/A
Paver		48.6	45.6	N/A	N/A	N/A	N/A
Paver		48.6	45.6	N/A	N/A	N/A	N/A
Paver		48.6	45.6	N/A	N/A	N/A	N/A
Roller		51.4	44.4	N/A	N/A	N/A	N/A
Roller		51.4	44.4	N/A	N/A	N/A	N/A
	Total	**51**	**53**	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 8/31/2021
Case Description: Seaton Ave & Cajalco Rd Warehouse - Painting

---- Receptor #1 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
1 - Home to Northwest	Residential	62.1	62.1	62.1

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Compressor (air)	No	40		77.7	1140	0

Results

	Calculated (dBA)		Day		Evening	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq
Compressor (air)	50.5	46.5	N/A	N/A	N/A	N/A
Total	**51**	**47**	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
2 - Home to West	Residential	62.1	62.1	62.1

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Compressor (air)	No	40		77.7	650	0

Results

	Calculated (dBA)		Day		Evening	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq
Compressor (air)	55.4	51.4	N/A	N/A	N/A	N/A
Total	**55**	**51**	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 8/31/2021
Case Description: Seaton Ave & Cajalco Rd Warehouse - Painting

---- Receptor #3 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
3 - Temple to Southwest	Residential	62.1	62.1	62.1

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Compressor (air)	No	40		77.7	900	0

		Calculated (dBA)		Results Noise Limits (dBA)			
				Day		Evening	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq
Compressor (air)		52.6	48.6	N/A	N/A	N/A	N/A
	Total	**53**	**49**	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #4 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
4 - Home to South	Residential	57.5	57.5	57.5

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Compressor (air)	No	40		77.7	1350	0

		Calculated (dBA)		Results Noise Limits (dBA)			
				Day		Evening	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq
Compressor (air)		49.0	45.1	N/A	N/A	N/A	N/A
	Total	**49**	**45**	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

APPENDIX D

FHWA Model Traffic Noise Calculation Printouts

FHWA-RD-77-108 HIGHWAY TRAFFIC NOISE PREDICTION MODEL

Scenario: EXISTING

Project: Seaton Avenue & Cajalco Road Warehouse
Site Conditions: Soft

	Vehicle Mix 1 (Secondary, Collector)				Vehicle Mix 2 (Arterial, Major)				Vehicle Mix 3 (State Route 79)			
Vehicle Type	Day	Evening	Night	Daily	Day	Evening	Night	Daily	Day	Evening	Night	Daily
Automobiles	73.60%	13.60%	10.22%	97.42%	69.50%	12.90%	9.60%	92.00%	63.34%	12.98%	15.18%	91.50%
Medium Trucks	0.90%	0.04%	0.90%	1.84%	1.44%	0.06%	1.50%	3.00%	3.14%	0.57%	1.59%	5.30%
Heavy Trucks	0.35%	0.04%	0.35%	0.74%	2.40%	0.10%	2.50%	5.00%	1.75%	0.17%	1.28%	3.20%

Road Name: Seaton Avenue **Segment: North of Cajalco Road**
Average Daily Traffic: 490 Vehicles Vehicle Speed: 45 MPH Vehicle Mix: 1 Roadway Classification: Secondary

	NOISE PARAMETERS AT 60 FEET FROM CENTERLINE (Equiv. Lane Dist: 57.24 ft)										**Centerline Distance to**		
	Noise Adjustments				**Unmitigated Noise Levels**						**Noise Contour (in feet)**		
Vehicle Type	REMEL	Traffic Adj.	Dist Adj.	Finite Adj	Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL		Ldn	CNEL
Automobiles	69.34	-15.05	-0.98	-1.20	52.1	50.0	48.7	42.7	51.1	51.71	70 dBA:	**3**	**4**
Medium Trucks	77.62	-32.29	-0.98	-1.20	43.2	21.9	14.4	23.2	29.3	29.36	65 dBA:	**7**	**8**
Heavy Trucks	82.14	-36.24	-0.98	-1.20	43.7	18.4	15.0	19.6	25.8	25.91	60 dBA:	**15**	**17**
				Total:	**53.2**	**50.0**	**48.7**	**42.7**	**51.1**	**51.7**	55 dBA:	**33**	**36**

Road Name: Seaton Avenue **Segment: North of Project Driveway 2**
Average Daily Traffic: 1190 Vehicles Vehicle Speed: 45 MPH Vehicle Mix: 1 Roadway Classification: Secondary

	NOISE PARAMETERS AT 130 FEET FROM CENTERLINE (Equiv. Lane Dist: 128.75 ft)										**Centerline Distance to**		
	Noise Adjustments				**Unmitigated Noise Levels**						**Noise Contour (in feet)**		
Vehicle Type	REMEL	Traffic Adj.	Dist Adj.	Finite Adj	Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL		Ldn	CNEL
Automobiles	69.34	-11.20	-6.26	-1.20	50.7	48.6	47.2	41.2	49.7	50.3	70 dBA:	**6**	**6**
Medium Trucks	77.62	-28.43	-6.26	-1.20	41.7	20.5	13.0	21.7	27.9	27.9	65 dBA:	**12**	**14**
Heavy Trucks	82.14	-32.39	-6.26	-1.20	42.3	16.9	13.5	18.2	24.4	24.5	60 dBA:	**27**	**29**
				Total:	**51.7**	**48.6**	**47.3**	**41.3**	**49.7**	**50.3**	55 dBA:	**58**	**63**

Road Name: Seaton Avenue **Segment: South of Project Driveway 2**
Average Daily Traffic: 1190 Vehicles Vehicle Speed: 45 MPH Vehicle Mix: 1 Roadway Classification: Secondary

	NOISE PARAMETERS AT 130 FEET FROM CENTERLINE (Equiv. Lane Dist: 128.75 ft)										**Centerline Distance to**		
	Noise Adjustments				**Unmitigated Noise Levels**						**Noise Contour (in feet)**		
Vehicle Type	REMEL	Traffic Adj.	Dist Adj.	Finite Adj	Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL		Ldn	CNEL
Automobiles	69.34	-11.20	-6.26	-1.20	50.7	48.6	47.2	41.2	49.7	50.3	70 dBA:	**6**	**6**
Medium Trucks	77.62	-28.43	-6.26	-1.20	41.7	20.5	13.0	21.7	27.9	27.9	65 dBA:	**12**	**14**
Heavy Trucks	82.14	-32.39	-6.26	-1.20	42.3	16.9	13.5	18.2	24.4	24.5	60 dBA:	**27**	**29**
				Total:	**51.7**	**48.6**	**47.3**	**41.3**	**49.7**	**50.3**	55 dBA:	**58**	**63**

FHWA-RD-77-108 HIGHWAY TRAFFIC NOISE PREDICTION MODEL

Scenario: EXISTING

Project: Seaton Avenue & Cajalco Road Warehouse
Site Conditions: Soft

Road Name: Cajalco Road **Segment: West of Seaton Avenue**

Average Daily Traffic: 29110 Vehicles Vehicle Speed: 50 MPH Vehicle Mix: 2 Roadway Classification: Expressway

	NOISE PARAMETERS AT 120 FEET FROM CENTERLINE (Equiv. Lane Dist: 113.49 ft)										**Centerline Distance to**		
	Noise Adjustments				**Unmitigated Noise Levels**						**Noise Contour (in feet)**		
Vehicle Type	REMEL	Traffic Adj.	Dist Adj.	Finite Adj	Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL		Ldn	CNEL
Automobiles	71.12	1.98	-5.44	-1.20	66.5	64.1	62.8	56.7	65.2	65.8	70 dBA:	**63**	**68**
Medium Trucks	78.79	-12.88	-5.44	-1.20	59.3	40.1	32.3	41.5	47.6	47.7	65 dBA:	**135**	**147**
Heavy Trucks	83.02	-10.66	-5.44	-1.20	65.7	48.7	40.9	50.1	56.3	56.3	60 dBA:	**291**	**317**
				Total:	**69.5**	**64.2**	**62.8**	**57.7**	**65.8**	**66.3**	55 dBA:	**627**	**683**

FHWA-RD-77-108 HIGHWAY TRAFFIC NOISE PREDICTION MODEL

Scenario: EXISTING WITH PROJECT

Project: Seaton Avenue & Cajalco Road Warehouse
Site Conditions: Soft

	Vehicle Mix 1 (Secondary, Collector)				Vehicle Mix 2 (Arterial, Major)				Vehicle Mix 3 (State Route 79)			
Vehicle Type	Day	Evening	Night	Daily	Day	Evening	Night	Daily	Day	Evening	Night	Daily
Automobiles	73.60%	13.60%	10.22%	97.42%	69.50%	12.90%	9.60%	92.00%	63.34%	12.98%	15.18%	91.50%
Medium Trucks	0.90%	0.04%	0.90%	1.84%	1.44%	0.06%	1.50%	3.00%	3.14%	0.57%	1.59%	5.30%
Heavy Trucks	0.35%	0.04%	0.35%	0.74%	2.40%	0.10%	2.50%	5.00%	1.75%	0.17%	1.28%	3.20%

Road Name: Seaton Avenue **Segment: North of Cajalco Road**
Average Daily Traffic: 575 Vehicles Vehicle Speed: 45 MPH Vehicle Mix: 1 Roadway Classification: Secondary

	NOISE PARAMETERS AT 60 FEET FROM CENTERLINE (Equiv. Lane Dist: 57.24 ft)										**Centerline Distance to**		
	Noise Adjustments				**Unmitigated Noise Levels**						**Noise Contour (in feet)**		
Vehicle Type	REMEL	Traffic Adj.	Dist Adj.	Finite Adj	Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL		Ldn	CNEL
Automobiles	69.34	-14.35	-0.98	-1.20	52.8	50.7	49.4	43.4	51.8	52.4	70 dBA:	**4**	**4**
Medium Trucks	77.62	-31.59	-0.98	-1.20	43.8	22.6	15.1	23.8	30.0	30.1	65 dBA:	**8**	**9**
Heavy Trucks	82.14	-35.55	-0.98	-1.20	44.4	19.1	15.7	20.3	26.5	26.6	60 dBA:	**17**	**19**
				Total:	**53.9**	**50.7**	**49.4**	**43.4**	**51.8**	**52.4**	55 dBA:	**37**	**41**

Road Name: Seaton Avenue **Segment: North of Project Driveway 2**
Average Daily Traffic: 1461 Vehicles Vehicle Speed: 45 MPH Vehicle Mix: 1 Roadway Classification: Secondary

	NOISE PARAMETERS AT 130 FEET FROM CENTERLINE (Equiv. Lane Dist: 128.75 ft)										**Centerline Distance to**		
	Noise Adjustments				**Unmitigated Noise Levels**						**Noise Contour (in feet)**		
Vehicle Type	REMEL	Traffic Adj.	Dist Adj.	Finite Adj	Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL		Ldn	CNEL
Automobiles	69.34	-10.31	-6.26	-1.20	51.6	49.5	48.1	42.1	50.5	51.2	70 dBA:	**7**	**7**
Medium Trucks	77.62	-27.54	-6.26	-1.20	42.6	21.4	13.9	22.6	28.8	28.8	65 dBA:	**14**	**16**
Heavy Trucks	82.14	-31.50	-6.26	-1.20	43.2	17.8	14.4	19.1	25.3	25.4	60 dBA:	**31**	**34**
				Total:	**52.6**	**49.5**	**48.1**	**42.2**	**50.6**	**51.2**	55 dBA:	**66**	**73**

Road Name: Seaton Avenue **Segment: South of Project Driveway 2**
Average Daily Traffic: 1233 Vehicles Vehicle Speed: 45 MPH Vehicle Mix: 1 Roadway Classification: Secondary

	NOISE PARAMETERS AT 130 FEET FROM CENTERLINE (Equiv. Lane Dist: 128.75 ft)										**Centerline Distance to**		
	Noise Adjustments				**Unmitigated Noise Levels**						**Noise Contour (in feet)**		
Vehicle Type	REMEL	Traffic Adj.	Dist Adj.	Finite Adj	Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL		Ldn	CNEL
Automobiles	69.34	-11.04	-6.26	-1.20	50.8	48.7	47.4	41.4	49.8	50.4	70 dBA:	**6**	**6**
Medium Trucks	77.62	-28.28	-6.26	-1.20	41.9	20.6	13.1	21.9	28.0	28.1	65 dBA:	**13**	**14**
Heavy Trucks	82.14	-32.24	-6.26	-1.20	42.4	17.1	13.7	18.3	24.5	24.6	60 dBA:	**27**	**30**
				Total:	**51.9**	**48.7**	**47.4**	**41.5**	**49.9**	**50.5**	55 dBA:	**59**	**65**

FHWA-RD-77-108 HIGHWAY TRAFFIC NOISE PREDICTION MODEL

Scenario: EXISTING WITH PROJECT

Project: Seaton Avenue & Cajalco Road Warehouse
Site Conditions: Soft

Road Name: Cajalco Road **Segment: West of Seaton Avenue**

Average Daily Traffic: 29213 Vehicles Vehicle Speed: 50 MPH Vehicle Mix: 2 Roadway Classification: Expressway

	NOISE PARAMETERS AT 120 FEET FROM CENTERLINE (Equiv. Lane Dist: 113.49 ft)										**Centerline Distance to**		
	Noise Adjustments				**Unmitigated Noise Levels**						**Noise Contour (in feet)**		
Vehicle Type	REMEL	Traffic Adj.	Dist Adj.	Finite Adj	Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL		Ldn	CNEL
Automobiles	71.12	2.00	-5.44	-1.20	66.5	64.1	62.8	56.8	65.2	65.8	70 dBA:	**63**	**68**
Medium Trucks	78.79	-12.87	-5.44	-1.20	59.3	40.1	32.3	41.5	47.7	47.7	65 dBA:	**135**	**147**
Heavy Trucks	83.02	-10.65	-5.44	-1.20	65.7	48.7	41.0	50.2	56.3	56.4	60 dBA:	**292**	**318**
				Total:	**69.6**	**64.2**	**62.8**	**57.7**	**65.8**	**66.3**	55 dBA:	**628**	**685**

FHWA-RD-77-108 HIGHWAY TRAFFIC NOISE PREDICTION MODEL

Scenario: YEAR 2023 WITH CUMULATIVE PROJECTS WITHOUT PROJECT **Project: Seaton Avenue & Cajalco Road Warehouse**

Site Conditions: Soft

	Vehicle Mix 1 (Secondary, Collector)				Vehicle Mix 2 (Arterial, Major)				Vehicle Mix 3 (State Route 79)			
Vehicle Type	Day	Evening	Night	Daily	Day	Evening	Night	Daily	Day	Evening	Night	Daily
Automobiles	73.60%	13.60%	10.22%	97.42%	69.50%	12.90%	9.60%	92.00%	63.34%	12.98%	15.18%	91.50%
Medium Trucks	0.90%	0.04%	0.90%	1.84%	1.44%	0.06%	1.50%	3.00%	3.14%	0.57%	1.59%	5.30%
Heavy Trucks	0.35%	0.04%	0.35%	0.74%	2.40%	0.10%	2.50%	5.00%	1.75%	0.17%	1.28%	3.20%

Road Name: Seaton Avenue **Segment: North of Cajalco Road**

Average Daily Traffic: 1490 Vehicles Vehicle Speed: 45 MPH Vehicle Mix: 1 Roadway Classification: Secondary

	NOISE PARAMETERS AT 60 FEET FROM CENTERLINE (Equiv. Lane Dist: 57.24 ft)										**Centerline Distance to**		
	Noise Adjustments				**Unmitigated Noise Levels**						**Noise Contour (in feet)**		
Vehicle Type	REMEL	Traffic Adj.	Dist Adj.	Finite Adj	Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL		Ldn	CNEL
Automobiles	69.34	-10.22	-0.98	-1.20	56.9	54.8	53.5	47.5	55.9	56.5	70 dBA:	**7**	**8**
Medium Trucks	77.62	-27.46	-0.98	-1.20	48.0	26.7	19.2	28.0	34.2	34.2	65 dBA:	**15**	**16**
Heavy Trucks	82.14	-31.41	-0.98	-1.20	48.5	23.2	19.8	24.4	30.6	30.7	60 dBA:	**32**	**35**
				Total:	**58.0**	**54.8**	**53.5**	**47.6**	**56.0**	**56.6**	55 dBA:	**69**	**76**

Road Name: Seaton Avenue **Segment: North of Project Driveway 2**

Average Daily Traffic: 1900 Vehicles Vehicle Speed: 45 MPH Vehicle Mix: 1 Roadway Classification: Secondary

	NOISE PARAMETERS AT 130 FEET FROM CENTERLINE (Equiv. Lane Dist: 128.75 ft)										**Centerline Distance to**		
	Noise Adjustments				**Unmitigated Noise Levels**						**Noise Contour (in feet)**		
Vehicle Type	REMEL	Traffic Adj.	Dist Adj.	Finite Adj	Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL		Ldn	CNEL
Automobiles	69.34	-9.16	-6.26	-1.20	52.7	50.6	49.3	43.3	51.7	52.3	70 dBA:	**8**	**9**
Medium Trucks	77.62	-26.40	-6.26	-1.20	43.8	22.5	15.0	23.8	29.9	30.0	65 dBA:	**17**	**19**
Heavy Trucks	82.14	-30.36	-6.26	-1.20	44.3	19.0	15.6	20.2	26.4	26.5	60 dBA:	**37**	**40**
				Total:	**53.8**	**50.6**	**49.3**	**43.3**	**51.7**	**52.4**	55 dBA:	**79**	**87**

Road Name: Seaton Avenue **Segment: South of Project Driveway 2**

Average Daily Traffic: 1900 Vehicles Vehicle Speed: 45 MPH Vehicle Mix: 1 Roadway Classification: Secondary

	NOISE PARAMETERS AT 130 FEET FROM CENTERLINE (Equiv. Lane Dist: 128.75 ft)										**Centerline Distance to**		
	Noise Adjustments				**Unmitigated Noise Levels**						**Noise Contour (in feet)**		
Vehicle Type	REMEL	Traffic Adj.	Dist Adj.	Finite Adj	Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL		Ldn	CNEL
Automobiles	69.34	-9.16	-6.26	-1.20	52.7	50.6	49.3	43.3	51.7	52.3	70 dBA:	**8**	**9**
Medium Trucks	77.62	-26.40	-6.26	-1.20	43.8	22.5	15.0	23.8	29.9	30.0	65 dBA:	**17**	**19**
Heavy Trucks	82.14	-30.36	-6.26	-1.20	44.3	19.0	15.6	20.2	26.4	26.5	60 dBA:	**37**	**40**
				Total:	**53.8**	**50.6**	**49.3**	**43.3**	**51.7**	**52.4**	55 dBA:	**79**	**87**

FHWA-RD-77-108 HIGHWAY TRAFFIC NOISE PREDICTION MODEL

Scenario: YEAR 2023 WITH CUMULATIVE PROJECTS WITHOUT PROJECT **Project: Seaton Avenue & Cajalco Road Warehouse**

Site Conditions: Soft

Road Name: Cajalco Road **Segment: West of Seaton Avenue**

Average Daily Traffic: 31910 Vehicles Vehicle Speed: 50 MPH Vehicle Mix: 2 Roadway Classification: Expressway

	NOISE PARAMETERS AT 120 FEET FROM CENTERLINE (Equiv. Lane Dist: 113.49 ft)										**Centerline Distance to**		
	Noise Adjustments				**Unmitigated Noise Levels**						**Noise Contour (in feet)**		
Vehicle Type	REMEL	Traffic Adj.	Dist Adj.	Finite Adj	Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL		Ldn	CNEL
Automobiles	71.12	2.38	-5.44	-1.20	66.9	64.5	63.2	57.1	65.6	66.2	70 dBA:	**67**	**73**
Medium Trucks	78.79	-12.48	-5.44	-1.20	59.7	40.5	32.7	41.9	48.0	48.1	65 dBA:	**144**	**156**
Heavy Trucks	83.02	-10.27	-5.44	-1.20	66.1	49.1	41.3	50.5	56.7	56.7	60 dBA:	**309**	**337**
				Total:	**69.9**	**64.6**	**63.2**	**58.1**	**66.2**	**66.7**	55 dBA:	**666**	**726**

FHWA-RD-77-108 HIGHWAY TRAFFIC NOISE PREDICTION MODEL

Scenario: YEAR 2023 WITH CUMULATIVE PROJECTS WITH PROJECT **Project: Seaton Avenue & Cajalco Road Warehouse**

Site Conditions: Soft

	Vehicle Mix 1 (Secondary, Collector)				Vehicle Mix 2 (Arterial, Major)				Vehicle Mix 3 (State Route 79)			
Vehicle Type	Day	Evening	Night	Daily	Day	Evening	Night	Daily	Day	Evening	Night	Daily
Automobiles	73.60%	13.60%	10.22%	97.42%	69.50%	12.90%	9.60%	92.00%	63.34%	12.98%	15.18%	91.50%
Medium Trucks	0.90%	0.04%	0.90%	1.84%	1.44%	0.06%	1.50%	3.00%	3.14%	0.57%	1.59%	5.30%
Heavy Trucks	0.35%	0.04%	0.35%	0.74%	2.40%	0.10%	2.50%	5.00%	1.75%	0.17%	1.28%	3.20%

Road Name: Seaton Avenue **Segment: North of Cajalco Road**

Average Daily Traffic: 1575 Vehicles Vehicle Speed: 45 MPH Vehicle Mix: 1 Roadway Classification: Secondary

	NOISE PARAMETERS AT 60 FEET FROM CENTERLINE (Equiv. Lane Dist: 57.24 ft)										**Centerline Distance to**		
	Noise Adjustments				**Unmitigated Noise Levels**						**Noise Contour (in feet)**		
Vehicle Type	REMEL	Traffic Adj.	Dist Adj.	Finite Adj	Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL		Ldn	CNEL
Automobiles	69.34	-9.98	-0.98	-1.20	57.2	55.1	53.7	47.7	56.2	56.8	70 dBA:	**7**	**8**
Medium Trucks	77.62	-27.22	-0.98	-1.20	48.2	27.0	19.5	28.2	34.4	34.4	65 dBA:	**16**	**17**
Heavy Trucks	82.14	-31.17	-0.98	-1.20	48.8	23.4	20.0	24.7	30.9	31.0	60 dBA:	**33**	**37**
				Total:	**58.2**	**55.1**	**53.8**	**47.8**	**56.2**	**56.8**	55 dBA:	**72**	**79**

Road Name: Seaton Avenue **Segment: North of Project Driveway 2**

Average Daily Traffic: 2171 Vehicles Vehicle Speed: 45 MPH Vehicle Mix: 1 Roadway Classification: Secondary

	NOISE PARAMETERS AT 130 FEET FROM CENTERLINE (Equiv. Lane Dist: 128.75 ft)										**Centerline Distance to**		
	Noise Adjustments				**Unmitigated Noise Levels**						**Noise Contour (in feet)**		
Vehicle Type	REMEL	Traffic Adj.	Dist Adj.	Finite Adj	Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL		Ldn	CNEL
Automobiles	69.34	-8.59	-6.26	-1.20	53.3	51.2	49.9	43.8	52.3	52.9	70 dBA:	**9**	**9**
Medium Trucks	77.62	-25.82	-6.26	-1.20	44.3	23.1	15.6	24.3	30.5	30.5	65 dBA:	**19**	**20**
Heavy Trucks	82.14	-29.78	-6.26	-1.20	44.9	19.5	16.1	20.8	27.0	27.1	60 dBA:	**40**	**44**
				Total:	**54.3**	**51.2**	**49.9**	**43.9**	**52.3**	**52.9**	55 dBA:	**86**	**95**

Road Name: Seaton Avenue **Segment: South of Project Driveway 2**

Average Daily Traffic: 1943 Vehicles Vehicle Speed: 45 MPH Vehicle Mix: 1 Roadway Classification: Secondary

	NOISE PARAMETERS AT 130 FEET FROM CENTERLINE (Equiv. Lane Dist: 128.75 ft)										**Centerline Distance to**		
	Noise Adjustments				**Unmitigated Noise Levels**						**Noise Contour (in feet)**		
Vehicle Type	REMEL	Traffic Adj.	Dist Adj.	Finite Adj	Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL		Ldn	CNEL
Automobiles	69.34	-9.07	-6.26	-1.20	52.8	50.7	49.4	43.4	51.8	52.4	70 dBA:	**8**	**9**
Medium Trucks	77.62	-26.31	-6.26	-1.20	43.9	22.6	15.1	23.9	30.0	30.1	65 dBA:	**17**	**19**
Heavy Trucks	82.14	-30.26	-6.26	-1.20	44.4	19.1	15.7	20.3	26.5	26.6	60 dBA:	**37**	**41**
				Total:	**53.9**	**50.7**	**49.4**	**43.4**	**51.8**	**52.4**	55 dBA:	**80**	**88**

FHWA-RD-77-108 HIGHWAY TRAFFIC NOISE PREDICTION MODEL

Scenario: YEAR 2023 WITH CUMULATIVE PROJECTS WITH PROJECT **Project: Seaton Avenue & Cajalco Road Warehouse**

Site Conditions: Soft

Road Name: Cajalco Road **Segment: West of Seaton Avenue**

Average Daily Traffic: 32013 Vehicles Vehicle Speed: 50 MPH Vehicle Mix: 2 Roadway Classification: Expressway

	NOISE PARAMETERS AT 120 FEET FROM CENTERLINE (Equiv. Lane Dist: 113.49 ft)										**Centerline Distance to**		
	Noise Adjustments				**Unmitigated Noise Levels**						**Noise Contour (in feet)**		
Vehicle Type	REMEL	Traffic Adj.	Dist Adj.	Finite Adj	Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL		Ldn	CNEL
Automobiles	71.12	2.40	-5.44	-1.20	66.9	64.5	63.2	57.2	65.6	66.2	70 dBA:	**67**	**73**
Medium Trucks	78.79	-12.47	-5.44	-1.20	59.7	40.5	32.7	41.9	48.1	48.1	65 dBA:	**144**	**157**
Heavy Trucks	83.02	-10.25	-5.44	-1.20	66.1	49.1	41.4	50.6	56.7	56.8	60 dBA:	**310**	**338**
				Total:	**70.0**	**64.6**	**63.2**	**58.1**	**66.2**	**66.7**	55 dBA:	**668**	**728**

APPENDIX E

Onsite Operations Reference Noise Measurements and Noise Calculations

General Information

Serial Number	02509
Model	831
Firmware Version	2.112
Filename	831_Data.005
User	GT
Job Description	Northwest Fresno Walmart Relocation
Location	Rooftop HVAC Unit
Measurement Description	
Start Time	Saturday, 2013 July 27 18:31:43
Stop Time	Saturday, 2013 July 27 18:41:44
Duration	00:10:01.1
Run Time	00:10:01.1
Pause	00:00:00.0
Pre Calibration	Saturday, 2013 July 27 17:53:07
Post Calibration	None
Calibration Deviation	---

Note

Located 10 feet southeast of rooftop HVAC Unit 14 located on western side of roof
94 F, 30% Hu., 29.45 in Hg, no wind, partly cloudy

Overall Data

LAeq		66.6	dB
LASmax	2013 Jul 27 18:33:16	67.6	dB
LApeak (max)	2013 Jul 27 18:32:17	81.6	dB
LASmin	2013 Jul 27 18:41:08	65.8	dB
LCeq		75.8	dB
LAeq		66.6	dB
LCeq - LAeq		9.2	dB
LAIeq		67.2	dB
LAeq		66.6	dB
LAIeq - LAeq		0.6	dB
Ldn		66.6	dB
LDay 07:00-23:00		66.6	dB
LNight 23:00-07:00		---	dB
Lden		66.6	dB
LDay 07:00-19:00		66.6	dB
LEvening 19:00-23:00		---	dB
LNight 23:00-07:00		---	dB
LAE		94.4	dB
# Overloads		0	
Overload Duration		0.0	s
# OBA Overloads		0	
OBA Overload Duration		0.0	s

Statistics

LAS5.00	67.0	dBA
LAS10.00	66.9	dBA
LAS33.30	66.7	dBA
LAS50.00	66.6	dBA
LAS66.60	66.5	dBA
LAS90.00	66.3	dBA
LAS > 65.0 dB (Exceedence Counts / Duration)	1 / 601.1	s
LAS > 85.0 dB (Exceedence Counts / Duration)	0 / 0.0	s
LApeak > 135.0 dB (Exceedence Counts / Duration)	0 / 0.0	s
LApeak > 137.0 dB (Exceedence Counts / Duration)	0 / 0.0	s
LApeak > 140.0 dB (Exceedence Counts / Duration)	0 / 0.0	s

Settings

RMS Weight	A Weighting	
Peak Weight	A Weighting	
Detector	Slow	
Preamp	PRM831	
Integration Method	Linear	
OBA Range	Normal	
OBA Bandwidth	1/1 and 1/3	
OBA Freq. Weighting	Z Weighting	
OBA Max Spectrum	Bin Max	
Gain	+0	dB
Under Range Limit	26.2	dB
Under Range Peak	75.8	dB
Noise Floor	17.1	dB
Overload	143.4	dB

1/1 Spectra

Freq. (Hz):	8.0	16.0	31.5	63.0	125	250	500	1k	2k	4k	8k	16k
LZeq	70.9	64.4	61.4	74.2	68.2	64.9	66.3	61.7	55.1	49.9	44.3	44.0
LZSmax	83.8	78.9	70.0	78.4	72.3	66.1	67.8	63.1	56.9	53.2	46.7	45.4
LZSmin	53.2	56.5	56.7	67.7	66.1	63.5	65.0	60.7	53.9	48.4	43.2	43.7

1/3 Spectra

Freq. (Hz):	6.3	8.0	10.0	12.5	16.0	20.0	25.0	31.5	40.0	50.0	63.0	80.0
LZeq	68.1	65.7	63.2	61.0	58.0	59.3	56.0	57.8	55.8	69.7	72.0	59.3
LZSmax	82.3	79.5	78.7	77.2	72.8	72.3	67.9	63.5	64.0	74.2	76.1	72.0
LZSmin	41.9	46.3	48.8	48.7	46.5	49.7	50.1	51.8	41.2	63.9	67.9	54.5

Freq. (Hz):	100	125	160	200	250	315	400	500	630	800	1k	1.25k
LZeq	61.6	63.7	64.5	59.0	58.7	60.9	63.2	60.8	59.9	59.2	56.1	54.6
LZSmax	71.3	68.0	67.3	61.6	61.7	64.1	65.5	64.2	62.0	60.7	57.6	58.6
LZSmin	52.9	60.0	57.2	45.1	56.0	58.9	61.1	58.4	58.4	57.1	54.9	53.3

Freq. (Hz):	1.6k	2k	2.5k	3.15k	4k	5k	6.3k	8k	10k	12.5k	16k	20k
LZeq	52.0	49.8	48.4	46.4	45.4	42.8	41.1	38.6	38.5	38.4	39.0	40.2
LZSmax	54.4	52.3	51.2	50.2	49.7	45.7	45.4	41.6	40.4	40.4	41.4	41.3
LZSmin	50.9	48.4	46.9	45.0	43.7	41.4	39.6	37.5	37.9	38.0	38.7	39.9

Calibration History

Preamp	Date	dB re. 1V/Pa
PRM831	27 Jul 2013 17:53:07	-25.9
PRM831	27 Jul 2013 13:36:08	-25.6
PRM831	28 Apr 2013 15:34:24	-25.9
PRM831	23 Apr 2013 10:17:33	-25.0
PRM831	27 Feb 2013 19:15:30	-25.7
PRM831	24 Jan 2013 12:00:16	-25.6
PRM831	15 Jan 2013 07:50:44	-26.2
PRM831	04 Jan 2013 13:47:46	-26.5

General Information

Serial Number	02509
Model	831
Firmware Version	2.112
Filename	831_Data.002
User	GT
Job Description	Northwest Fresno Walmart Relocation
Location	Northwest Fresno Walmart
Measurement Description	
Start Time	Saturday, 2013 July 27 15:49:15
Stop Time	Saturday, 2013 July 27 16:09:15
Duration	00:20:00.6
Run Time	00:20:00.6
Pause	00:00:00.0
Pre Calibration	Saturday, 2013 July 27 13:36:08
Post Calibration	None
Calibration Deviation	---

Note

Located at the eastern portion of the southern parking lot and approx 140 feet south of the front door
96 F, 35% Humidity, 29.48 in Hg, 3 mph wind, partly cloudy

Overall Data

LAeq		63.1	dB
LASmax	2013 Jul 27 15:59:44	79.2	dB
LApeak (max)	2013 Jul 27 16:06:25	102.2	dB
LASmin	2013 Jul 27 15:50:20	49.6	dB
LCeq		74.0	dB
LAeq		63.1	dB
LCeq - LAeq		10.9	dB
LAIeq		67.4	dB
LAeq		63.1	dB
LAIeq - LAeq		4.3	dB
Ldn		63.1	dB
LDay 07:00-23:00		63.1	dB
LNight 23:00-07:00		---	dB
Lden		63.1	dB
LDay 07:00-19:00		63.1	dB
LEvening 19:00-23:00		---	dB
LNight 23:00-07:00		---	dB
LAE		93.9	dB
# Overloads		0	
Overload Duration		0.0	s
# OBA Overloads		0	
OBA Overload Duration		0.0	s

Statistics

LAS5.00	66.7	dBA
LAS10.00	66.3	dBA
LAS33.30	62.8	dBA
LAS50.00	61.7	dBA
LAS66.60	57.7	dBA
LAS90.00	52.8	dBA
LAS > 65.0 dB (Exceedence Counts / Duration)	17 / 347.8	s
LAS > 85.0 dB (Exceedence Counts / Duration)	0 / 0.0	s
LApeak > 135.0 dB (Exceedence Counts / Duration)	0 / 0.0	s
LApeak > 137.0 dB (Exceedence Counts / Duration)	0 / 0.0	s
LApeak > 140.0 dB (Exceedence Counts / Duration)	0 / 0.0	s

Settings

RMS Weight	A Weighting	
Peak Weight	A Weighting	
Detector	Slow	
Preamp	PRM831	
Integration Method	Linear	
OBA Range	Normal	
OBA Bandwidth	1/1 and 1/3	
OBA Freq. Weighting	Z Weighting	
OBA Max Spectrum	Bin Max	
Gain	+0	dB
Under Range Limit	26.1	dB
Under Range Peak	75.6	dB
Noise Floor	17.0	dB
Overload	143.1	dB

1/1 Spectra

Freq. (Hz):	8.0	16.0	31.5	63.0	125	250	500	1k	2k	4k	8k	16k
LZeq	66.7	66.1	71.1	71.6	64.9	59.5	59.6	58.3	56.2	51.8	46.8	44.6
LZSmax	82.6	84.9	82.2	89.3	77.1	67.1	72.4	76.6	76.6	69.0	67.7	63.1
LZSmin	46.5	55.4	53.6	59.0	55.2	49.9	45.5	43.6	40.9	37.7	39.6	42.8

1/3 Spectra

Freq. (Hz):	6.3	8.0	10.0	12.5	16.0	20.0	25.0	31.5	40.0	50.0	63.0	80.0
LZeq	63.6	61.5	59.8	58.7	60.7	63.4	67.2	66.6	65.3	65.7	67.5	67.2
LZSmax	80.9	76.9	73.6	75.5	79.8	83.7	80.9	76.8	78.9	83.8	87.4	88.8
LZSmin	37.3	40.3	43.7	45.3	48.2	51.5	55.9	60.4	54.9	53.2	57.5	47.0

Freq. (Hz):	100	125	160	200	250	315	400	500	630	800	1k	1.25k
LZeq	61.7	61.0	54.9	52.9	57.0	53.2	57.3	54.1	52.1	54.5	53.3	52.7
LZSmax	76.0	71.0	69.8	65.8	64.6	65.6	67.0	71.0	67.1	65.9	72.9	73.0
LZSmin	52.1	48.8	46.7	42.4	46.2	44.6	43.2	38.5	38.6	39.0	39.4	38.2

Freq. (Hz):	1.6k	2k	2.5k	3.15k	4k	5k	6.3k	8k	10k	12.5k	16k	20k
LZeq	52.5	50.9	50.7	49.0	46.4	44.5	43.0	41.7	41.1	40.0	39.6	40.0
LZSmax	75.9	69.6	63.7	63.8	64.4	64.7	63.3	62.7	62.7	60.8	57.9	52.5
LZSmin	37.2	35.4	34.6	33.1	32.6	32.8	33.6	34.7	35.9	36.7	37.7	39.4

Calibration History

Preamp	Date	dB re. 1V/Pa
PRM831	27 Jul 2013 13:36:08	-25.6
PRM831	28 Apr 2013 15:34:24	-25.9
PRM831	23 Apr 2013 10:17:33	-25.0
PRM831	27 Feb 2013 19:15:30	-25.7
PRM831	24 Jan 2013 12:00:16	-25.6
PRM831	15 Jan 2013 07:50:44	-26.2
PRM831	04 Jan 2013 13:47:46	-26.5

File Translated: Z:\Vista Env\2008\081101-Los Banos Wal-Mart\Noise Measurements\5.slmdl
Model/Serial Number: 824 / A3176
Firmware/Software Revs: 4.272 / 3.120
Name: Vista Environmental
Descr1: 1021 Didrikson Way
Descr2: Laguna Beach, CA 92651
Setup/Setup Descr: slm&rta.ssa / SLM & Real-Time Analyzer
Location: 10 feet south of Walmart truck loading area
Note1: Noise from a truck unloading and trailer transfer and from mechanical push sweeper
Note2:

Overall Any Data
Start Time: 20-Jan-2009 14:40:19
Elapsed Time: 00:10:00.6

	A Weight		C Weight		Flat	
Leq:	63.3 dBA		68.8 dBC		69.5 dBF	
SEL:	91.1 dBA		96.6 dBC		97.3 dBF	
Peak:	90.1 dBA		93.2 dBC		93.2 dBF	
	20-Jan-2009	14:43:19	20-Jan-2009	14:41:22	20-Jan-2009	14:41:22
Lmax (slow):	76.4 dBA		79.3 dBC		80.2 dBF	
	20-Jan-2009	14:43:19	20-Jan-2009	14:43:19	20-Jan-2009	14:43:19
Lmin (slow):	41.0 dBA		58.0 dBC		59.7 dBF	
	20-Jan-2009	14:41:35	20-Jan-2009	14:42:11	20-Jan-2009	14:42:11
Lmax (fast):	77.4 dBA		81.6 dBC		83.2 dBF	
	20-Jan-2009	14:43:19	20-Jan-2009	14:43:19	20-Jan-2009	14:43:19
Lmin (fast):	39.8 dBA		56.9 dBC		58.8 dBF	
	20-Jan-2009	14:42:33	20-Jan-2009	14:42:11	20-Jan-2009	14:42:08
Lmax (impulse):	78.8 dBA		84.7 dBC		85.3 dBF	
	20-Jan-2009	14:44:25	20-Jan-2009	14:41:22	20-Jan-2009	14:41:22
Lmin (impulse):	41.1 dBA		58.5 dBC		61.0 dBF	
	20-Jan-2009	14:42:11	20-Jan-2009	14:42:11	20-Jan-2009	14:42:08

Spectra

Date	Time	Run Time
20-Jan-2009	14:40:19	00:10:00.6

Hz	Leq1/3	Leq1/1	Max1/3	Max1/1	Min1/3	Min1/1	Hz	Leq1/3	Leq1/1	Max1/3	Max1/1	Min1/3	Min1/1
12.5	52.8		65.8		31.8		630	56.0		68.6		27.4	
16.0	53.6	59.3	65.4	71.2	36.1	39.5	800	54.3		67.2		27.6	
20.0	56.3		67.7		35.1		1000	52.9	58.3	67.4	72.1	26.7	31.6
25.0	56.1		77.1		39.3		1250	53.4		67.3		26.2	
31.5	60.2	63.4	77.3	81.5	38.9	44.9	1600	53.8		69.4		25.0	
40.0	58.8		75.6		41.6		2000	53.2	57.7	68.0	72.7	21.3	27.2
50.0	58.3		68.8		45.6		2500	51.6		65.7		18.9	
63.0	58.5	64.0	67.2	73.0	44.9	49.8	3150	48.5		62.2		17.4	
80.0	60.6		68.4		44.4		4000	45.9	51.7	59.8	65.8	15.8	21.0
100	57.5		67.8		40.1		5000	45.8		60.9		15.0	
125	57.0	61.7	70.6	73.4	41.3	45.1	6300	43.6		58.4		14.7	
160	56.3		66.2		39.5		8000	41.9	46.8	54.6	61.2	15.0	19.9
200	52.9		61.5		35.0		10000	39.9		55.3		15.5	
250	52.8	56.9	62.3	66.4	34.4	38.4	12500	37.2		52.9		15.9	
315	50.4		60.9		30.3		16000	33.0	38.9	48.9	54.7	17.3	22.4
400	52.0		63.8		30.8		20000	27.1		44.0		19.0	
500	52.8	58.7	66.2	71.4	27.6	33.7							

Ln Start Level: 15 dB

L1.00	0.0 dBA	L50.00	0.0 dBA	L95.00	0.0 dBA
L5.00	0.0 dBA	L90.00	0.0 dBA	L99.00	0.0 dBA

Detector: Slow
Weighting: A
SPL Exceedance Level 1: 85.0 dB Exceeded: 0 times
SPL Exceedance level 2: 120 dB Exceeded: 0 times
Peak-1 Exceedance Level: 105 dB Exceeded: 0 times
Peak-2 Exceedance Level: 100 dB Exceeded: 0 times
Hysteresis: 2
Overloaded: 0 time(s)
Paused: 0 times for 00:00:00.0

File Translated: Z:\Vista Env\2008\081101-Los Banos Wal-Mart\Noise Measurements\5.slmdl
Model/Serial Number: 824 / A3176

Current Any Data
Start Time: 20-Jan-2009 14:40:19
Elapsed Time: 00:10:00.6

	A Weight		C Weight		Flat	
Leq:	63.3 dBA		68.8 dBC		69.5 dBF	
SEL:	91.1 dBA		96.6 dBC		97.3 dBF	
Peak:	90.1 dBA		93.2 dBC		93.2 dBF	
	20-Jan-2009	14:43:19	20-Jan-2009	14:41:22	20-Jan-2009	14:41:22
Lmax (slow):	76.4 dBA		79.3 dBC		80.2 dBF	
	20-Jan-2009	14:43:19	20-Jan-2009	14:43:19	20-Jan-2009	14:43:19
Lmin (slow):	41.0 dBA		58.0 dBC		59.7 dBF	
	20-Jan-2009	14:41:35	20-Jan-2009	14:42:11	20-Jan-2009	14:42:11
Lmax (fast):	77.4 dBA		81.6 dBC		83.2 dBF	
	20-Jan-2009	14:43:19	20-Jan-2009	14:43:19	20-Jan-2009	14:43:19
Lmin (fast):	39.8 dBA		56.9 dBC		58.8 dBF	
	20-Jan-2009	14:42:33	20-Jan-2009	14:42:11	20-Jan-2009	14:42:08
Lmax (impulse):	78.8 dBA		84.7 dBC		85.3 dBF	
	20-Jan-2009	14:44:25	20-Jan-2009	14:41:22	20-Jan-2009	14:41:22
Lmin (impulse):	41.1 dBA		58.5 dBC		61.0 dBF	
	20-Jan-2009	14:42:11	20-Jan-2009	14:42:11	20-Jan-2009	14:42:08

Calibrated: 20-Jan-2009 08:31:09 Offset: -49.2 dB
Checked: 20-Jan-2009 08:31:09 Level: 94.0 dB
Calibrator not set Level: 94.0 dB
Cal Records Count: 0

Interval Records: Disabled Number Interval Records: 0
History Records: Disabled Number History Records: 0
Run/Stop Records: Number Run/Stop Records: 2

File Translated: V:\Vista Env\2010\10022-Fresno Walmart\Noise Measurements\LD\10.slmdl
Model/Serial Number: 824 / A3176
Firmware/Software Revs: 4.283 / 3.120
Name:
Descr1: 1021 Didrikson Way
Descr2: Laguna Beach, CA 92651
Setup/Setup Descr: slm&rta.ssa / SLM & Real-Time Analyzer
Location: At pallet stacking area on north side of Walmart
Note1: Approx. 10' from operational forklift
Note2: 70F, 29.43 in Hg, 27% Humid., 4 mph wind, partly cloudy

Overall Any Data
Start Time: 18-May-2011 17:21:20
Elapsed Time: 00:04:00.7

	A Weight		C Weight		Flat	
Leq:	74.4 dBA		80.5 dBC		81.0 dBF	
SEL:	98.2 dBA		104.3 dBC		104.8 dBF	
Peak:	108.4 dBA		109.1 dBC		109.1 dBF	
	18-May-2011	17:24:51	18-May-2011	17:24:44	18-May-2011	17:24:48
Lmax (slow):	87.9 dBA		90.9 dBC		91.0 dBF	
	18-May-2011	17:24:49	18-May-2011	17:24:49	18-May-2011	17:24:49
Lmin (slow):	62.8 dBA		68.6 dBC		69.7 dBF	
	18-May-2011	17:21:34	18-May-2011	17:21:33	18-May-2011	17:21:33
Lmax (fast):	91.7 dBA		93.9 dBC		94.0 dBF	
	18-May-2011	17:24:48	18-May-2011	17:24:48	18-May-2011	17:24:48
Lmin (fast):	59.2 dBA		67.1 dBC		68.2 dBF	
	18-May-2011	17:21:28	18-May-2011	17:21:30	18-May-2011	17:21:30
Lmax (impulse):	94.3 dBA		96.2 dBC		96.3 dBF	
	18-May-2011	17:24:51	18-May-2011	17:24:44	18-May-2011	17:24:48
Lmin (impulse):	63.1 dBA		69.1 dBC		70.4 dBF	
	18-May-2011	17:23:23	18-May-2011	17:21:33	18-May-2011	17:21:33

Spectra

Date	Time	Run Time
18-May-2011	17:21:20	00:04:00.7

Hz	Leq1/3	Leq1/1	Max1/3	Max1/1	Min1/3	Min1/1	Hz	Leq1/3	Leq1/1	Max1/3	Max1/1	Min1/3	Min1/1
12.5	63.2		76.2		39.0		630	67.7		84.8		45.8	
16.0	60.8	66.2	73.2	78.3	41.6	45.6	800	64.6		83.9		47.6	
20.0	59.6		67.5		41.5		1000	63.1	68.6	82.1	86.9	46.7	52.4
25.0	62.7		70.0		44.6		1250	63.6		79.1		48.4	
31.5	67.6	72.5	68.8	73.9	46.6	51.1	1600	63.8		79.9		48.8	
40.0	70.0		68.5		47.3		2000	61.7	66.9	81.9	84.9	46.3	51.4
50.0	70.4		68.1		48.0		2500	60.1		77.6		42.6	
63.0	71.6	76.2	83.2	86.2	51.8	55.4	3150	63.4		76.7		41.0	
80.0	72.1		83.1		51.2		4000	53.5	64.2	73.4	79.7	36.6	43.3
100	68.5		73.7		51.0		5000	53.5		74.0		36.4	
125	68.7	73.9	77.6	82.2	50.3	54.9	6300	49.8		69.2		32.9	
160	70.1		79.2		48.9		8000	47.2	52.2	66.0	71.2	30.3	35.3
200	68.1		77.5		51.5		10000	42.4		59.4		25.8	
250	63.4	69.9	73.7	80.0	46.3	53.3	12500	39.5		57.8		24.0	
315	60.2		73.2		45.0		16000	34.8	41.1	52.6	59.4	23.0	27.7
400	65.6		78.8		48.7		20000	30.1		48.9		21.3	
500	69.1	72.5	85.1	88.5	48.5	52.6							

Ln Start Level: 15 dB

L1.00	0.0 dBA	L50.00	0.0 dBA	L95.00	0.0 dBA
L5.00	0.0 dBA	L90.00	0.0 dBA	L99.00	0.0 dBA

Detector: Slow
Weighting: A
SPL Exceedance Level 1: 85.0 dB Exceeded: 1 times
SPL Exceedance level 2: 120 dB Exceeded: 0 times
Peak-1 Exceedance Level: 105 dB Exceeded: 4 times
Peak-2 Exceedance Level: 100 dB Exceeded: 4 times
Hysteresis: 2
Overloaded: 0 time(s)
Paused: 0 times for 00:00:00.0

File Translated: V:\Vista Env\2010\10022-Fresno Walmart\Noise Measurements\LD\10.slmdl
Model/Serial Number: 824 / A3176

Current Any Data
Start Time: 18-May-2011 17:21:20
Elapsed Time: 00:04:00.7

	A Weight	C Weight	Flat
Leq:	74.4 dBA	80.5 dBC	81.0 dBF
SEL:	98.2 dBA	104.3 dBC	104.8 dBF
Peak:	108.4 dBA	109.1 dBC	109.1 dBF
	18-May-2011 17:24:51	18-May-2011 17:24:44	18-May-2011 17:24:48
Lmax (slow):	87.9 dBA	90.9 dBC	91.0 dBF
	18-May-2011 17:24:49	18-May-2011 17:24:49	18-May-2011 17:24:49
Lmin (slow):	62.8 dBA	68.6 dBC	69.7 dBF
	18-May-2011 17:21:34	18-May-2011 17:21:33	18-May-2011 17:21:33
Lmax (fast):	91.7 dBA	93.9 dBC	94.0 dBF
	18-May-2011 17:24:48	18-May-2011 17:24:48	18-May-2011 17:24:48
Lmin (fast):	59.2 dBA	67.1 dBC	68.2 dBF
	18-May-2011 17:21:28	18-May-2011 17:21:30	18-May-2011 17:21:30
Lmax (impulse):	94.3 dBA	96.2 dBC	96.3 dBF
	18-May-2011 17:24:51	18-May-2011 17:24:44	18-May-2011 17:24:48
Lmin (impulse):	63.1 dBA	69.1 dBC	70.4 dBF
	18-May-2011 17:23:23	18-May-2011 17:21:33	18-May-2011 17:21:33

Calibrated: 18-May-2011 13:09:02 Offset: -48.2 dB
Checked: 19-May-2011 06:46:08 Level: 113.9 dB
Calibrator not set Level: 114.0 dB
Cal Records Count: 0

Interval Records: Disabled Number Interval Records: 0
History Records: Disabled Number History Records: 0
Run/Stop Records: Number Run/Stop Records: 2

Truck Loading/Unloading Noise Measurement

Truck Loading/Unloading Noise Measurement

Forklift Operations Noise Measurement

Forklift Operations Noise Measurement

Parking Lot Noise Measurement

Parking Lot Noise Measurement


Rooftop Mechanical Equipment Noise Measurement


Rooftop Mechanical Equipment Noise Measurement

Stationary Noise Calculations - 1 Home Northwest of Project Site

Stationary Noise Sources	Reference Distance	Reference Leq	Home Adjacent to Project Site Distance	Leq*	1 (Line Source: hard=0, soft=.5; Point Source: hard=1, soft=1.5)
Rooftop HVAC	10	66.6	680	29.9	(eq. N-2141.2 of TeNS)
Auto Parking Lot	5	63.1	660	20.7	
Onsite Truck Operations	10	63.3	630	27.3	
Forklift	10	74.4	1100	33.6	
			Combined Noise Levels	**35.9**	

* Calculated noise levels provide worst-case, since each noise source are assumed to be continuous 24 hours per day and no noise shielding was accounted for.

Stationary Noise Calculations - 2 Home West of Project Site

Stationary Noise Sources	Reference Distance	Reference Leq	Home Adjacent to Project Site Distance	Leq*	1 (Line Source: hard=0, soft=.5; Point Source: hard=1, soft=1.5)
Rooftop HVAC	10	66.6	230	39.4	(eq. N-2141.2 of TeNS)
Auto Parking Lot	5	63.1	170	32.5	
Onsite Truck Operations	10	63.3	160	39.2	
Forklift	10	74.4	675	37.8	
	Combined Noise Levels			**43.9**	

* Calculated noise levels provide worst-case, since each noise source are assumed to be continuous 24 hours per day and no noise shielding was accounted for.

Stationary Noise Calculations - 3 Temple SW of Project Site

Stationary Noise Sources	Reference Distance	Reference Leq	Home Adjacent to Project Site Distance	Leq*
Rooftop HVAC	10	66.6	430	33.9
Auto Parking Lot	5	63.1	380	25.5
Onsite Truck Operations	10	63.3	300	33.8
Forklift	10	74.4	820	36.1
		Combined Noise Levels		**39.7**

1 (Line Source: hard=0, soft=.5; Point Source: hard=1, soft=1.5)
(eq. N-2141.2 of TeNS)

* Calculated noise levels provide worst-case, since each noise source are assumed to be continuous 24 hours per day and no noise shielding was accounted for.

Stationary Noise Calculations - 4 Home South of Project Site

Stationary Noise Sources	Reference Distance	Reference Leq	Home Adjacent to Project Site Distance	Leq*	1 (Line Source: hard=0, soft=.5; Point Source: hard=1, soft=1.5)
Rooftop HVAC	10	66.6	880	27.7	(eq. N-2141.2 of TeNS)
Auto Parking Lot	5	63.1	790	19.1	
Onsite Truck Operations	10	63.3	810	25.1	
Forklift	10	74.4	980	34.6	
			Combined Noise Levels	**35.9**	

* Calculated noise levels provide worst-case, since each noise source are assumed to be continuous 24 hours per day and no noise shielding was accounted for.