NOISE IMPACT ANALYSIS

STADIUM & ATHLETIC SPORTS COMPLEX PROJECT

CITY OF LONG BEACH

Lead Agency:

Long Beach Community College District
4901 East Carson Street – G21
Long Beach, CA 90808

Prepared by:

Vista Environmental
1021 Didrickson Way
Laguna Beach, California 92651
949 510 5355
Greg Tonkovich, INCE

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ACRONYMS AND ABBREVIATIONS

ANSI	American National Standards Institute
Caltrans	California Department of Transportation
CEQA	California Environmental Quality Act
City	City of Long Beach
CNEL	Community Noise Equivalent Level
dB	Decibel
dBA	A-weighted decibels
DOT	Department of Transportation
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
EPA	Environmental Protection Agency
FTES	Full Time Equivalent Students
HVAC	Heating Ventilation & Air Conditioning System
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
SASC	Stadium & Athletic Sports Complex
SEL	Single Event Level or Sound Exposure Level
STC	Sound Transmission Class
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 impacts associated with the proposed Stadium & Athletic Sports Complex (SASC) along with existing facility renovations 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 at the Liberal Arts Campus at 4901 East Carson Street in the City of Long Beach (City). More specifically the project site is located at the site of the current Veterans Memorial Stadium and Parking Lot M. The approximately 18 acre project site is bounded by E Lew Davis Street to the north, Building X, baseball and softball fields and Clark Avenue to the east, a parking lot to the south, and Faculty Avenue and the Mercedes Benz warehouse 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 residents at the single-family homes located across Clark Avenue and as near as 130 feet east of the proposed project. In addition, the Mercedes Benz warehouse is located as near as 90 feet to the west, however industrial uses are typically not considered sensitive receptors.

1.3 Proposed Project Description

The proposed project consists of demolition of the existing Veterans Stadium that is estimated to consist of 40,783 square feet of demolition, grading of the project site that would require 15,400 cubic yards of soil export and 6,600 cubic yards of soil import, and building construction of a new state-of-the-art SASC that would include approximately 180,000 square feet of new construction. The SASC would include a 10,000 seat stadium, a 2,500 seat arena, and an academic core structure. Upon completion of the proposed project, the existing uses of Buildings Q, R, and S will all be moved to within the SASC. Existing operations of Buildings Q, R, and S are listed below:

- Building Q: Kinesiology (Physical Education), Small Gym, Women's Locker Room;
- Building R: Fitness Center, Main Gym, Hall of Champions, Men's Locker Room, Team Rooms, Physical Education; and
- Building S: Adaptive Physical Education, Veterans Stadium

Current enrollment in classes associated with the facilities included in the proposed project is 842 students and is at 60 percent capacity. The maximum growth estimate due to the improved facilities would be an increase of 35 percent enrollment in the current courses. The overall enrollment in those classes would increase up to 1,343 students from the existing 842 student enrollment, which would result in a 501 student increase. The proposed site plan is shown in Figure 2.

The proposed project is anticipated to break ground in June 2026 and be completed by June 2028. Construction activities will take place between the hours of 7:00 a.m. and 7:00 p.m. on Monday – Friday and 9:00 a.m. to 6:00 p.m. on Saturday. No construction will take place on Sundays or Federal Holidays.

1.4 Standard Noise Regulatory Conditions

The proposed project will be required to comply with the following regulatory conditions from the City of Long Beach and State of California.

City of Long Beach Municipal Code

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

- Section 8.80.160 Exterior Noise Standards at Nearby Residential Uses
- Section 8.80.202 Construction activities
- Section 8.80.200(G) Vibration

State of California Rules

The following lists the State of California noise regulations that are applicable, but not limited to the proposed project.

- California Vehicle Code Section 2700-27207 – On Road Vehicle Noise Limits
- California Vehicle Code Section 38365-38350 – Off-Road Vehicle Noise Limits

1.5 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?

Less than significant impact.

1.6 Mitigation Measures for the Proposed Project

This analysis found that through adherence to the noise and vibration regulations detailed in Section 1.4 above were adequate to limit all noise and vibration impacts to less than significant levels. No mitigation measures are required for the proposed project with respect to noise and vibration impacts.

SOURCE: Google Maps.

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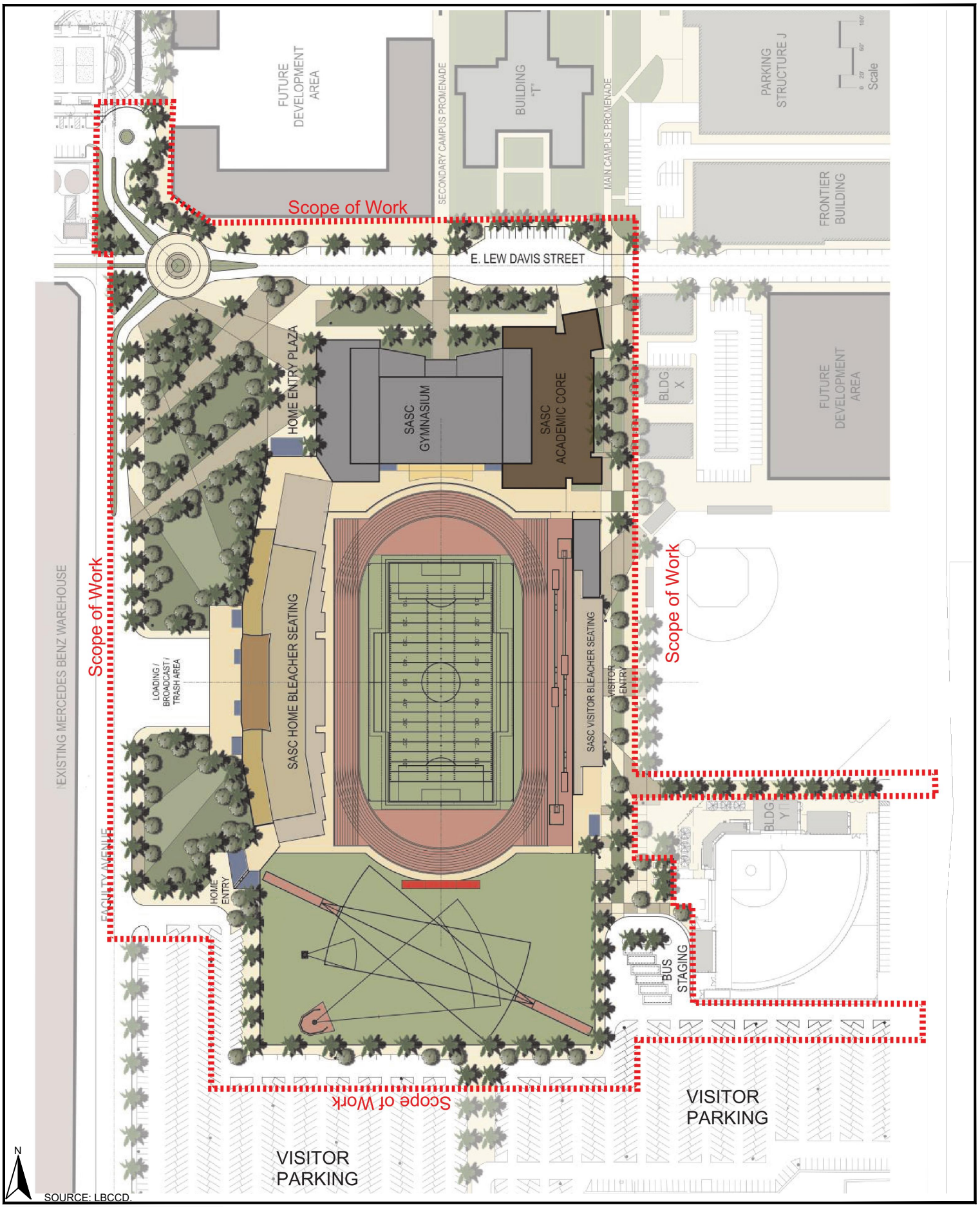
Figure 1
Project Location Map



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. They are adjusted to reflect only those frequencies which are audible to the human ear.

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 peak traffic hour 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 City of Long Beach relies on the CNEL 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). 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 median, 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 City of Long Beach. 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). Transit noise is regulated by the FTA, 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 Impact Assessment Manual* (FTA Manual), prepared by the FTA, September 2018, is a guidance document from a government agency that has defined 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

Existing Noise Exposure (dBA Leq or Ldn)	Allowable Noise Impact Exposure dBA Leq or Ldn		
	Project Only	Combined	Noise Exposure Increase
45	51	52	+7
50	53	55	+5
55	55	58	+3
60	57	62	+2
65	60	66	+1
70	64	71	+1
75	65	75	0

Source: Federal Transit Administration, 2018.

As shown in Table A, the allowable cumulative noise level increase created from a project would range from 0 to 7 dBA, which is based on the existing (ambient) noise levels in the project vicinity. The justification for the sliding scale, is that people already exposed to high levels of noise should be expected to tolerate only a small increase in the amount of noise in their community. In contrast, if the existing noise levels are quite low, it is reasonable to allow a greater change in the community noise for the equivalent difference in annoyance.

The FTA Manual also provides specific guidance for construction noise that is referenced in the *City of Long Beach General Plan Noise Element*, June 2023, which details that the federal standards may be used when local criteria are not established. The FTA 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 general construction noise assessment are provided below in Table B.

Table B – FTA General Assessment Construction Noise Criteria

Land Use	Day (dBA $Leq_{(1\text{-hour})}$)	Night (dBA $Leq_{(1\text{-hour})}$)
Residential	90	80
Commercial	100	100
Industrial	100	100

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 City 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. The Land Use Compatibility Matrix that was adopted by the City is shown in Figure 4.

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

Table N-2: Land Use Compatibility Guidelines for Noise Exposure

Land Use Type	Community Noise Exposure L_{dn} or CNEL, dB						
	55	60	65	70	75	80	85
Residential - Low Density Single Family Duplex, Mobile Homes							
Residential - Multi-Family							
Transient Lodging - Hotels, Motels							
Schools, Libraries, Churches, Hospitals, Nursing Homes							
Auditoriums, Concert Halls, Amphitheaters							
Sports Arena, Outdoor Spectator Sports							
Playgrounds, Neighborhood Parks							
Golf Courses, Riding Stables, Water Recreation, Cemeteries							
Office Buildings - Business, Commercial & Professional							
Industrial, Manufacturing, Utilities, Agriculture							

Normally Acceptable	*Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.*
Conditionally Acceptable	*New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.*
Normally Unacceptable	*New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.*
Clearly Unacceptable	*New construction or development should generally not be undertaken.*

Source: California Office of Planning and Research, General Plan Guidelines (2017), Appendix D.

SOURCE: City of Long Beach General Plan Noise Element, June 2023.

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Figure 3
City of Long Beach Land Use Compatibility Matrix

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.

Caltrans issued the *Transportation and Construction Vibration Guidance Manual*, April 2020. The Manual 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 *City of Long Beach General Plan Noise Element*, June 2023 and Municipal Code establishes the following applicable policies related to noise and vibration.

City of Long Beach General Plan Noise Element

Strategy No. 1	Apply site planning and other design strategies to reduce noise impacts, especially within the Founding and Contemporary Neighborhoods, Multifamily Residential—Low and Moderate, and Neighborhood-Serving Centers and Corridors – Low and Moderate PlaceTypes.
Policy N 1-1	Integrate noise considerations into the land use planning process in order to prevent new land use noise conflicts.
Policy N 1-2	Require noise attenuation measures to be incorporated into all development and redevelopment of sensitive receptor uses, including residential, health care facilities, schools, libraries, senior facilities, and churches in close proximity to existing or known planned rail lines.
Policy N 1-3	Ensure development and redevelopment is considerate of the natural shape and contours of a site in order to reduce noise impacts.
Policy N 1-4	Encourage developer or landowners to incorporate noise reduction features in the site planning process.
Policy N 1-5	Incorporate urban design strategies such as courtyards, paseos, alleys, plazas and open space areas to provide a buffer to noise sensitive uses.
Policy N 1-6	Ensure that project site design and function minimize the potential adverse impacts of noise.
Policy N 1-7	Encourage educational facilities to locate playgrounds, sports fields, and other outdoor activity areas away from residential areas.
Policy N 1-8	Require new development to provide facilities which support the use of multimodal transportation, including, walking, bicycling, carpooling and transit.
Policy N 1-9	Utilize noise barriers after all practical design-related noise measures have been integrated into the project. In instances where sound walls are necessary, they should be incorporated into the architectural and site character of the development and pedestrian access should be integrated.
Strategy No. 4	Protect and buffer noise sensitive areas and uses through effective building design and material selection.
Policy N 4-1	Encourage developers to utilize noise absorbing materials.
Policy N 4-5	Encourage building design that incorporates varying and/or angled wall articulation to disperse noise.
Policy N 4-6	Promote building design best practices such as staggering wall studs to minimize transmission of noise between rooms.
Policy N 4-7	Consider use of decorative walls and/or dense landscaping to further buffer noise between uses.
Strategy No. 6	Minimize vehicular traffic noise in residential areas and near noise-sensitive land uses.
Policy N 6-1	Ensure noise-compatible land uses along existing and future roadways, highways, and freeways.

Policy N 6-2 Use the "Land Use Compatibility Guidelines" and established Noise Standards or other measures that are acceptable to the City, to guide land use and zoning reclassification, subdivision, conditional use and use variance determinations and environmental assessment considerations, especially relative to sensitive uses, as defined by this chapter within a line-of-sight of freeways, major highways, or truck haul routes.

Policy N 6-4 Work toward understanding and reducing traffic noise in residential neighborhoods with a focus on analyzing the effects of traffic noise exposure throughout the City.

Policy N 6-6 For future noise sensitive land uses proposed within the 65 dBA Ldn noise contours, a qualified acoustical consultant shall conduct a noise analysis to determine appropriate measures are implemented to meet the necessary exterior and interior noise standards.

Policy N 6-9 Encourage site planning and building design measures that minimize the effects of traffic noise in residential zones.

Strategy No. 7 Promote multimodal mobility to reduce noise generated from vehicular traffic.

Policy N 7-1 Encourage the use of active transportation modes (walking, bicycling), micro-mobility (electric vehicles) and transit as stipulated in the Mobility Element to minimize traffic noise in the City.

Strategy No. 10 While the operations of airports and airport related uses are noisy by nature, the adverse effects of aircraft-related noise should be minimized.

Policy N 10-1 Ensure that new development can be made compatible with the noise environment by using noise/land use compatibility standards and the airport noise contour maps as guides to future planning and development decisions.

Strategy No. 12 Minimize construction noise and vibration levels in residential areas and in other locations near noise-sensitive uses where possible.

Policy N 12-1 Reduce construction, maintenance, and nuisance noise at the source, when possible, to reduce noise conflicts.

Policy N 12-2 Limit the allowable hours for construction activities and maintenance operations near sensitive uses.

Policy N 12-3 As part of the City's Municipal Code, establish noise levels standards based on PlaceType and time of day, to which construction noise shall conform.

Policy N 12-4 Encourage off-site fabrication to reduce needed onsite construction activities and corresponding noise levels and duration.

Policy N 12-5 Encourage the following construction best practices:

- Schedule high-noise and vibration-producing activities to a shorter window of time during the day outside early morning hours to minimize disruption to sensitive uses.
- Grading and construction contractors should use equipment that generates lower noise and vibration levels, such as rubber-tired equipment rather than metal-tracked equipment.

- Construction haul truck and materials delivery traffic should avoid residential areas whenever feasible.
- The construction contractor should place noise- and vibration-generating construction equipment and locate construction staging areas away from sensitive uses whenever feasible.
- The construction contractor should use on-site electrical sources to power equipment rather than diesel generators where feasible.
- All residential units located within 500 ft of a construction site should be sent a notice regarding the construction schedule. A sign legible at a distance of 50 ft should also be posted at the construction site. All notices and the signs should indicate the dates and durations of construction activities, as well as provide a telephone number for a "noise disturbance coordinator."
- A "noise disturbance coordinator" should be established. The disturbance coordinator should be responsible for responding to any local complaints about construction noise. The disturbance coordinator should determine the cause of the noise complaint (e.g., starting too early, bad muffler) and should be required to implement reasonable measures to reduce noise levels.

City of Long Beach Municipal Code

The City's Municipal Code identifies standards for noise intrusion from non-transportation sources within various Noise Districts. The proposed project is located in District One. Table C summarizes the applicable standards in Noise District One.

Table C – City of Long Beach Municipal Code Exterior Noise Standards

Noise level that may not be exceeded for more than…	Daytime[a] 7 a.m. – 10 p.m.	Nighttime[a] 10 p.m. – 7 a.m.
30 minutes in any hour	50 dB(A)	45 dB(A)
15 minutes in any hour	55 dB(A)	50 dB(A)
5 minutes in any hour	60 dB(A)	55 dB(A)
1 minute in any hour	65 dB(A)	60 dB(A)
Any time	70 dB(A)	65 dB(A)

Notes:

a) In the event that the alleged offensive noise contains a steady audible tone such as a whine, screech, or hum, or is a repetitive noise such as hammering or riveting or contains music or speech conveying informational content, the specified noise limits are reduced by 5 dB(A).

Source: City of Long Beach Municipal Code Chapter 8.80.160.

Section 8.80.202 of the City's Noise Ordinance regulates noise from construction activities. These regulations limit the permissible hours of construction to between 7:00 a.m. and 7:00 p.m. on weekdays or federal holidays and between 9:00 a.m. and 6:00 p.m. on Saturdays. Construction is generally prohibited on Sundays. The Noise Ordinance also limits hours of operation for mechanically powered tools (e.g., saws, sanders, drills, grinders, lawnmowers, and garden tools) from 7:00 a.m. to 10:00 p.m. Leaf blowers have more stringent standards and can only be used between 8:00 a.m. and 8:00 p.m. on weekdays, 9:00 a.m. and 5:00 p.m. on Saturdays, and 11:00 a.m. and 5:00 p.m. on Sundays.

The Noise Ordinance also provides standards for vibration (Section 8.80.200(G)). It is a violation to operate or permit the operation of any device that creates vibration that is above the vibration perception

threshold of an individual at or beyond the property boundary of the source. The Noise Ordinance defines the perception threshold as 0.001 g's in the frequency range of 0-30 hertz and 0.003 g's in the frequency range between 30 and 100 hertz. It should be noted that this perception threshold is only applicable to vibration caused during the operation of the proposed project.

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 Clark Avenue and Lew Davis Street as well as from activities at the existing stadium and baseball fields.

5.1 Noise Measurements taken in Project Vicinity

The following describes the measurement procedures, measurement locations, and noise measurement results of the noise measurements taken in the project vicinity.

Noise Measurement Equipment

The noise measurements were taken using three Larson Davis Model LXT1 Class 1 sound level meters programmed in "slow" mode to record the sound pressure level at 1-second intervals for 24 hours in "A" weighted form. In addition, the L_{eq} averaged over the entire measuring time and L_{max} were recorded with the three sound level meters. The sound level meters and microphones were mounted on trees and fences, were placed approximately five feet above the ground and were equipped with windscreens during all measurements. The noise meters were calibrated before and after the monitoring using a Larson Davis Cal200 calibrator. All noise level measurement equipment meets American National Standards Institute (ANSI) specifications for sound level meters (ANSI S1.4-2014 standard).

Noise Measurement Locations

The noise monitoring locations were selected in order to obtain noise levels at the nearest residential uses to the project site. Descriptions of the noise monitoring sites are provided below in Table C 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 10:27 a.m. on Thursday, February 15, 2024 and 10:40 a.m. on Friday, February 16, 2024. At the start of the noise measurements, the sky was partly cloudy, the temperature was 64 degrees Fahrenheit, the humidity was 59 percent, barometric pressure was 30.12 inches of mercury, and the wind was blowing around two miles per hour. Overnight, the temperature dropped to 56 degrees Fahrenheit and the humidity peaked at 99 percent. At the conclusion of the noise measurements, the sky was partly cloudy, the temperature was 66 degrees Fahrenheit, the humidity was 49 percent, barometric pressure was 30.05 inches of mercury, and there was no wind.

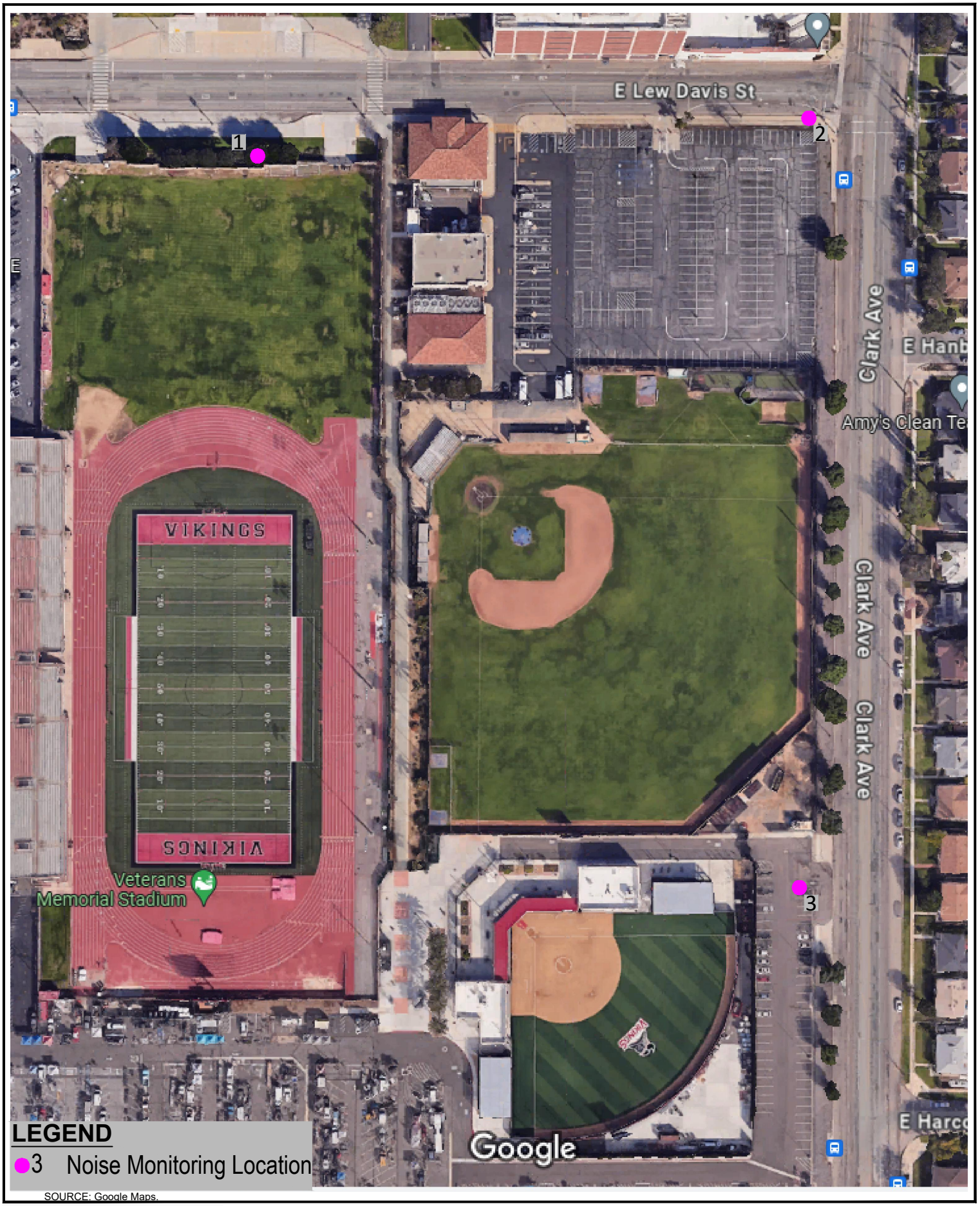
Noise Measurement Results

The results of the noise level measurements are presented in Table C. The measured sound pressure levels in dBA have been used to calculate the minimum and maximum L_{eq} averaged over 1-hour intervals. Table C also shows the L_{eq}, L_{max}, and CNEL, based on the entire measurement time. The CNEL was calculated through use of the hourly Leq 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. Figure 5 shows a graph of the 24-hour noise measurements.

Table D – Existing (Ambient) Noise Level Measurements

Site No.	Site Description	Average (dBA L_{eq})		1-hr Average (dBA L_{eq}/Time)		24-hour dBA CNEL
		Daytime[1]	Nighttime[2]	Minimum	Maximum	
1	Located on a tree at the north side of the existing stadium, approximately 75 feet south of Lew Davis Street centerline.	58.7	50.4	43.0 1:41 a.m.	64.7 12:36 p.m.	59.9
2	Located on a fence northeast of existing stadium, approximately 40 feet south of Lew Davis Street centerline and 70 feet west of Clark Avenue centerline	69.9	62.4	55.3 1:01 a.m.	74.7 2:18 p.m.	71.4
3	Located on a fence east of existing stadium and softball field, approximately 70 feet west of Clark Avenue centerline.	66.7	59.6	52.6 2:12 a.m.	68.8 7:58 a.m.	68.5

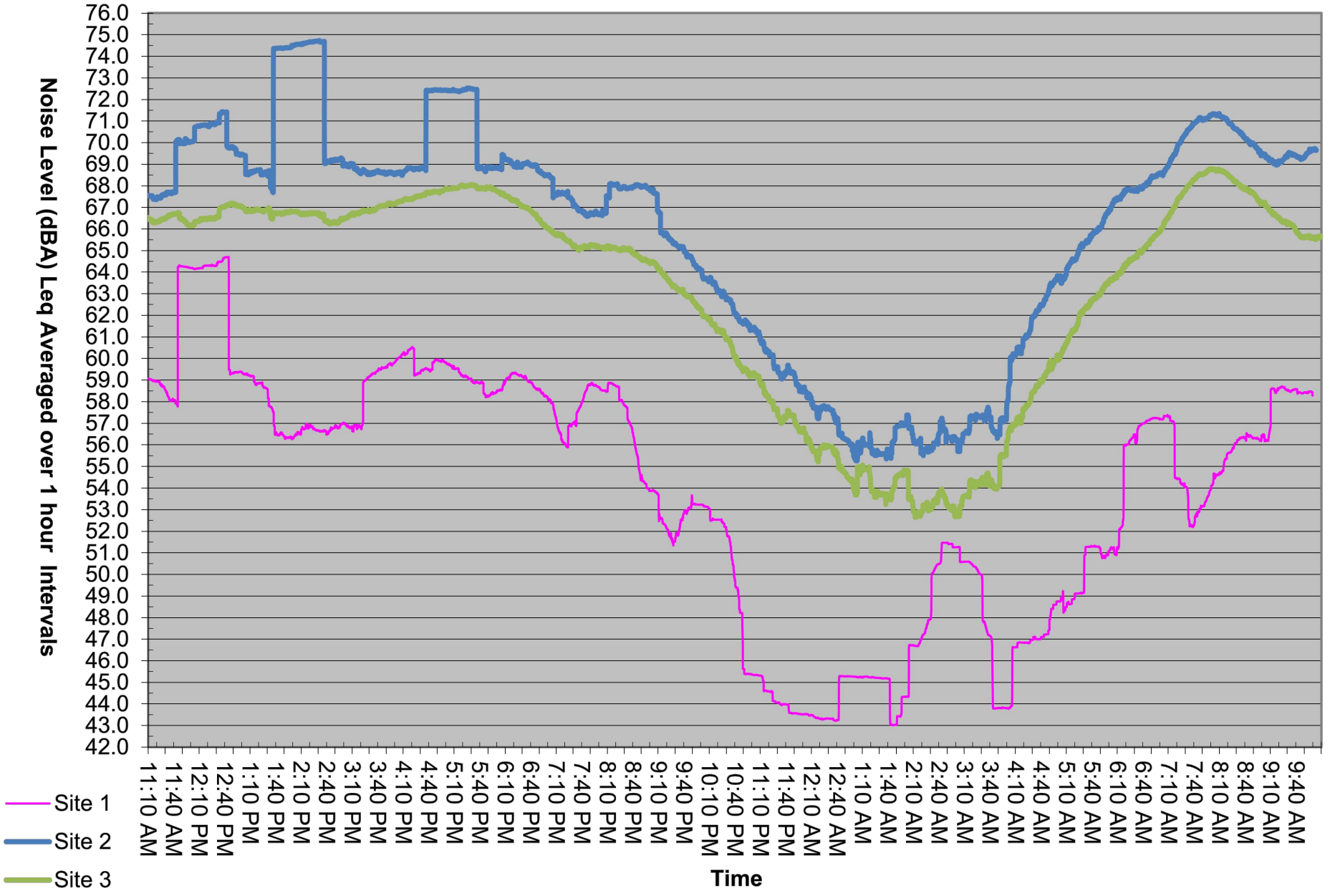
Notes:
[1] Daytime defined as 7:00 a.m. to 10:00 p.m. (Chapter 8.80.160 of the Municipal Code)
[2] Nighttime define as 10:00 p.m. to 7:00 a.m. (Chapter 8.80.160 of the Municipal Code)
Source: Noise measurements taken between Thursday, February 15, 2024 and Friday, February 16, 2024.



SOURCE: Google Maps.

VISTA ENVIRONMENTAL

Figure 4
Field Noise Monitoring Locations



SOURCE: Three Larson Davis Model LXT1 Type 1 Sound Level Meters.

VISTA ENVIRONMENTAL

Figure 5
Field Noise Measurements Graph

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 E below provides a list of the construction equipment anticipated to be used for each phase of construction as detailed in the *Air Quality, Energy, and Greenhouse Gas Emissions Impact Analysis Stadium & Athletic Sports Complex Project* (Air Quality Analysis), prepared by Vista Environmental, May 16, 2024.

Table E – 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	20	90	90
Excavator	3	40	85	81
Rubber Tired Dozer	2	40	85	82
Backhoe	1	40	80	78
Front End Loader	1	40	80	79
Tractor	1	40	84	N/A
Site Preparation				
Rubber Tired Dozer	3	40	85	82
Backhoe	1	40	80	78
Front End Loader	1	40	80	79
Tractors	2	40	84	N/A
Grading				
Grader	1	40	85	83
Excavators	2	40	85	81
Rubber Tired Dozer	1	40	85	82
Scraper	2	40	85	84
Front End Loader	1	40	80	79
Tractor	1	40	84	N/A
Building Construction				
Crane	1	16	85	81
Forklift (Gradall)	3	40	85	83
Generator	1	50	82	81
Backhoe	1	40	80	78
Front End Loader	1	40	80	79
Tractor	1	40	84	N/A
Welders	1	40	73	74
Paving				
Pavers	2	50	85	77
Paving Equipment	2	50	85	77

Table E – 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])
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.
Source: Federal Highway Administration, 2006.

Table E 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 E 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 RCNM model printouts are provided in Appendix C.

6.2 Operations-Related Noise

FHWA Model Methodology

The proposed project would result in increases in traffic noise to the nearby roadways as well as introduce new sensitive receptors to the project site. The project impacts to the offsite roadways 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 F. The roadway classifications are based on the City's General Plan Mobility Element. The roadway speeds are based on the posted speed limits. Since landscaping exists along the sides of the analyzed roads, soft site conditions were modeled.

Table F – FHWA Model Roadway Parameters

Roadway	Segment	General Plan Classification	Vehicle Speed (MPH)	Distance to Nearest Receptor[1] (feet)
Lakewood Boulevard	North of Carson Street	Regional Corridor	40	60
Clark Avenue	North of Carson Street	Minor Avenue	35	55
Clark Avenue	North of Lew Davis Street	Minor Avenue	40	55
Clark Avenue	South of Lew Davis Street	Minor Avenue	40	70
Clark Avenue	South of Conant Street	Minor Avenue	40	105
Clark Avenue	South of Wardlow Road	Minor Avenue	40	110
Bellflower Boulevard	North of Carson Street	Boulevard	40	85
Carson Street	West of Lakewood Boulevard	Major Avenue	40	60
Carson Street	West of Faculty Avenue	Major Avenue	40	55
Carson Street	East of Clark Avenue	Major Avenue	40	60
Carson Boulevard	East of Bellflower Boulevard	Major Avenue	40	65
Conant Street	East of Clark Avenue	Connector	30	55
Wardlow Road	East of Clark Avenue	Minor Avenue	35	60

Notes:
[1] Distance measured from nearest offsite residential structure to centerline of roadway.
Source: City of Long Beach, 2013.

The average daily traffic (ADT) volumes were calculated by multiplying the PM peak hour volumes by 12 that were obtained from *Traffic Impact Analysis Report LBCCD Stadium and Athletic Sports Complex* (Traffic Report), prepared by Linscott Law & Greenspan, April 15, 2024. The ADT volumes used in this analysis are shown in Table G.

Table G – Average Daily Traffic Volumes

		Average Daily Traffic Volumes			
Roadway	Segment	Existing	Existing Plus Project	2029 No Project	2029 Plus Project
Lakewood Boulevard	North of Carson Street	26,830	26,920	29,820	29,910
Clark Avenue	North of Carson Street	15,560	15,590	16,340	16,370
Clark Avenue	North of Lew Davis Street	19,840	20,030	20,820	21,010
Clark Avenue	South of Lew Davis Street	18,760	18,860	19,690	19,790
Clark Avenue	South of Conant Street	19,640	19,740	20,630	20,730
Clark Avenue	South of Wardlow Road	18,100	18,130	19,010	19,040
Bellflower Boulevard	North of Carson Street	21,120	21,170	22,180	22,230
Carson Street	West of Lakewood Boulevard	29,630	29,750	31,630	31,750
Carson Street	West of Faculty Avenue	26,450	26,480	27,970	28,000
Carson Street	East of Clark Avenue	26,150	26,280	27,650	27,780
Carson Boulevard	East of Bellflower Boulevard	27,120	27,210	28,580	28,670

Roadway	Segment	Average Daily Traffic Volumes			
		Existing	Existing Plus Project	2029 No Project	2029 Plus Project
Conant Street	East of Clark Avenue	2,410	2,440	2,580	2,610
Wardlow Road	East of Clark Avenue	11,510	11,580	12,140	12,210

Source: Linscott Law & Greenspan, 2024.

The vehicle mixes used in the FHWA-RD-77-108 Model are shown in Table H and is based on the typical vehicle mixes observed in Southern California. The vehicle mixes provides the hourly distribution percentages of automobiles, medium trucks, and heavy trucks for input into the FHWA model.

Table H – 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
Minor Avenue and Connector				
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%
Regional Corridor, Major Avenue and Boulevard				
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: Vista Environmental.

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.

6.2 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 slight damage at the highest levels. Table I gives approximate vibration levels for particular construction activities. The data in Table I provides a reasonable estimate for a wide range of soil conditions.

Table I – Vibration Source Levels for Construction Equipment

Equipment		Peak Particle Velocity (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, 2020.

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

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 City standards.

Construction-Related Noise

The construction activities for the proposed project are anticipated to include demolition of the existing Veterans Stadium, site preparation and grading of the project site, building construction of the SASC that would include approximately 180,000 square feet of new construction, paving of the hardscaped areas, 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.

Section 8.80.202 of the City's Noise Ordinance restricts construction activities from occurring between the hours of 7:00 p.m. and 7:00 a.m. on weekdays, between 6:00 p.m. and 9:00 a.m. on Saturdays, or anytime on Sundays or federal holidays. Through adherence to the construction-related noise requirements provided in the City's Noise Ordinance, construction-related noise levels would not exceed any noise standards established in the General Plan or Noise Ordinance. However, as detailed above in Section 4.1, the General Plan Noise Element details that the federal standards may be used when local criteria are not established. As such, the FTA construction noise level standard of 90 dBA at the nearby homes and 100 dBA at the nearby warehouse have been utilized in this analysis.

The nearest sensitive receptors to the project site are residents at the single-family homes located across Clark Avenue and as near as 130 feet east of the proposed project. In addition, the Mercedes Benz warehouse is located as near as 90 feet to the west of the proposed project. Construction noise levels 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 E – Construction Equipment Noise Emissions and Usage Factors. The results are shown below in Table J and the RCNM printouts are provided in Appendix C.

Table J – Construction Noise Levels at the Nearby Sensitive Receptors

Construction Phase	Construction Noise Level (dBA Leq) at:	
	Single-Family Homes to East[1]	Warehouse to West[2]
Demolition	63	64
Site Preparation	63	64
Grading	65	65
Building Construction	64	64
Paving	58	59
Painting	50	51
FTA Construction Noise Threshold[4]	**90**	**100**
Exceed Thresholds?	**No**	**No**

[1] The single-family homes to the east are located as near as 130 feet from project site and 730 feet from center of project site.
[2] The warehouse to the west is located as near as 90 feet from project site and 690 feet from center of project site.
[4] The FTA Construction noise thresholds are detailed above in Table B.
Source: RCNM, Federal Highway Administration, 2006

Table J shows that the greatest noise impacts would occur during the grading phase, with a noise level as high as 65 dBA Leq at the nearest homes to the east and at the warehouse to the west. All calculated construction noise levels shown in Table J are within the FTA daytime construction noise standards of 90 dBA at residential uses and 100 dBA at industrial uses. Therefore, through adherence to allowable construction times provided in Section 8.80.202 of the Municipal Code, the construction activities for the proposed project would not create a substantial temporary increase in ambient noise levels that are in excess of applicable noise standards. Impacts would be less than significant.

Operational-Related Noise

The proposed project consists of the development and operation of the SASC. Potential noise impacts would be from project-generated vehicular traffic on the nearby roadways and from onsite activities, which have been analyzed separately below.

Roadway Vehicular Noise

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 does not propose any uses that would require a substantial number of truck trips and the proposed project would not alter the speed limit on any existing roadway so 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.

Neither the General Plan nor the Municipal Code defines 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 on-going 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 opening year 2029 plus cumulative projects conditions, which are discussed below.

Existing Year Conditions

The proposed project's potential offsite traffic noise impacts have been calculated through a comparison of the existing year scenario to the existing year with project scenario. The results of this comparison are shown in Table K.

Table K – Project Traffic Road Noise Contributions for Existing Year Conditions

		dBA CNEL at Nearest Receptor[1]			
Roadway	Segment	Existing	Existing Plus Project	Project Contribution	Increase Threshold[2]
Lakewood Boulevard	North of Carson Street	68.6	68.6	+0.0	+1 dBA
Clark Avenue	North of Carson Street	64.6	64.6	+0.0	+1 dBA
Clark Avenue	North of Lew Davis Street	67.3	67.3	+0.0	+1 dBA
Clark Avenue	South of Lew Davis Street	65.2	65.2	+0.0	+1 dBA
Clark Avenue	South of Conant Street	62.5	62.5	+0.0	+2 dBA
Clark Avenue	South of Wardlow Road	61.8	61.8	+0.0	+2 dBA
Bellflower Boulevard	North of Carson Street	64.7	64.7	+0.0	+1 dBA
Carson Street	West of Lakewood Boulevard	69.0	69.0	+0.0	+1 dBA
Carson Street	West of Faculty Avenue	69.3	69.3	+0.0	+1 dBA
Carson Street	East of Clark Avenue	68.5	68.5	+0.0	+1 dBA
Carson Boulevard	East of Bellflower Boulevard	68.0	68.0	+0.0	+1 dBA
Conant Street	East of Clark Avenue	54.2	54.2	+0.0	+5 dBA
Wardlow Road	East of Clark Avenue	62.6	62.6	+0.0	+2 dBA

Notes:
[1] Distance to nearest sensitive receptors shown in Table F, 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 K shows that for the existing conditions, the proposed project's permanent noise increases to the nearby homes from the generation of additional vehicular traffic would not exceed the traffic noise increase thresholds detailed above. Therefore, the proposed project would not result in a substantial permanent increase in ambient noise levels for the existing conditions. Impacts would be less than significant.

Opening Year 2029 Conditions

The proposed project's potential offsite traffic noise impacts have been calculated through a comparison of the opening year 2029 with cumulative projects scenario to the opening year 2029 with cumulative projects plus project scenario. The results of this comparison are shown in Table L.

Table L – Project Traffic Road Noise Contributions for Opening Year 2029 Conditions

Roadway	Segment	dBA CNEL at Nearest Receptor[1] Year 2029	Year 2029 Plus Project	Project Contribution	Increase Threshold[2]
Lakewood Boulevard	North of Carson Street	69.1	69.1	+0.0	+1 dBA
Clark Avenue	North of Carson Street	64.8	64.8	+0.0	+1 dBA
Clark Avenue	North of Lew Davis Street	67.5	67.5	+0.0	+1 dBA
Clark Avenue	South of Lew Davis Street	65.4	65.4	+0.0	+1 dBA
Clark Avenue	South of Conant Street	62.7	62.7	+0.0	+2 dBA
Clark Avenue	South of Wardlow Road	62.1	62.1	+0.0	+2 dBA
Bellflower Boulevard	North of Carson Street	64.9	64.9	+0.0	+1 dBA
Carson Street	West of Lakewood Boulevard	69.3	69.3	+0.0	+1 dBA
Carson Street	West of Faculty Avenue	69.6	69.6	+0.0	+1 dBA
Carson Street	East of Clark Avenue	68.7	68.7	+0.0	+1 dBA
Carson Boulevard	East of Bellflower Boulevard	68.2	68.2	+0.0	+1 dBA
Conant Street	East of Clark Avenue	54.5	54.5	+0.0	+3 dBA
Wardlow Road	East of Clark Avenue	62.8	62.8	+0.0	+2 dBA

Notes:
[1] Distance to nearest sensitive receptors shown in Table F, 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 L shows that for the opening year 2029 conditions, the proposed project's permanent noise increases to the nearby homes from the generation of additional vehicular traffic would not exceed the traffic noise increase thresholds detailed above. Therefore, the proposed project would not result in a substantial permanent increase in ambient noise levels for the opening year 2029 conditions. Impacts would be less than significant.

Onsite Noise Impacts

The operation of the proposed project may create an increase in onsite noise levels from the operation of the proposed stadium, arena, and rooftop mechanical equipment on the academic core.

The Noise District Map provided in Section 8.80.150 of the Municipal Code shows that the project site and the nearby homes to the east are in District 1 and the warehouse to the west is in District 4. For the homes to the east, Section 8.80.150(A) limits the onsite noise sources at the property lines of the nearby homes in District 1 to 50 dBA between 7 a.m. and 10 p.m. and 45 dBA between 10 p.m. and 7 a.m. Section 8.80.150(C) details that if the measured ambient noise levels exceed these noise standards, than the noise standards shall be increased to reflect the ambient noise level. As such, the noise limits for the homes to the east have been based on noise measurement Site 3, which measured a daytime noise level of 66.7 dBA Leq and a nighttime noise level of 59.6 dBA Leq. For the warehouse to the west in District 4, Section 8.80.150(A) limits onsite noise sources at the property line to 70 dBA, anytime of the day.

In order to determine the noise impacts from the operation of the proposed project, reference noise measurements were obtained from each noise source, which was utilized to calculate the noise levels at the nearby sensitive receptors based on the standard geometric spreading of noise, which provides an attenuation rate of 6 dB per doubling the distance between source and receptor. For the stadium, the *Mountain View High School Field Lighting Project Noise and Vibration Assessment*, prepared by Illingworth

& Rodkin, April 7, 2020, was utilized that took several noise measurements of football games and found that the worst-case noise level of a football game was 71 dBA $Leq_{(1\text{-hour})}$ at 90 feet from the stadium. For the arena and rooftop mechanical equipment, reference noise measurements for similar operations were taken of each source and are shown in Table M and the reference noise measurement printouts are provided in Appendix E.

Table M – Operational Noise Levels at the Nearby Sensitive Receptors

	Reference Noise Measurements[1]		Calculated Noise Levels (dBA Leq) at[2]:	
Noise Source	Distance Receptor to Source (feet)	Reference Noise Level (dBA Leq)	Single-Family Homes to East	Warehouse to West
Stadium (Football Game)	90	71.0	55.1	60.8
Arena	50	57.4	35.1	37.2
Rooftop Equipment	6	65.1	25.4	31.1
Noise Level from All Sources Combined			**55.2**	**60.9**
City Noise Standards (day/night)			**66.7/59.6**	**70**
Exceed City Noise Standards (day/night)?			**No/No**	**No**

Notes:
[1] The reference noise measurements printouts are provided in Appendix E.
[2] The noise levels were calculated based on standards geometric spreading of noise of a 6 dB reduction per doubling distance between source and receptor.

Table M shows that the proposed project's worst-case (i.e., during a football game and event at arena) operational noise from the simultaneous operation of all noise sources on the project site would create a noise level as high as 55.2 dBA Leq at the single-family homes to the east, which would be below the measured daytime and nighttime ambient noise levels in the vicinity of these homes and as such would be within the noise standards provided in 8.80.150(C) of the Municipal Code. Table M also shows that the worst-case combined noise levels would be 60.9 dBA Leq at the warehouse to the west, which would be below the City's noise standard for District 4 of 70 dBA Leq. Therefore, the operational activities for the proposed project would not create a substantial temporary increase in ambient noise levels that are in excess of applicable noise standards. 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 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 existing Veterans Stadium, site preparation and grading of the project site, building construction of the SASC that would include approximately 180,000 square feet of new construction, paving of the hardscaped areas, 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 offsite structure is the Mercedes Benz warehouse that is located as near as 90 feet to the west of the project site.

Section 8.80.200(G) of the City's Municipal Code limits vibration impacts to the nearby single-family homes to 0.001 g's in the frequency range of 0 to 30 hertz and 0.003 g's in the frequency range of 30 to 100 hertz. The acceleration of gravity (g), which is 32.2 feet per second can be converted into peak particle velocity by multiplying 0.001 g's by 32.2 and then converting to inch per second, which results in a threshold of 0.386 inch per second PPV.

A list of known vibration producing construction equipment is provided above in Table I. As shown in Table I above, a vibratory roller has the highest vibration level of the listed construction equipment that would likely be used during construction of the proposed project and would create a vibration level of 0.21 inch per second PPV at 25 feet. Based on typical propagation rates, the vibration level at the nearest offsite structure (90 feet away) would be 0.051 inch per second PPV, which would be well below the 0.386 inch per second PPV threshold detailed above. Impacts would be less than significant.

Operations-Related Vibration Impacts

The proposed project would consist of the development and operation of the SASC. The on-going operation of the proposed project would not include the operation of any known vibration sources. Therefore, a less than significant vibration impact is anticipated from the operation of the proposed project.

Level of Significance

Less than significant impact.

7.4 Aircraft Noise

The proposed project would not expose people residing or working in the project area to excessive noise levels from aircraft. The nearest airport is Long Beach Airport that is located as near as a half mile southwest of the project site. Although the project site is located near the Airport, the primary runway runs in a northwest-southeast direction, which is perpendicular to the project site, and as such aircraft rarely fly directly over the project site and the project sit is located outside of the 60 dBA CNEL noise contours of Long Beach Airport. A less than significant impact would occur from aircraft noise.

Level of Significance

Less than significant impact.

8.0 REFERENCES

California Department of Transportation (Caltrans), *Technical Noise Supplement to the Traffic Noise Analytics Protocol*, September 2013.

California Department of Transportation, *Transportation and Construction Vibration Guidance Manual*, April 2020.

City of Long Beach, *City of Long Beach General Plan Mobility Element*, July, 2013.

City of Long Beach, *City of Long Beach General Plan Noise Element*, June, 2023.

City of Long Beach, *A Codification of the General Ordinances of Long Beach, California*, November 22, 2023.

Federal Transit Administration, *Transit Noise and Vibration Impact Assessment,* September 2018.

Illingworth & Rodkin, Inc., *Mountain View High School Field Lighting Project Noise and Vibration Assessment,* April 7, 2020.

Linscott Law & Greenspan, *Traffic Impact Analysis Report LBCCD Stadium and Athletic Sports Complex,* April 15, 2024.

U.S. Department of Transportation, *FHWA Roadway Construction Noise Model User's Guide,* January, 2006.

Vista Environmental, *Air Quality, Energy, and Greenhouse Gas Emissions Impact Analysis Stadium & Athletic Sports Complex Project,* May 16, 2024.

APPENDIX A

Field Noise Measurements Photo Index

Noise Measurement Site 1 - looking north

Noise Measurement Site 1 - looking northeast

Noise Measurement Site 1 - looking east

Noise Measurement Site 1 - looking southeast

Noise Measurement Site 1 - looking south

Noise Measurement Site 1 - looking southwest

Noise Measurement Site 1 - looking west

Noise Measurement Site 1 - looking northwest

Noise Measurement Site 2 - looking north

Noise Measurement Site 2 - looking northeast

Noise Measurement Site 2 - looking east

Noise Measurement Site 2 - looking southeast

Noise Measurement Site 2 - looking south

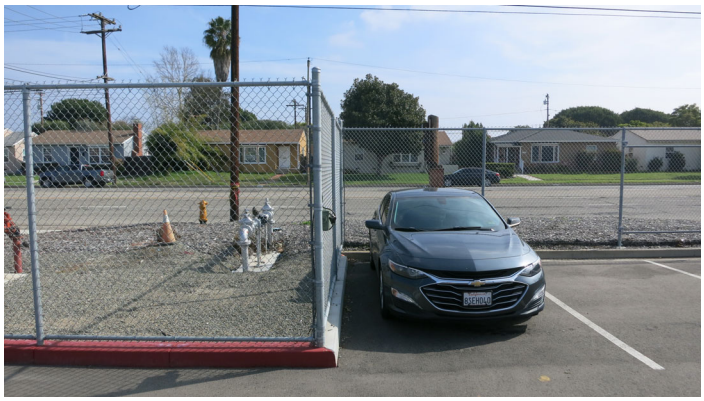
Noise Measurement Site 2 - looking southwest

Noise Measurement Site 2 - looking west

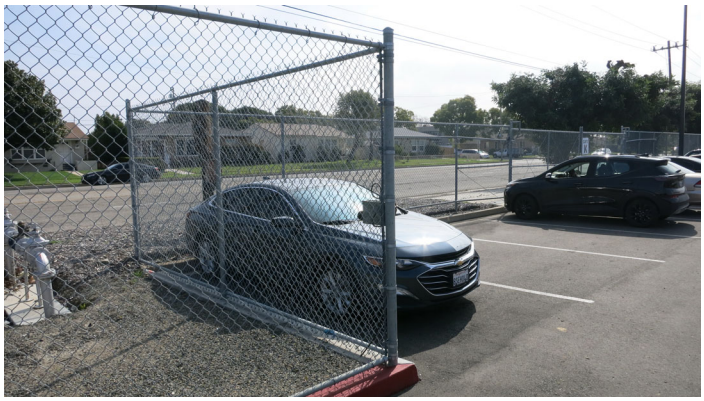
Noise Measurement Site 2 - looking northwest

Noise Measurement Site 3 - looking north

Noise Measurement Site 3 - looking northeast



Noise Measurement Site 3 - looking east



Noise Measurement Site 3 - looking southeast

Noise Measurement Site 3 - looking south

Noise Measurement Site 3 - looking southwest

Noise Measurement Site 3 - looking west

Noise Measurement Site 3 - looking northwest

APPENDIX B

Field Noise Measurements Printouts

Site 1 - North side of Stadium and South of Lew Davis St

February 15, 2024 10:27:32 AM Leq Daytime = 58.7
Sampling Time = 1 sec Freq Weighting=A Leq Nighttime = 50.4
Record Num = 86402 CNEL(24hr)= 59.9
Leq = 57.1 Ldn(24hr)= 59.4
Min = 41.7 Min Leq hr at 1:41 AM 43.0
Max = 94.8 Max Leq hr at 12:36 PM 64.7

Site 1 - North side of Stadium and South of Lew Davis St

SPL	Time	Leq (1 hour Avg.)	Ldn	CNEL
71.2	10:27:32		71.2	71.2
67.2	10:27:33		67.2	67.2
64.8	10:27:34		64.8	64.8
64.3	10:27:35		64.3	64.3
64.5	10:27:36		64.5	64.5
73.0	10:27:37		73.0	73.0
71.6	10:27:38		71.6	71.6
68.5	10:27:39		68.5	68.5
65.1	10:27:40		65.1	65.1
63.4	10:27:41		63.4	63.4
64.4	10:27:42		64.4	64.4
61.4	10:27:43		61.4	61.4
62.9	10:27:44		62.9	62.9
71.9	10:27:45		71.9	71.9
68.5	10:27:46		68.5	68.5
64.5	10:27:47		64.5	64.5
64.1	10:27:48		64.1	64.1
67.1	10:27:49		67.1	67.1
67.0	10:27:50		67.0	67.0
63.8	10:27:51		63.8	63.8
61.0	10:27:52		61.0	61.0
61.0	10:27:53		61.0	61.0
60.6	10:27:54		60.6	60.6
60.6	10:27:55		60.6	60.6
59.5	10:27:56		59.5	59.5
58.2	10:27:57		58.2	58.2
58.6	10:27:58		58.6	58.6
59.8	10:27:59		59.8	59.8
59.8	10:28:00		59.8	59.8
56.2	10:28:01		56.2	56.2
53.8	10:28:02		53.8	53.8
67.7	10:28:03		67.7	67.7
69.2	10:28:04		69.2	69.2
65.1	10:28:05		65.1	65.1
61.2	10:28:06		61.2	61.2
58.0	10:28:07		58.0	58.0
55.8	10:28:08		55.8	55.8
53.2	10:28:09		53.2	53.2
51.0	10:28:10		51.0	51.0
53.7	10:28:11		53.7	53.7
52.2	10:28:12		52.2	52.2
52.3	10:28:13		52.3	52.3
53.9	10:28:14		53.9	53.9
79.4	10:28:15		79.4	79.4
78.7	10:28:16		78.7	78.7
74.4	10:28:17		74.4	74.4
70.2	10:28:18		70.2	70.2
68.0	10:28:19		68.0	68.0
65.9	10:28:20		65.9	65.9
64.1	10:28:21		64.1	64.1
60.5	10:28:22		60.5	60.5
57.9	10:28:23		57.9	57.9
56.4	10:28:24		56.4	56.4
54.6	10:28:25		54.6	54.6
53.1	10:28:26		53.1	53.1
52.9	10:28:27		52.9	52.9
67.6	10:28:28		67.6	67.6
73.1	10:28:29		73.1	73.1
80.8	10:28:30		80.8	80.8
81.0	10:28:31		81.0	81.0
77.3	10:28:32		77.3	77.3
73.2	10:28:33		73.2	73.2
70.3	10:28:34		70.3	70.3
66.6	10:28:35		66.6	66.6
64.1	10:28:36		64.1	64.1
64.9	10:28:37		64.9	64.9
65.4	10:28:38		65.4	65.4
62.1	10:28:39		62.1	62.1
58.3	10:28:40		58.3	58.3
55.1	10:28:41		55.1	55.1
54.1	10:28:42		54.1	54.1
53.9	10:28:43		53.9	53.9
53.3	10:28:44		53.3	53.3
54.0	10:28:45		54.0	54.0
59.2	10:28:46		59.2	59.2
63.4	10:28:47		63.4	63.4
63.1	10:28:48		63.1	63.1
66.4	10:28:49		66.4	66.4
68.4	10:28:50		68.4	68.4
68.3	10:28:51		68.3	68.3
66.5	10:28:52		66.5	66.5
65.2	10:28:53		65.2	65.2
62.2	10:28:54		62.2	62.2
59.7	10:28:55		59.7	59.7
58.9	10:28:56		58.9	58.9
58.1	10:28:57		58.1	58.1
58.1	10:28:58		58.1	58.1
58.0	10:28:59		58.0	58.0
58.5	10:29:00		58.5	58.5
58.9	10:29:01		58.9	58.9
57.0	10:29:02		57.0	57.0
54.7	10:29:03		54.7	54.7
52.2	10:29:04		52.2	52.2
50.3	10:29:05		50.3	50.3
48.7	10:29:06		48.7	48.7
47.7	10:29:07		47.7	47.7
47.3	10:29:08		47.3	47.3
46.9	10:29:09		46.9	46.9
46.5	10:29:10		46.5	46.5
46.8	10:29:11		46.8	46.8
48.6	10:29:12		48.6	48.6
48.8	10:29:13		48.8	48.8
48.6	10:29:14		48.6	48.6
48.5	10:29:15		48.5	48.5
48.8	10:29:16		48.8	48.8
50.9	10:29:17		50.9	50.9
52.0	10:29:18		52.0	52.0
51.6	10:29:19		51.6	51.6
52.0	10:29:20		52.0	52.0
53.7	10:29:21		53.7	53.7
55.9	10:29:22		55.9	55.9
56.4	10:29:23		56.4	56.4
56.3	10:29:24		56.3	56.3
56.4	10:29:25		56.4	56.4
56.0	10:29:26		56.0	56.0
55.9	10:29:27		55.9	55.9
54.2	10:29:28		54.2	54.2
52.6	10:29:29		52.6	52.6
50.7	10:29:30		50.7	50.7
48.6	10:29:31		48.6	48.6
47.4	10:29:32		47.4	47.4
48.4	10:29:33		48.4	48.4
50.7	10:29:34		50.7	50.7
52.1	10:29:35		52.1	52.1
52.4	10:29:36		52.4	52.4
51.4	10:29:37		51.4	51.4
50.6	10:29:38		50.6	50.6
50.4	10:29:39		50.4	50.4
49.8	10:29:40		49.8	49.8
49.1	10:29:41		49.1	49.1
50.3	10:29:42		50.3	50.3
52.7	10:29:43		52.7	52.7
54.6	10:29:44		54.6	54.6
57.5	10:29:45		57.5	57.5
59.8	10:29:46		59.8	59.8
59.4	10:29:47		59.4	59.4
59.6	10:29:48		59.6	59.6
59.9	10:29:49		59.9	59.9
59.5	10:29:50		59.5	59.5
59.5	10:29:51		59.5	59.5
60.1	10:29:52		60.1	60.1
59.7	10:29:53		59.7	59.7
59.0	10:29:54		59.0	59.0

Site 2 - SW Corner of Clark Ave & Lew Davis St

February 15, 2024 10:34:00 AM Leq Daytime = 69.9
Sampling Time = 1 sec Freq Weighting=A Leq Nighttime = 62.4
Record Num = 86402 CNEL(24hr)= 71.4
Leq = 68.3 Ldn(24hr)= 71.0
Min = 38.1 Min Leq hr at 1:01 AM 55.3
Max = 103.7 Max Leq hr at 2:18 PM 74.7

Site 2 - SW Corner of Clark Ave & Lew Davis St

SPL	Time	Leq (1 hour Avg.)	Ldn	CNEL
64.3	10:34:00		64.3	64.3
63.2	10:34:01		63.2	63.2
63.0	10:34:02		63.0	63.0
61.9	10:34:03		61.9	61.9
61.9	10:34:04		61.9	61.9
77.4	10:34:05		77.4	77.4
74.4	10:34:06		74.4	74.4
70.5	10:34:07		70.5	70.5
70.0	10:34:08		70.0	70.0
71.2	10:34:09		71.2	71.2
67.1	10:34:10		67.1	67.1
63.3	10:34:11		63.3	63.3
59.8	10:34:12		59.8	59.8
57.7	10:34:13		57.7	57.7
58.5	10:34:14		58.5	58.5
61.5	10:34:15		61.5	61.5
62.5	10:34:16		62.5	62.5
60.7	10:34:17		60.7	60.7
59.9	10:34:18		59.9	59.9
59.4	10:34:19		59.4	59.4
59.2	10:34:20		59.2	59.2
60.4	10:34:21		60.4	60.4
61.4	10:34:22		61.4	61.4
62.7	10:34:23		62.7	62.7
61.9	10:34:24		61.9	61.9
59.7	10:34:25		59.7	59.7
57.9	10:34:26		57.9	57.9
56.0	10:34:27		56.0	56.0
54.1	10:34:28		54.1	54.1
53.3	10:34:29		53.3	53.3
55.6	10:34:30		55.6	55.6
58.9	10:34:31		58.9	58.9
61.9	10:34:32		61.9	61.9
64.3	10:34:33		64.3	64.3
68.9	10:34:34		68.9	68.9
71.9	10:34:35		71.9	71.9
71.4	10:34:36		71.4	71.4
70.4	10:34:37		70.4	70.4
69.2	10:34:38		69.2	69.2
67.2	10:34:39		67.2	67.2
65.3	10:34:40		65.3	65.3
64.0	10:34:41		64.0	64.0
62.4	10:34:42		62.4	62.4
61.0	10:34:43		61.0	61.0
65.1	10:34:44		65.1	65.1
63.5	10:34:45		63.5	63.5
60.6	10:34:46		60.6	60.6
59.5	10:34:47		59.5	59.5
57.9	10:34:48		57.9	57.9
57.5	10:34:49		57.5	57.5
57.4	10:34:50		57.4	57.4
59.3	10:34:51		59.3	59.3
61.8	10:34:52		61.8	61.8
61.9	10:34:53		61.9	61.9
62.5	10:34:54		62.5	62.5
63.7	10:34:55		63.7	63.7
63.3	10:34:56		63.3	63.3
63.2	10:34:57		63.2	63.2
63.9	10:34:58		63.9	63.9
65.7	10:34:59		65.7	65.7
70.3	10:35:00		70.3	70.3
70.8	10:35:01		70.8	70.8
67.7	10:35:02		67.7	67.7
65.7	10:35:03		65.7	65.7
64.2	10:35:04		64.2	64.2
63.3	10:35:05		63.3	63.3
61.5	10:35:06		61.5	61.5
60.3	10:35:07		60.3	60.3
60.5	10:35:08		60.5	60.5
58.9	10:35:09		58.9	58.9
60.2	10:35:10		60.2	60.2
59.9	10:35:11		59.9	59.9
57.2	10:35:12		57.2	57.2
55.0	10:35:13		55.0	55.0
53.8	10:35:14		53.8	53.8
53.3	10:35:15		53.3	53.3
53.8	10:35:16		53.8	53.8
54.6	10:35:17		54.6	54.6
55.0	10:35:18		55.0	55.0
55.5	10:35:19		55.5	55.5
56.7	10:35:20		56.7	56.7
57.8	10:35:21		57.8	57.8
58.9	10:35:22		58.9	58.9
58.7	10:35:23		58.7	58.7
58.2	10:35:24		58.2	58.2
57.7	10:35:25		57.7	57.7
57.7	10:35:26		57.7	57.7
56.9	10:35:27		56.9	56.9
55.8	10:35:28		55.8	55.8
54.9	10:35:29		54.9	54.9
54.1	10:35:30		54.1	54.1
53.4	10:35:31		53.4	53.4
53.3	10:35:32		53.3	53.3
53.6	10:35:33		53.6	53.6
56.7	10:35:34		56.7	56.7
60.9	10:35:35		60.9	60.9
64.5	10:35:36		64.5	64.5
66.3	10:35:37		66.3	66.3
66.9	10:35:38		66.9	66.9
67.1	10:35:39		67.1	67.1
67.6	10:35:40		67.6	67.6
68.8	10:35:41		68.8	68.8
71.4	10:35:42		71.4	71.4
73.3	10:35:43		73.3	73.3
72.7	10:35:44		72.7	72.7
72.6	10:35:45		72.6	72.6
72.1	10:35:46		72.1	72.1
73.0	10:35:47		73.0	73.0
73.8	10:35:48		73.8	73.8
73.6	10:35:49		73.6	73.6
72.7	10:35:50		72.7	72.7
71.4	10:35:51		71.4	71.4
70.3	10:35:52		70.3	70.3
69.0	10:35:53		69.0	69.0
68.3	10:35:54		68.3	68.3
66.7	10:35:55		66.7	66.7
65.1	10:35:56		65.1	65.1
63.8	10:35:57		63.8	63.8
63.3	10:35:58		63.3	63.3
63.9	10:35:59		63.9	63.9
65.9	10:36:00		65.9	65.9
67.5	10:36:01		67.5	67.5
68.1	10:36:02		68.1	68.1
68.7	10:36:03		68.7	68.7
68.4	10:36:04		68.4	68.4
68.1	10:36:05		68.1	68.1
67.8	10:36:06		67.8	67.8
67.4	10:36:07		67.4	67.4
68.4	10:36:08		68.4	68.4
69.4	10:36:09		69.4	69.4
70.6	10:36:10		70.6	70.6
74.4	10:36:11		74.4	74.4
75.5	10:36:12		75.5	75.5
72.6	10:36:13		72.6	72.6
69.4	10:36:14		69.4	69.4
66.2	10:36:15		66.2	66.2
63.5	10:36:16		63.5	63.5
62.4	10:36:17		62.4	62.4
61.9	10:36:18		61.9	61.9
61.8	10:36:19		61.8	61.8
60.8	10:36:20		60.8	60.8
59.8	10:36:21		59.8	59.8
59.5	10:36:22		59.5	59.5

Site 3 - East of Stadium and West of Clark Ave

February 15, 2024 10:40:11 AM Leq Daytime = 66.7
Sampling Time = 1 sec Freq Weighting=A Leq Nighttime = 59.6
Record Num = 86402 CNEL(24hr)= 68.5
Leq = 65.1 Ldn(24hr)= 68.0
Min = 32.1 Min Leq hr at 2:12 AM 52.6
Max = 86.1 Max Leq hr at 7:58 AM 68.8

Site 3 - East of Stadium and West of Clark Ave

SPL	Time	Leq (1 hour Avg.)	Ldn	CNEL
66.6	10:40:11		66.6	66.6
62.8	10:40:12		62.8	62.8
59.5	10:40:13		59.5	59.5
62.7	10:40:14		62.7	62.7
70.5	10:40:15		70.5	70.5
71.6	10:40:16		71.6	71.6
71.1	10:40:17		71.1	71.1
72.9	10:40:18		72.9	72.9
71.2	10:40:19		71.2	71.2
67.2	10:40:20		67.2	67.2
63.8	10:40:21		63.8	63.8
63.5	10:40:22		63.5	63.5
70.0	10:40:23		70.0	70.0
66.6	10:40:24		66.6	66.6
64.7	10:40:25		64.7	64.7
64.0	10:40:26		64.0	64.0
64.5	10:40:27		64.5	64.5
66.7	10:40:28		66.7	66.7
67.2	10:40:29		67.2	67.2
67.1	10:40:30		67.1	67.1
67.4	10:40:31		67.4	67.4
67.9	10:40:32		67.9	67.9
68.9	10:40:33		68.9	68.9
69.2	10:40:34		69.2	69.2
67.1	10:40:35		67.1	67.1
63.8	10:40:36		63.8	63.8
60.5	10:40:37		60.5	60.5
57.6	10:40:38		57.6	57.6
55.1	10:40:39		55.1	55.1
52.5	10:40:40		52.5	52.5
51.5	10:40:41		51.5	51.5
50.8	10:40:42		50.8	50.8
51.6	10:40:43		51.6	51.6
52.2	10:40:44		52.2	52.2
50.2	10:40:45		50.2	50.2
49.5	10:40:46		49.5	49.5
48.9	10:40:47		48.9	48.9
50.0	10:40:48		50.0	50.0
52.8	10:40:49		52.8	52.8
58.0	10:40:50		58.0	58.0
61.3	10:40:51		61.3	61.3
64.3	10:40:52		64.3	64.3
62.5	10:40:53		62.5	62.5
61.1	10:40:54		61.1	61.1
60.1	10:40:55		60.1	60.1
57.5	10:40:56		57.5	57.5
55.3	10:40:57		55.3	55.3
54.9	10:40:58		54.9	54.9
57.1	10:40:59		57.1	57.1
63.9	10:41:00		63.9	63.9
66.9	10:41:01		66.9	66.9
66.2	10:41:02		66.2	66.2
64.9	10:41:03		64.9	64.9
64.3	10:41:04		64.3	64.3
63.7	10:41:05		63.7	63.7
64.0	10:41:06		64.0	64.0
66.8	10:41:07		66.8	66.8
78.0	10:41:08		78.0	78.0
75.1	10:41:09		75.1	75.1
72.1	10:41:10		72.1	72.1
69.9	10:41:11		69.9	69.9
67.0	10:41:12		67.0	67.0
65.9	10:41:13		65.9	65.9
65.8	10:41:14		65.8	65.8
66.1	10:41:15		66.1	66.1
66.0	10:41:16		66.0	66.0
65.2	10:41:17		65.2	65.2
62.3	10:41:18		62.3	62.3
59.1	10:41:19		59.1	59.1
56.0	10:41:20		56.0	56.0
53.4	10:41:21		53.4	53.4
51.3	10:41:22		51.3	51.3
54.6	10:41:23		54.6	54.6
56.1	10:41:24		56.1	56.1
54.5	10:41:25		54.5	54.5
53.3	10:41:26		53.3	53.3
53.8	10:41:27		53.8	53.8
55.5	10:41:28		55.5	55.5
55.3	10:41:29		55.3	55.3
60.0	10:41:30		60.0	60.0
63.5	10:41:31		63.5	63.5
65.5	10:41:32		65.5	65.5
69.2	10:41:33		69.2	69.2
71.2	10:41:34		71.2	71.2
70.5	10:41:35		70.5	70.5
71.0	10:41:36		71.0	71.0
70.8	10:41:37		70.8	70.8
70.4	10:41:38		70.4	70.4
70.1	10:41:39		70.1	70.1
69.5	10:41:40		69.5	69.5
69.4	10:41:41		69.4	69.4
68.7	10:41:42		68.7	68.7
68.8	10:41:43		68.8	68.8
67.2	10:41:44		67.2	67.2
65.6	10:41:45		65.6	65.6
63.8	10:41:46		63.8	63.8
65.4	10:41:47		65.4	65.4
69.2	10:41:48		69.2	69.2
70.8	10:41:49		70.8	70.8
70.5	10:41:50		70.5	70.5
70.7	10:41:51		70.7	70.7
71.1	10:41:52		71.1	71.1
70.9	10:41:53		70.9	70.9
70.8	10:41:54		70.8	70.8
71.5	10:41:55		71.5	71.5
72.5	10:41:56		72.5	72.5
72.1	10:41:57		72.1	72.1
72.0	10:41:58		72.0	72.0
71.4	10:41:59		71.4	71.4
70.7	10:42:00		70.7	70.7
69.6	10:42:01		69.6	69.6
68.1	10:42:02		68.1	68.1
66.9	10:42:03		66.9	66.9
66.9	10:42:04		66.9	66.9
66.7	10:42:05		66.7	66.7
65.9	10:42:06		65.9	65.9
64.7	10:42:07		64.7	64.7
62.4	10:42:08		62.4	62.4
60.7	10:42:09		60.7	60.7
60.5	10:42:10		60.5	60.5
62.6	10:42:11		62.6	62.6
65.0	10:42:12		65.0	65.0
68.0	10:42:13		68.0	68.0
70.6	10:42:14		70.6	70.6
69.8	10:42:15		69.8	69.8
69.1	10:42:16		69.1	69.1
67.1	10:42:17		67.1	67.1
65.6	10:42:18		65.6	65.6
65.2	10:42:19		65.2	65.2
65.3	10:42:20		65.3	65.3
63.6	10:42:21		63.6	63.6
61.8	10:42:22		61.8	61.8
61.7	10:42:23		61.7	61.7
62.6	10:42:24		62.6	62.6
63.5	10:42:25		63.5	63.5
65.3	10:42:26		65.3	65.3
65.0	10:42:27		65.0	65.0
62.9	10:42:28		62.9	62.9
60.0	10:42:29		60.0	60.0
57.6	10:42:30		57.6	57.6
55.6	10:42:31		55.6	55.6
55.2	10:42:32		55.2	55.2
54.2	10:42:33		54.2	54.2

APPENDIX C

RCNM Model Construction Noise Calculations

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 5/17/2024
Case Description: LAC Stadium & Athletic Sports Complex - Demolition

---- Receptor #1 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Single-Family Homes to East	Residential	66.7	66.7	59.6

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Concrete Saw	No	20		89.6	730	0
Dozer	No	40		81.7	730	0
Dozer	No	40		81.7	730	0
Excavator	No	40		80.7	730	0
Excavator	No	40		80.7	730	0
Excavator	No	40		80.7	730	0

		Calculated (dBA)		Results Noise Limits (dBA) Day		Evening	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq
Concrete Saw		66.3	59.3	N/A	N/A	N/A	N/A
Dozer		58.4	54.4	N/A	N/A	N/A	N/A
Dozer		58.4	54.4	N/A	N/A	N/A	N/A
Excavator		57.4	53.4	N/A	N/A	N/A	N/A
Excavator		57.4	53.4	N/A	N/A	N/A	N/A
Excavator		57.4	53.4	N/A	N/A	N/A	N/A
	Total	**66**	**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: 5/17/2024
Case Description: LAC Stadium & Athletic Sports Complex - Demolition

---- Receptor #2 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Warehouse to West	Industrial	58.7	58.7	50.4

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Concrete Saw	No	20		89.6	690	0
Dozer	No	40		81.7	690	0
Dozer	No	40		81.7	690	0
Excavator	No	40		80.7	690	0
Excavator	No	40		80.7	690	0
Excavator	No	40		80.7	690	0

		Calculated (dBA)		Results Noise Limits (dBA) Day		Evening	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq
Concrete Saw		66.8	59.8	N/A	N/A	N/A	N/A
Dozer		58.9	54.9	N/A	N/A	N/A	N/A
Dozer		58.9	54.9	N/A	N/A	N/A	N/A
Excavator		57.9	53.9	N/A	N/A	N/A	N/A
Excavator		57.9	53.9	N/A	N/A	N/A	N/A
Excavator		57.9	53.9	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: 5/17/2024
Case Description: LAC Stadium & Athletic Sports Complex - Site Preparation

---- Receptor #1 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Single-Family Homes to East	Residential	66.7	66.7	59.6

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Dozer	No	40		81.7	730	0
Dozer	No	40		81.7	730	0
Dozer	No	40		81.7	730	0
Backhoe	No	40		77.6	730	0
Front End Loader	No	40		79.1	730	0
Tractor	No	40	84		730	0
Tractor	No	40	84		730	0

		Calculated (dBA)		Results Noise Limits (dBA) Day		Evening	
Equipment		***Lmax**	**Leq**	Lmax	Leq	Lmax	Leq
Dozer		58.4	54.4	N/A	N/A	N/A	N/A
Dozer		58.4	54.4	N/A	N/A	N/A	N/A
Dozer		58.4	54.4	N/A	N/A	N/A	N/A
Backhoe		54.3	50.3	N/A	N/A	N/A	N/A
Front End Loader		55.8	51.8	N/A	N/A	N/A	N/A
Tractor		60.7	56.7	N/A	N/A	N/A	N/A
Tractor		60.7	56.7	N/A	N/A	N/A	N/A
	Total	**61**	**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: 5/17/2024
Case Description: LAC Stadium & Athletic Sports Complex - Site Preparation

---- Receptor #2 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Warehouse to West	Industrial	58.7	58.7	50.4

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Dozer	No	40		81.7	690	0
Dozer	No	40		81.7	690	0
Dozer	No	40		81.7	690	0
Backhoe	No	40		77.6	690	0
Front End Loader	No	40		79.1	690	0
Tractor	No	40	84		690	0
Tractor	No	40	84		690	0

		Results Calculated (dBA)		Day	Noise Limits (dBA)	Evening	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq
Dozer		58.9	54.9	N/A	N/A	N/A	N/A
Dozer		58.9	54.9	N/A	N/A	N/A	N/A
Dozer		58.9	54.9	N/A	N/A	N/A	N/A
Backhoe		54.8	50.8	N/A	N/A	N/A	N/A
Front End Loader		56.3	52.3	N/A	N/A	N/A	N/A
Tractor		61.2	57.2	N/A	N/A	N/A	N/A
Tractor		61.2	57.2	N/A	N/A	N/A	N/A
	Total	**61**	**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: 5/17/2024
Case Description: LAC Stadium & Athletic Sports Complex - Grading

---- Receptor #1 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Single-Family Homes to East	Residential	66.7	66.7	59.6

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	730	0
Excavator	No	40		80.7	730	0
Grader	No	40	85		730	0
Dozer	No	40		81.7	730	0
Scraper	No	40		83.6	730	0
Scraper	No	40		83.6	730	0
Front End Loader	No	40		79.1	730	0
Tractor	No	40	84		730	0

Equipment	Calculated (dBA) *Lmax	Leq	Results Noise Limits (dBA) Day Lmax	Day Leq	Evening Lmax	Evening Leq
Excavator	57.4	53.4	N/A	N/A	N/A	N/A
Excavator	57.4	53.4	N/A	N/A	N/A	N/A
Grader	61.7	57.7	N/A	N/A	N/A	N/A
Dozer	58.4	54.4	N/A	N/A	N/A	N/A
Scraper	60.3	56.3	N/A	N/A	N/A	N/A
Scraper	60.3	56.3	N/A	N/A	N/A	N/A
Front End Loader	55.8	51.8	N/A	N/A	N/A	N/A
Tractor	60.7	56.7	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: 5/17/2024
Case Description: LAC Stadium & Athletic Sports Complex - Grading

---- Receptor #2 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Warehouse to West	Industrial	58.7	58.7	50.4

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	690	0
Excavator	No	40		80.7	690	0
Grader	No	40	85		690	0
Dozer	No	40		81.7	690	0
Scraper	No	40		83.6	690	0
Scraper	No	40		83.6	690	0
Front End Loader	No	40		79.1	690	0
Tractor	No	40	84		690	0

		Calculated (dBA)		Results Noise Limits (dBA) Day		Evening	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq
Excavator		57.9	53.9	N/A	N/A	N/A	N/A
Excavator		57.9	53.9	N/A	N/A	N/A	N/A
Grader		62.2	58.2	N/A	N/A	N/A	N/A
Dozer		58.9	54.9	N/A	N/A	N/A	N/A
Scraper		60.8	56.8	N/A	N/A	N/A	N/A
Scraper		60.8	56.8	N/A	N/A	N/A	N/A
Front End Loader		56.3	52.3	N/A	N/A	N/A	N/A
Tractor		61.2	57.2	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: 5/17/2024
Case Description: LAC Stadium & Athletic Sports Complex - Building Construction

---- Receptor #1 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Single-Family Homes to East	Residential	66.7	66.7	59.6

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Crane	No	16		80.6	730	0
Gradall	No	40		83.4	730	0
Gradall	No	40		83.4	730	0
Gradall	No	40		83.4	730	0
Generator	No	50		80.6	730	0
Backhoe	No	40		77.6	730	0
Front End Loader	No	40		79.1	730	0
Tractor	No	40	84		730	0
Welder / Torch	No	40		74	730	0

Equipment		Calculated (dBA) *Lmax	Leq	Results Day Lmax	Noise Limits (dBA) Leq	Evening Lmax	Leq
Crane		57.3	49.3	N/A	N/A	N/A	N/A
Gradall		60.1	56.1	N/A	N/A	N/A	N/A
Gradall		60.1	56.1	N/A	N/A	N/A	N/A
Gradall		60.1	56.1	N/A	N/A	N/A	N/A
Generator		57.3	54.3	N/A	N/A	N/A	N/A
Backhoe		54.3	50.3	N/A	N/A	N/A	N/A
Front End Loader		55.8	51.8	N/A	N/A	N/A	N/A
Tractor		60.7	56.7	N/A	N/A	N/A	N/A
Welder / Torch		50.7	46.7	N/A	N/A	N/A	N/A
	Total	**61**	**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: 5/17/2024
Case Description: LAC Stadium & Athletic Sports Complex - Building Construction

---- Receptor #2 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Warehouse to West	Industrial	58.7	58.7	50.4

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Crane	No	16		80.6	690	0
Gradall	No	40		83.4	690	0
Gradall	No	40		83.4	690	0
Gradall	No	40		83	690	0
Generator	No	50		81	690	0
Backhoe	No	40		78	690	0
Front End Loader	No	40		79.1	690	0
Tractor	No	40	84		690	0
Welder / Torch	No	40		74	690	0

		Results Calculated (dBA)		Noise Limits (dBA) Day		Evening	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq
Crane		57.8	49.8	N/A	N/A	N/A	N/A
Gradall		60.6	56.6	N/A	N/A	N/A	N/A
Gradall		60.6	56.6	N/A	N/A	N/A	N/A
Gradall		60.6	56.6	N/A	N/A	N/A	N/A
Generator		57.8	54.8	N/A	N/A	N/A	N/A
Backhoe		54.8	50.8	N/A	N/A	N/A	N/A
Front End Loader		56.3	52.3	N/A	N/A	N/A	N/A
Tractor		61.2	57.2	N/A	N/A	N/A	N/A
Welder / Torch		51.2	47.2	N/A	N/A	N/A	N/A
	Total	**61**	**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: 5/17/2024
Case Description: LAC Stadium & Athletic Sports Complex - Paving

---- Receptor #1 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Single-Family Homes to East	Residential	66.7	66.7	59.6

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Paver	No	50		77.2	730	0
Paver	No	50		77.2	730	0
Paver	No	50		77.2	730	0
Paver	No	50		77.2	730	0
Roller	No	20		80	730	0
Roller	No	20		80	730	0

Equipment	Calculated (dBA) *Lmax	Leq	Results Day Lmax	Noise Limits (dBA) Day Leq	Evening Lmax	Evening Leq
Paver	53.9	50.9	N/A	N/A	N/A	N/A
Paver	53.9	50.9	N/A	N/A	N/A	N/A
Paver	53.9	50.9	N/A	N/A	N/A	N/A
Paver	53.9	50.9	N/A	N/A	N/A	N/A
Roller	56.7	49.7	N/A	N/A	N/A	N/A
Roller	56.7	49.7	N/A	N/A	N/A	N/A
Total	**57**	**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: 5/17/2024
Case Description: LAC Stadium & Athletic Sports Complex - Paving

---- Receptor #2 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Warehouse to West	Industrial	58.7	58.7	50.4

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Paver	No	50		77.2	690	0
Paver	No	50		77.2	690	0
Paver	No	50		77.2	690	0
Paver	No	50		77.2	690	0
Roller	No	20		80	690	0
Roller	No	20		80	690	0

		Calculated (dBA)		Results Noise Limits (dBA) Day		Evening	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq
Paver		54.4	51.4	N/A	N/A	N/A	N/A
Paver		54.4	51.4	N/A	N/A	N/A	N/A
Paver		54.4	51.4	N/A	N/A	N/A	N/A
Paver		54.4	51.4	N/A	N/A	N/A	N/A
Roller		57.2	50.2	N/A	N/A	N/A	N/A
Roller		57.2	50.2	N/A	N/A	N/A	N/A
	Total	**57**	**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: 5/17/2024
Case Description: LAC Stadium & Athletic Sports Complex - Painting

---- Receptor #1 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Single-Family Homes to East	Residential	66.7	66.7	59.6

			Equipment Spec	Actual	Receptor	Estimated
	Impact		Lmax	Lmax	Distance	Shielding
Description	Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
Compressor (air)	No	40		77.7	730	0

		Calculated (dBA)		Results Noise Limits (dBA)			
				Day		Evening	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq
Compressor (air)		54.4	50.4	N/A	N/A	N/A	N/A
	Total	**54**	**50**	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Warehouse to West	Industrial	58.7	58.7	50.4

			Equipment Spec	Actual	Receptor	Estimated
	Impact		Lmax	Lmax	Distance	Shielding
Description	Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
Compressor (air)	No	40		77.7	690	0

		Calculated (dBA)		Results Noise Limits (dBA)			
				Day		Evening	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq
Compressor (air)		54.9	51	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.

APPENDIX D

FHWA Model Traffic Noise Calculations Printouts

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

Scenario: EXISTING CONDITIONS **Project: LAC SASC**

Site Conditions: Soft

	Vehicle Mix 1 (Local)				Vehicle Mix 2 (Arterial)				Vehicle Mix 3 (SR-19)			
Vehicle Type	Day	Evening	Night	Daily	Day	Evening	Night	Daily	Day	Evenin	Night	Daily
Automobiles	73.60%	13.60%	10.22%	97.42%	69.50%	12.90%	9.60%	92.00%	64.20%	13.16%	15.39%	92.75%
Medium Trucks	0.90%	0.90%	0.04%	1.84%	1.44%	0.06%	1.50%	3.00%	2.06%	0.37%	1.04%	3.48%
Heavy Trucks	0.35%	0.04%	0.35%	0.74%	2.40%	0.10%	2.50%	5.00%	2.06%	0.20%	1.51%	3.77%

Road Name: Lakewood Boulevard **Segment: North of Carson Street**

Average Daily Traffic: 26830 Vehicles Vehicle Speed: 40 MPH Vehicle Mix: 2 Roadway Classification: Regional Corridor

	NOISE PARAMETERS AT 60 FEET FROM CENTERLINE (Equiv. Lane Dist: 51.37 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	67.36	2.60	-0.28	-1.20	68.48	66.11	64.81	58.76	67.19	67.82	70 dBA:	**45**	**48**
Medium Trucks	76.31	-12.27	-0.28	-1.20	62.56	43.36	35.57	44.78	50.94	50.97	65 dBA:	**96**	**104**
Heavy Trucks	81.16	-10.05	-0.28	-1.20	69.63	52.64	44.86	54.07	60.22	60.26	60 dBA:	**207**	**225**
				Total:	**72.56**	**66.32**	**64.86**	**60.16**	**68.07**	**68.60**	55 dBA:	**446**	**484**

Road Name: Clark Avenue **Segment: North of Carson Street**

Average Daily Traffic: 15560 Vehicles Vehicle Speed: 35 MPH Vehicle Mix: 1 Roadway Classification: Minor Avenue

	NOISE PARAMETERS AT 55 FEET FROM CENTERLINE (Equiv. Lane Dist: 49.49 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	65.11	1.06	-0.04	-1.20	64.93	62.81	61.50	55.49	63.91	64.53	70 dBA:	**22**	**24**
Medium Trucks	74.83	-16.18	-0.04	-1.20	57.41	36.16	42.19	23.89	37.04	39.79	65 dBA:	**47**	**51**
Heavy Trucks	80.05	-20.13	-0.04	-1.20	58.68	33.33	29.93	34.57	40.77	40.87	60 dBA:	**101**	**111**
				Total:	**66.44**	**62.83**	**61.55**	**55.52**	**63.94**	**64.57**	55 dBA:	**217**	**239**

Road Name: Clark Avenue **Segment: North of Lew Davis Street**

Average Daily Traffic: 19840 Vehicles Vehicle Speed: 40 MPH Vehicle Mix: 1 Roadway Classification: Minor Avenue

	NOISE PARAMETERS AT 55 FEET FROM CENTERLINE (Equiv. Lane Dist: 49.49 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	67.36	1.54	-0.04	-1.20	67.66	65.54	64.22	58.21	66.63	67.26	70 dBA:	**33**	**36**
Medium Trucks	76.31	-15.70	-0.04	-1.20	59.37	38.12	44.15	25.85	39.00	41.75	65 dBA:	**71**	**78**
Heavy Trucks	81.16	-19.66	-0.04	-1.20	60.27	34.91	31.51	36.16	42.36	42.46	60 dBA:	**153**	**168**
				Total:	**68.90**	**65.55**	**64.27**	**58.24**	**66.65**	**67.28**	55 dBA:	**329**	**363**

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

Scenario: EXISTING CONDITIONS **Project: LAC SASC**

Site Conditions: Soft

Road Name: Clark Avenue **Segment: South of Lew Davis Street**

Average Daily Traffic: 18760 Vehicles Vehicle Speed: 40 MPH Vehicle Mix: 1 Roadway Classification: Minor Avenue

	NOISE PARAMETERS AT 70 FEET FROM CENTERLINE (Equiv. Lane Dist: 65.76 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	67.36	1.29	-1.89	-1.20	65.56	63.44	62.13	56.12	64.54	65.16	70 dBA:	**30**	**33**
Medium Trucks	76.31	-15.95	-1.89	-1.20	57.28	36.03	42.05	23.76	36.90	39.65	65 dBA:	**65**	**72**
Heavy Trucks	81.16	-19.90	-1.89	-1.20	58.17	32.82	29.42	34.07	40.27	40.36	60 dBA:	**141**	**155**
				Total:	**66.81**	**63.45**	**62.17**	**56.15**	**64.56**	**65.19**	55 dBA:	**304**	**335**

Road Name: Clark Avenue **Segment: South of Conant Street**

Average Daily Traffic: 19640 Vehicles Vehicle Speed: 40 MPH Vehicle Mix: 1 Roadway Classification: Minor Avenue

	NOISE PARAMETERS AT 105 FEET FROM CENTERLINE (Equiv. Lane Dist: 102.22 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	67.36	1.49	-4.76	-1.20	62.89	60.77	59.45	53.44	61.86	62.49	70 dBA:	**30**	**33**
Medium Trucks	76.31	-15.75	-4.76	-1.20	54.60	33.36	39.38	21.08	34.23	36.98	65 dBA:	**65**	**72**
Heavy Trucks	81.16	-19.70	-4.76	-1.20	55.50	30.14	26.74	31.39	37.59	37.69	60 dBA:	**140**	**154**
				Total:	**64.13**	**60.78**	**59.50**	**53.47**	**61.89**	**62.51**	55 dBA:	**302**	**333**

Road Name: Clark Avenue **Segment: South of Wardlow Road**

Average Daily Traffic: 18100 Vehicles Vehicle Speed: 40 MPH Vehicle Mix: 1 Roadway Classification: Minor Avenue

	NOISE PARAMETERS AT 110 FEET FROM CENTERLINE (Equiv. Lane Dist: 107.35 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	67.36	1.14	-5.08	-1.20	62.22	60.09	58.78	52.77	61.19	61.81	70 dBA:	**29**	**31**
Medium Trucks	76.31	-16.10	-5.08	-1.20	53.93	32.68	38.70	20.41	33.55	36.31	65 dBA:	**61**	**68**
Heavy Trucks	81.16	-20.06	-5.08	-1.20	54.82	29.47	26.07	30.72	36.92	37.01	60 dBA:	**132**	**146**
				Total:	**63.46**	**60.10**	**58.83**	**52.80**	**61.21**	**61.84**	55 dBA:	**285**	**314**

Road Name: Bellflower Boulevard **Segment: North of Carson Street**

Average Daily Traffic: 21120 Vehicles Vehicle Speed: 40 MPH Vehicle Mix: 2 Roadway Classification: Boulevard

	NOISE PARAMETERS AT 85 FEET FROM CENTERLINE (Equiv. Lane Dist: 79.9 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	67.36	1.56	-3.16	-1.20	64.56	62.19	60.90	54.84	63.27	63.90	70 dBA:	**35**	**38**
Medium Trucks	76.31	-13.31	-3.16	-1.20	58.65	39.44	31.66	40.87	47.02	47.05	65 dBA:	**75**	**81**
Heavy Trucks	81.16	-11.09	-3.16	-1.20	65.71	48.72	40.94	50.15	56.30	56.34	60 dBA:	**161**	**174**
				Total:	**68.64**	**62.40**	**60.95**	**56.24**	**64.15**	**64.68**	55 dBA:	**346**	**376**

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

Scenario: EXISTING CONDITIONS **Project: LAC SASC**

Site Conditions: Soft

Road Name: Carson Street **Segment: West of Lakewood Boulevard**

Average Daily Traffic: 29630 Vehicles Vehicle Speed: 40 MPH Vehicle Mix: 2 Roadway Classification: Major Avenue

	NOISE PARAMETERS AT 60 FEET FROM CENTERLINE (Equiv. Lane Dist: 51.37 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	67.36	3.03	-0.28	-1.20	68.91	66.54	65.24	59.19	67.62	68.25	70 dBA:	**48**	**52**
Medium Trucks	76.31	-11.84	-0.28	-1.20	63.00	43.79	36.01	45.21	51.37	51.40	65 dBA:	**103**	**111**
Heavy Trucks	81.16	-9.62	-0.28	-1.20	70.06	53.07	45.29	54.50	60.65	60.69	60 dBA:	**221**	**240**
				Total:	**72.99**	**66.75**	**65.29**	**60.59**	**68.50**	**69.03**	55 dBA:	**477**	**517**

Road Name: Carson Street **Segment: West of Faculty Avenue**

Average Daily Traffic: 26450 Vehicles Vehicle Speed: 40 MPH Vehicle Mix: 2 Roadway Classification: Major Avenue

	NOISE PARAMETERS AT 55 FEET FROM CENTERLINE (Equiv. Lane Dist: 45.43 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	67.36	2.54	0.52	-1.20	69.22	66.84	65.55	59.50	67.93	68.56	70 dBA:	**46**	**50**
Medium Trucks	76.31	-12.33	0.52	-1.20	63.30	44.09	36.31	45.52	51.68	51.71	65 dBA:	**99**	**107**
Heavy Trucks	81.16	-10.11	0.52	-1.20	70.37	53.38	45.60	54.81	60.96	60.99	60 dBA:	**213**	**231**
				Total:	**73.30**	**67.06**	**65.60**	**60.89**	**68.81**	**69.34**	55 dBA:	**458**	**497**

Road Name: Carson Street **Segment: East of Clark Avenue**

Average Daily Traffic: 26150 Vehicles Vehicle Speed: 40 MPH Vehicle Mix: 2 Roadway Classification: Major Avenue

	NOISE PARAMETERS AT 60 FEET FROM CENTERLINE (Equiv. Lane Dist: 51.37 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	67.36	2.49	-0.28	-1.20	68.37	65.99	64.70	58.65	67.08	67.71	70 dBA:	**44**	**48**
Medium Trucks	76.31	-12.38	-0.28	-1.20	62.45	43.24	35.46	44.67	50.83	50.86	65 dBA:	**94**	**102**
Heavy Trucks	81.16	-10.16	-0.28	-1.20	69.52	52.53	44.75	53.96	60.11	60.14	60 dBA:	**204**	**221**
				Total:	**72.45**	**66.21**	**64.75**	**60.04**	**67.96**	**68.49**	55 dBA:	**439**	**476**

Road Name: Carson Boulevard **Segment: East of Bellflower Boulevard**

Average Daily Traffic: 27120 Vehicles Vehicle Speed: 40 MPH Vehicle Mix: 2 Roadway Classification: Major Avenue

	NOISE PARAMETERS AT 65 FEET FROM CENTERLINE (Equiv. Lane Dist: 57.13 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	67.36	2.64	-0.97	-1.20	67.83	65.46	64.17	58.11	66.54	67.18	70 dBA:	**44**	**47**
Medium Trucks	76.31	-12.22	-0.97	-1.20	61.92	42.71	34.93	44.14	50.29	50.33	65 dBA:	**94**	**102**
Heavy Trucks	81.16	-10.00	-0.97	-1.20	68.98	51.99	44.21	53.42	59.58	59.61	60 dBA:	**203**	**220**
				Total:	**71.91**	**65.67**	**64.22**	**59.51**	**67.42**	**67.95**	55 dBA:	**438**	**475**

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

Scenario: EXISTING CONDITIONS **Project: LAC SASC**

Site Conditions: Soft

Road Name: Conant Street **Segment: East of Clark Avenue**

Average Daily Traffic: 2410 Vehicles Vehicle Speed: 30 MPH Vehicle Mix: 1 Roadway Classification: Connector

	NOISE PARAMETERS AT 55 FEET FROM CENTERLINE (Equiv. Lane Dist: 52.62 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	62.51	-6.37	-0.44	-1.20	54.51	52.38	51.07	45.06	53.48	54.10	70 dBA:	**4**	**5**
Medium Trucks	73.11	-23.61	-0.44	-1.20	47.87	26.62	32.64	14.35	27.49	30.24	65 dBA:	**9**	**10**
Heavy Trucks	80.26	-27.56	-0.44	-1.20	51.06	25.71	22.31	26.96	33.16	33.25	60 dBA:	**20**	**22**
				Total:	**56.73**	**52.40**	**51.14**	**45.13**	**53.53**	**54.16**	55 dBA:	**44**	**48**

Road Name: Wardlow Road **Segment: East of Clark Avenue**

Average Daily Traffic: 11510 Vehicles Vehicle Speed: 35 MPH Vehicle Mix: 1 Roadway Classification: Minor Avenue

	NOISE PARAMETERS AT 60 FEET FROM CENTERLINE (Equiv. Lane Dist: 54.99 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	65.11	-0.25	-0.72	-1.20	62.94	60.81	59.50	53.49	61.91	62.54	70 dBA:	**17**	**19**
Medium Trucks	74.83	-17.49	-0.72	-1.20	55.42	34.17	40.19	21.90	35.04	37.79	65 dBA:	**38**	**41**
Heavy Trucks	80.05	-21.44	-0.72	-1.20	56.68	31.33	27.93	32.58	38.78	38.87	60 dBA:	**81**	**89**
				Total:	**64.44**	**60.83**	**59.56**	**53.53**	**61.94**	**62.57**	55 dBA:	**174**	**192**

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

Scenario: EXISTING WITH PROJECT CONDITIONS **Project: LAC SASC**

Site Conditions: Soft

	Vehicle Mix 1 (Local)				Vehicle Mix 2 (Arterial)				Vehicle Mix 3 (SR-19)			
Vehicle Type	Day	Evening	Night	Daily	Day	Evening	Night	Daily	Day	Evenin	Night	Daily
Automobiles	73.60%	13.60%	10.22%	97.42%	69.50%	12.90%	9.60%	92.00%	64.20%	13.16%	15.39%	92.75%
Medium Trucks	0.90%	0.90%	0.04%	1.84%	1.44%	0.06%	1.50%	3.00%	2.06%	0.37%	1.04%	3.48%
Heavy Trucks	0.35%	0.04%	0.35%	0.74%	2.40%	0.10%	2.50%	5.00%	2.06%	0.20%	1.51%	3.77%

Road Name: Lakewood Boulevard **Segment: North of Carson Street**

Average Daily Traffic: 26920 Vehicles Vehicle Speed: 40 MPH Vehicle Mix: 2 Roadway Classification: Regional Corridor

	NOISE PARAMETERS AT 60 FEET FROM CENTERLINE (Equiv. Lane Dist: 51.37 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	67.36	2.61	-0.28	-1.20	68.49	66.12	64.83	58.77	67.20	67.84	70 dBA:	**45**	**48**
Medium Trucks	76.31	-12.25	-0.28	-1.20	62.58	43.37	35.59	44.80	50.95	50.99	65 dBA:	**96**	**104**
Heavy Trucks	81.16	-10.04	-0.28	-1.20	69.64	52.65	44.87	54.08	60.24	60.27	60 dBA:	**208**	**225**
				Total:	**72.58**	**66.33**	**64.88**	**60.17**	**68.08**	**68.61**	55 dBA:	**447**	**485**

Road Name: Clark Avenue **Segment: North of Carson Street**

Average Daily Traffic: 15590 Vehicles Vehicle Speed: 35 MPH Vehicle Mix: 1 Roadway Classification: Minor Avenue

	NOISE PARAMETERS AT 55 FEET FROM CENTERLINE (Equiv. Lane Dist: 49.49 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	65.11	1.07	-0.04	-1.20	64.94	62.82	61.51	55.49	63.91	64.54	70 dBA:	**22**	**24**
Medium Trucks	74.83	-16.17	-0.04	-1.20	57.42	36.17	42.19	23.90	37.04	39.80	65 dBA:	**47**	**52**
Heavy Trucks	80.05	-20.13	-0.04	-1.20	58.68	33.33	29.93	34.58	40.78	40.88	60 dBA:	**101**	**111**
				Total:	**66.45**	**62.83**	**61.56**	**55.53**	**63.94**	**64.57**	55 dBA:	**217**	**239**

Road Name: Clark Avenue **Segment: North of Lew Davis Street**

Average Daily Traffic: 20030 Vehicles Vehicle Speed: 40 MPH Vehicle Mix: 1 Roadway Classification: Minor Avenue

	NOISE PARAMETERS AT 55 FEET FROM CENTERLINE (Equiv. Lane Dist: 49.49 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	67.36	1.58	-0.04	-1.20	67.70	65.58	64.27	58.25	66.67	67.30	70 dBA:	**33**	**36**
Medium Trucks	76.31	-15.66	-0.04	-1.20	59.42	38.17	44.19	25.89	39.04	41.79	65 dBA:	**71**	**79**
Heavy Trucks	81.16	-19.62	-0.04	-1.20	60.31	34.96	31.56	36.20	42.40	42.50	60 dBA:	**154**	**169**
				Total:	**68.94**	**65.59**	**64.31**	**58.28**	**66.70**	**67.33**	55 dBA:	**331**	**365**

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

Scenario: EXISTING WITH PROJECT CONDITIONS **Project: LAC SASC**

Site Conditions: Soft

Road Name: Clark Avenue **Segment: South of Lew Davis Street**

Average Daily Traffic: 18860 Vehicles Vehicle Speed: 40 MPH Vehicle Mix: 1 Roadway Classification: Minor Avenue

	NOISE PARAMETERS AT 70 FEET FROM CENTERLINE (Equiv. Lane Dist: 65.76 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	67.36	1.32	-1.89	-1.20	65.59	63.46	62.15	56.14	64.56	65.19	70 dBA:	**30**	**34**
Medium Trucks	76.31	-15.92	-1.89	-1.20	57.30	36.05	42.07	23.78	36.92	39.68	65 dBA:	**66**	**72**
Heavy Trucks	81.16	-19.88	-1.89	-1.20	58.19	32.84	29.44	34.09	40.29	40.39	60 dBA:	**141**	**156**
				Total:	**66.83**	**63.48**	**62.20**	**56.17**	**64.58**	**65.21**	55 dBA:	**305**	**336**

Road Name: Clark Avenue **Segment: South of Conant Street**

Average Daily Traffic: 19740 Vehicles Vehicle Speed: 40 MPH Vehicle Mix: 1 Roadway Classification: Minor Avenue

	NOISE PARAMETERS AT 105 FEET FROM CENTERLINE (Equiv. Lane Dist: 102.22 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	67.36	1.51	-4.76	-1.20	62.91	60.79	59.48	53.46	61.88	62.51	70 dBA:	**30**	**33**
Medium Trucks	76.31	-15.72	-4.76	-1.20	54.63	33.38	39.40	21.10	34.25	37.00	65 dBA:	**65**	**72**
Heavy Trucks	81.16	-19.68	-4.76	-1.20	55.52	30.17	26.77	31.42	37.61	37.71	60 dBA:	**141**	**155**
				Total:	**64.15**	**60.80**	**59.52**	**53.49**	**61.91**	**62.54**	55 dBA:	**303**	**334**

Road Name: Clark Avenue **Segment: South of Wardlow Road**

Average Daily Traffic: 18130 Vehicles Vehicle Speed: 40 MPH Vehicle Mix: 1 Roadway Classification: Minor Avenue

	NOISE PARAMETERS AT 110 FEET FROM CENTERLINE (Equiv. Lane Dist: 107.35 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	67.36	1.14	-5.08	-1.20	62.22	60.10	58.79	52.78	61.20	61.82	70 dBA:	**29**	**31**
Medium Trucks	76.31	-16.09	-5.08	-1.20	53.94	32.69	38.71	20.42	33.56	36.31	65 dBA:	**62**	**68**
Heavy Trucks	81.16	-20.05	-5.08	-1.20	54.83	29.48	26.08	30.73	36.93	37.02	60 dBA:	**133**	**146**
				Total:	**63.46**	**60.11**	**58.83**	**52.81**	**61.22**	**61.85**	55 dBA:	**286**	**315**

Road Name: Bellflower Boulevard **Segment: North of Carson Street**

Average Daily Traffic: 21170 Vehicles Vehicle Speed: 40 MPH Vehicle Mix: 2 Roadway Classification: Boulevard

	NOISE PARAMETERS AT 85 FEET FROM CENTERLINE (Equiv. Lane Dist: 79.9 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	67.36	1.57	-3.16	-1.20	64.57	62.20	60.91	54.85	63.28	63.91	70 dBA:	**35**	**38**
Medium Trucks	76.31	-13.30	-3.16	-1.20	58.66	39.45	31.67	40.88	47.03	47.06	65 dBA:	**75**	**81**
Heavy Trucks	81.16	-11.08	-3.16	-1.20	65.72	48.73	40.95	50.16	56.31	56.35	60 dBA:	**161**	**175**
				Total:	**68.65**	**62.41**	**60.96**	**56.25**	**64.16**	**64.69**	55 dBA:	**347**	**376**

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

Scenario: EXISTING WITH PROJECT CONDITIONS **Project: LAC SASC**

Site Conditions: Soft

Road Name: Carson Street **Segment: West of Lakewood Boulevard**

Average Daily Traffic: 29750 Vehicles Vehicle Speed: 40 MPH Vehicle Mix: 2 Roadway Classification: Major Avenue

	NOISE PARAMETERS AT 60 FEET FROM CENTERLINE (Equiv. Lane Dist: 51.37 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	67.36	3.05	-0.28	-1.20	68.93	66.56	65.26	59.21	67.64	68.27	70 dBA:	**48**	**52**
Medium Trucks	76.31	-11.82	-0.28	-1.20	63.01	43.81	36.02	45.23	51.39	51.42	65 dBA:	**103**	**112**
Heavy Trucks	81.16	-9.60	-0.28	-1.20	70.08	53.09	45.31	54.52	60.67	60.70	60 dBA:	**222**	**241**
				Total:	**73.01**	**66.77**	**65.31**	**60.60**	**68.52**	**69.05**	55 dBA:	**478**	**518**

Road Name: Carson Street **Segment: West of Faculty Avenue**

Average Daily Traffic: 26480 Vehicles Vehicle Speed: 40 MPH Vehicle Mix: 2 Roadway Classification: Major Avenue

	NOISE PARAMETERS AT 55 FEET FROM CENTERLINE (Equiv. Lane Dist: 45.43 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	67.36	2.54	0.52	-1.20	69.22	66.85	65.56	59.50	67.93	68.56	70 dBA:	**46**	**50**
Medium Trucks	76.31	-12.33	0.52	-1.20	63.31	44.10	36.32	45.53	51.68	51.71	65 dBA:	**99**	**107**
Heavy Trucks	81.16	-10.11	0.52	-1.20	70.37	53.38	45.60	54.81	60.96	61.00	60 dBA:	**213**	**231**
				Total:	**73.30**	**67.06**	**65.61**	**60.90**	**68.81**	**69.34**	55 dBA:	**458**	**497**

Road Name: Carson Street **Segment: East of Clark Avenue**

Average Daily Traffic: 26280 Vehicles Vehicle Speed: 40 MPH Vehicle Mix: 2 Roadway Classification: Major Avenue

	NOISE PARAMETERS AT 60 FEET FROM CENTERLINE (Equiv. Lane Dist: 51.37 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	67.36	2.51	-0.28	-1.20	68.39	66.02	64.72	58.67	67.10	67.73	70 dBA:	**44**	**48**
Medium Trucks	76.31	-12.36	-0.28	-1.20	62.47	43.27	35.48	44.69	50.85	50.88	65 dBA:	**95**	**103**
Heavy Trucks	81.16	-10.14	-0.28	-1.20	69.54	52.55	44.77	53.98	60.13	60.17	60 dBA:	**204**	**221**
				Total:	**72.47**	**66.23**	**64.77**	**60.07**	**67.98**	**68.51**	55 dBA:	**440**	**477**

Road Name: Carson Boulevard **Segment: East of Bellflower Boulevard**

Average Daily Traffic: 27210 Vehicles Vehicle Speed: 40 MPH Vehicle Mix: 2 Roadway Classification: Major Avenue

	NOISE PARAMETERS AT 65 FEET FROM CENTERLINE (Equiv. Lane Dist: 57.13 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	67.36	2.66	-0.97	-1.20	67.85	65.48	64.18	58.13	66.56	67.19	70 dBA:	**44**	**48**
Medium Trucks	76.31	-12.21	-0.97	-1.20	61.93	42.73	34.94	44.15	50.31	50.34	65 dBA:	**95**	**102**
Heavy Trucks	81.16	-9.99	-0.97	-1.20	69.00	52.01	44.23	53.44	59.59	59.62	60 dBA:	**204**	**221**
				Total:	**71.93**	**65.69**	**64.23**	**59.52**	**67.44**	**67.97**	55 dBA:	**439**	**476**

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

Scenario: EXISTING WITH PROJECT CONDITIONS **Project: LAC SASC**

Site Conditions: Soft

Road Name: Conant Street **Segment: East of Clark Avenue**

Average Daily Traffic: 2440 Vehicles Vehicle Speed: 30 MPH Vehicle Mix: 1 Roadway Classification: Connector

	NOISE PARAMETERS AT 55 FEET FROM CENTERLINE (Equiv. Lane Dist: 52.62 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	62.51	-6.32	-0.44	-1.20	54.56	52.44	51.12	45.11	53.53	54.16	70 dBA:	**4**	**5**
Medium Trucks	73.11	-23.55	-0.44	-1.20	47.92	26.67	32.69	14.40	27.55	30.30	65 dBA:	**10**	**10**
Heavy Trucks	80.26	-27.51	-0.44	-1.20	51.11	25.76	22.36	27.01	33.21	33.31	60 dBA:	**21**	**23**
				Total:	**56.79**	**52.46**	**51.19**	**45.18**	**53.58**	**54.21**	55 dBA:	**44**	**49**

Road Name: Wardlow Road **Segment: East of Clark Avenue**

Average Daily Traffic: 11580 Vehicles Vehicle Speed: 35 MPH Vehicle Mix: 1 Roadway Classification: Minor Avenue

	NOISE PARAMETERS AT 60 FEET FROM CENTERLINE (Equiv. Lane Dist: 54.99 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	65.11	-0.22	-0.72	-1.20	62.96	60.84	59.53	53.52	61.94	62.56	70 dBA:	**17**	**19**
Medium Trucks	74.83	-17.46	-0.72	-1.20	55.44	34.19	40.22	21.92	35.07	37.82	65 dBA:	**38**	**41**
Heavy Trucks	80.05	-21.42	-0.72	-1.20	56.71	31.36	27.96	32.60	38.80	38.90	60 dBA:	**81**	**89**
				Total:	**64.47**	**60.86**	**59.58**	**53.55**	**61.97**	**62.60**	55 dBA:	**175**	**193**

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

Scenario: OPENING YEAR 2029 WITHOUT PROJECT CONDITIONS **Project: LAC SASC**

Site Conditions: Soft

	Vehicle Mix 1 (Local)				Vehicle Mix 2 (Arterial)				Vehicle Mix 3 (SR-19)			
Vehicle Type	Day	Evening	Night	Daily	Day	Evening	Night	Daily	Day	Evenin	Night	Daily
Automobiles	73.60%	13.60%	10.22%	97.42%	69.50%	12.90%	9.60%	92.00%	64.20%	13.16%	15.39%	92.75%
Medium Trucks	0.90%	0.90%	0.04%	1.84%	1.44%	0.06%	1.50%	3.00%	2.06%	0.37%	1.04%	3.48%
Heavy Trucks	0.35%	0.04%	0.35%	0.74%	2.40%	0.10%	2.50%	5.00%	2.06%	0.20%	1.51%	3.77%

Road Name: Lakewood Boulevard **Segment: North of Carson Street**

Average Daily Traffic: 29820 Vehicles Vehicle Speed: 40 MPH Vehicle Mix: 2 Roadway Classification: Regional Corridor

	NOISE PARAMETERS AT 60 FEET FROM CENTERLINE (Equiv. Lane Dist: 51.37 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	67.36	3.06	-0.28	-1.20	68.94	66.57	65.27	59.22	67.65	68.28	70 dBA:	**48**	**52**
Medium Trucks	76.31	-11.81	-0.28	-1.20	63.02	43.82	36.03	45.24	51.40	51.43	65 dBA:	**103**	**112**
Heavy Trucks	81.16	-9.59	-0.28	-1.20	70.09	53.10	45.32	54.53	60.68	60.71	60 dBA:	**222**	**241**
				Total:	**73.02**	**66.78**	**65.32**	**60.61**	**68.53**	**69.06**	55 dBA:	**479**	**519**

Road Name: Clark Avenue **Segment: North of Carson Street**

Average Daily Traffic: 16340 Vehicles Vehicle Speed: 35 MPH Vehicle Mix: 1 Roadway Classification: Minor Avenue

	NOISE PARAMETERS AT 55 FEET FROM CENTERLINE (Equiv. Lane Dist: 49.49 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	65.11	1.27	-0.04	-1.20	65.15	63.02	61.71	55.70	64.12	64.75	70 dBA:	**22**	**25**
Medium Trucks	74.83	-15.97	-0.04	-1.20	57.63	36.38	42.40	24.10	37.25	40.00	65 dBA:	**48**	**53**
Heavy Trucks	80.05	-19.92	-0.04	-1.20	58.89	33.54	30.14	34.79	40.99	41.08	60 dBA:	**104**	**115**
				Total:	**66.65**	**63.04**	**61.76**	**55.74**	**64.15**	**64.78**	55 dBA:	**224**	**247**

Road Name: Clark Avenue **Segment: North of Lew Davis Street**

Average Daily Traffic: 20820 Vehicles Vehicle Speed: 40 MPH Vehicle Mix: 1 Roadway Classification: Minor Avenue

	NOISE PARAMETERS AT 55 FEET FROM CENTERLINE (Equiv. Lane Dist: 49.49 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	67.36	1.75	-0.04	-1.20	67.87	65.75	64.43	58.42	66.84	67.47	70 dBA:	**34**	**37**
Medium Trucks	76.31	-15.49	-0.04	-1.20	59.58	38.33	44.35	26.06	39.21	41.96	65 dBA:	**73**	**81**
Heavy Trucks	81.16	-19.45	-0.04	-1.20	60.47	35.12	31.72	36.37	42.57	42.67	60 dBA:	**158**	**174**
				Total:	**69.11**	**65.76**	**64.48**	**58.45**	**66.86**	**67.49**	55 dBA:	**340**	**374**

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

Scenario: OPENING YEAR 2029 WITHOUT PROJECT CONDITIONS **Project: LAC SASC**

Site Conditions: Soft

Road Name: Clark Avenue **Segment: South of Lew Davis Street**

Average Daily Traffic: 19690 Vehicles Vehicle Speed: 40 MPH Vehicle Mix: 1 Roadway Classification: Minor Avenue

	NOISE PARAMETERS AT 70 FEET FROM CENTERLINE (Equiv. Lane Dist: 65.76 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	67.36	1.50	-1.89	-1.20	65.77	63.65	62.34	56.33	64.75	65.37	70 dBA:	**31**	**35**
Medium Trucks	76.31	-15.74	-1.89	-1.20	57.49	36.24	42.26	23.97	37.11	39.86	65 dBA:	**68**	**74**
Heavy Trucks	81.16	-19.69	-1.89	-1.20	58.38	33.03	29.63	34.28	40.48	40.57	60 dBA:	**146**	**160**
				Total:	**67.02**	**63.66**	**62.38**	**56.36**	**64.77**	**65.40**	55 dBA:	**314**	**345**

Road Name: Clark Avenue **Segment: South of Conant Street**

Average Daily Traffic: 20630 Vehicles Vehicle Speed: 40 MPH Vehicle Mix: 1 Roadway Classification: Minor Avenue

	NOISE PARAMETERS AT 105 FEET FROM CENTERLINE (Equiv. Lane Dist: 102.22 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	67.36	1.71	-4.76	-1.20	63.10	60.98	59.67	53.66	62.08	62.70	70 dBA:	**31**	**34**
Medium Trucks	76.31	-15.53	-4.76	-1.20	54.82	33.57	39.59	21.30	34.44	37.19	65 dBA:	**67**	**74**
Heavy Trucks	81.16	-19.49	-4.76	-1.20	55.71	30.36	26.96	31.61	37.81	37.90	60 dBA:	**145**	**160**
				Total:	**64.34**	**60.99**	**59.71**	**53.69**	**62.10**	**62.73**	55 dBA:	**312**	**344**

Road Name: Clark Avenue **Segment: South of Wardlow Road**

Average Daily Traffic: 19010 Vehicles Vehicle Speed: 40 MPH Vehicle Mix: 1 Roadway Classification: Minor Avenue

	NOISE PARAMETERS AT 110 FEET FROM CENTERLINE (Equiv. Lane Dist: 107.35 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	67.36	1.35	-5.08	-1.20	62.43	60.31	58.99	52.98	61.40	62.03	70 dBA:	**29**	**32**
Medium Trucks	76.31	-15.89	-5.08	-1.20	54.14	32.89	38.92	20.62	33.77	36.52	65 dBA:	**64**	**70**
Heavy Trucks	81.16	-19.84	-5.08	-1.20	55.03	29.68	26.28	30.93	37.13	37.23	60 dBA:	**137**	**151**
				Total:	**63.67**	**60.32**	**59.04**	**53.01**	**61.42**	**62.05**	55 dBA:	**295**	**325**

Road Name: Bellflower Boulevard **Segment: North of Carson Street**

Average Daily Traffic: 22180 Vehicles Vehicle Speed: 40 MPH Vehicle Mix: 2 Roadway Classification: Boulevard

	NOISE PARAMETERS AT 85 FEET FROM CENTERLINE (Equiv. Lane Dist: 79.9 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	67.36	1.77	-3.16	-1.20	64.77	62.40	61.11	55.05	63.49	64.12	70 dBA:	**36**	**39**
Medium Trucks	76.31	-13.10	-3.16	-1.20	58.86	39.65	31.87	41.08	47.23	47.27	65 dBA:	**77**	**84**
Heavy Trucks	81.16	-10.88	-3.16	-1.20	65.93	48.94	41.15	50.36	56.52	56.55	60 dBA:	**166**	**180**
				Total:	**68.86**	**62.62**	**61.16**	**56.45**	**64.37**	**64.89**	55 dBA:	**358**	**388**

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

Scenario: OPENING YEAR 2029 WITHOUT PROJECT CONDITIONS **Project: LAC SASC**

Site Conditions: Soft

Road Name: Carson Street **Segment: West of Lakewood Boulevard**

Average Daily Traffic: 31630 Vehicles Vehicle Speed: 40 MPH Vehicle Mix: 2 Roadway Classification: Major Avenue

	NOISE PARAMETERS AT 60 FEET FROM CENTERLINE (Equiv. Lane Dist: 51.37 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	67.36	3.31	-0.28	-1.20	69.19	66.82	65.53	59.47	67.91	68.54	70 dBA:	**50**	**54**
Medium Trucks	76.31	-11.55	-0.28	-1.20	63.28	44.07	36.29	45.50	51.65	51.69	65 dBA:	**107**	**116**
Heavy Trucks	81.16	-9.34	-0.28	-1.20	70.34	53.35	45.57	54.78	60.94	60.97	60 dBA:	**231**	**251**
				Total:	**73.28**	**67.03**	**65.58**	**60.87**	**68.79**	**69.31**	55 dBA:	**498**	**540**

Road Name: Carson Street **Segment: West of Faculty Avenue**

Average Daily Traffic: 27970 Vehicles Vehicle Speed: 40 MPH Vehicle Mix: 2 Roadway Classification: Major Avenue

	NOISE PARAMETERS AT 55 FEET FROM CENTERLINE (Equiv. Lane Dist: 45.43 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	67.36	2.78	0.52	-1.20	69.46	67.09	65.79	59.74	68.17	68.80	70 dBA:	**48**	**52**
Medium Trucks	76.31	-12.09	0.52	-1.20	63.55	44.34	36.56	45.76	51.92	51.95	65 dBA:	**102**	**111**
Heavy Trucks	81.16	-9.87	0.52	-1.20	70.61	53.62	45.84	55.05	61.20	61.24	60 dBA:	**221**	**239**
				Total:	**73.54**	**67.30**	**65.84**	**61.14**	**69.05**	**69.58**	55 dBA:	**475**	**516**

Road Name: Carson Street **Segment: East of Clark Avenue**

Average Daily Traffic: 27650 Vehicles Vehicle Speed: 40 MPH Vehicle Mix: 2 Roadway Classification: Major Avenue

	NOISE PARAMETERS AT 60 FEET FROM CENTERLINE (Equiv. Lane Dist: 51.37 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	67.36	2.73	-0.28	-1.20	68.61	66.24	64.94	58.89	67.32	67.95	70 dBA:	**46**	**49**
Medium Trucks	76.31	-12.14	-0.28	-1.20	62.70	43.49	35.71	44.91	51.07	51.10	65 dBA:	**98**	**106**
Heavy Trucks	81.16	-9.92	-0.28	-1.20	69.76	52.77	44.99	54.20	60.35	60.39	60 dBA:	**211**	**229**
				Total:	**72.69**	**66.45**	**64.99**	**60.29**	**68.20**	**68.73**	55 dBA:	**455**	**494**

Road Name: Carson Boulevard **Segment: East of Bellflower Boulevard**

Average Daily Traffic: 28580 Vehicles Vehicle Speed: 40 MPH Vehicle Mix: 2 Roadway Classification: Major Avenue

	NOISE PARAMETERS AT 65 FEET FROM CENTERLINE (Equiv. Lane Dist: 57.13 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	67.36	2.87	-0.97	-1.20	68.06	65.69	64.40	58.34	66.77	67.40	70 dBA:	**45**	**49**
Medium Trucks	76.31	-11.99	-0.97	-1.20	62.15	42.94	35.16	44.37	50.52	50.55	65 dBA:	**98**	**106**
Heavy Trucks	81.16	-9.78	-0.97	-1.20	69.21	52.22	44.44	53.65	59.80	59.84	60 dBA:	**210**	**228**
				Total:	**72.14**	**65.90**	**64.44**	**59.74**	**67.65**	**68.18**	55 dBA:	**453**	**492**

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

Scenario: OPENING YEAR 2029 WITHOUT PROJECT CONDITIONS **Project: LAC SASC**

Site Conditions: Soft

Road Name: Conant Street **Segment: East of Clark Avenue**

Average Daily Traffic: 2580 Vehicles Vehicle Speed: 30 MPH Vehicle Mix: 1 Roadway Classification: Connector

	NOISE PARAMETERS AT 55 FEET FROM CENTERLINE (Equiv. Lane Dist: 52.62 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	62.51	-6.07	-0.44	-1.20	54.80	52.68	51.37	45.35	53.77	54.40	70 dBA:	**5**	**5**
Medium Trucks	73.11	-23.31	-0.44	-1.20	48.17	26.92	32.94	14.64	27.79	30.54	65 dBA:	**10**	**11**
Heavy Trucks	80.26	-27.27	-0.44	-1.20	51.36	26.01	22.61	27.25	33.45	33.55	60 dBA:	**21**	**23**
				Total:	**57.03**	**52.70**	**51.43**	**45.42**	**53.82**	**54.45**	55 dBA:	**46**	**51**

Road Name: Wardlow Road **Segment: East of Clark Avenue**

Average Daily Traffic: 12140 Vehicles Vehicle Speed: 35 MPH Vehicle Mix: 1 Roadway Classification: Minor Avenue

	NOISE PARAMETERS AT 60 FEET FROM CENTERLINE (Equiv. Lane Dist: 54.99 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	65.11	-0.02	-0.72	-1.20	63.17	61.05	59.73	53.72	62.14	62.77	70 dBA:	**18**	**20**
Medium Trucks	74.83	-17.26	-0.72	-1.20	55.65	34.40	40.42	22.13	35.27	38.02	65 dBA:	**39**	**43**
Heavy Trucks	80.05	-21.21	-0.72	-1.20	56.91	31.56	28.16	32.81	39.01	39.10	60 dBA:	**84**	**92**
				Total:	**64.67**	**61.06**	**59.79**	**53.76**	**62.17**	**62.80**	55 dBA:	**180**	**199**

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

Scenario: OPENING YEAR 2029 WITH PROJECT CONDITIONS **Project: LAC SASC**

Site Conditions: Soft

	Vehicle Mix 1 (Local)				Vehicle Mix 2 (Arterial)				Vehicle Mix 3 (SR-19)			
Vehicle Type	Day	Evening	Night	Daily	Day	Evening	Night	Daily	Day	Evenin	Night	Daily
Automobiles	73.60%	13.60%	10.22%	97.42%	69.50%	12.90%	9.60%	92.00%	64.20%	13.16%	15.39%	92.75%
Medium Trucks	0.90%	0.90%	0.04%	1.84%	1.44%	0.06%	1.50%	3.00%	2.06%	0.37%	1.04%	3.48%
Heavy Trucks	0.35%	0.04%	0.35%	0.74%	2.40%	0.10%	2.50%	5.00%	2.06%	0.20%	1.51%	3.77%

Road Name: Lakewood Boulevard **Segment: North of Carson Street**

Average Daily Traffic: 29910 Vehicles Vehicle Speed: 40 MPH Vehicle Mix: 2 Roadway Classification: Regional Corridor

	NOISE PARAMETERS AT 60 FEET FROM CENTERLINE (Equiv. Lane Dist: 51.37 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	67.36	3.07	-0.28	-1.20	68.95	66.58	65.29	59.23	67.66	68.29	70 dBA:	**48**	**52**
Medium Trucks	76.31	-11.80	-0.28	-1.20	63.04	43.83	36.05	45.25	51.41	51.44	65 dBA:	**103**	**112**
Heavy Trucks	81.16	-9.58	-0.28	-1.20	70.10	53.11	45.33	54.54	60.69	60.73	60 dBA:	**223**	**241**
				Total:	**73.03**	**66.79**	**65.33**	**60.63**	**68.54**	**69.07**	55 dBA:	**480**	**520**

Road Name: Clark Avenue **Segment: North of Carson Street**

Average Daily Traffic: 16370 Vehicles Vehicle Speed: 35 MPH Vehicle Mix: 1 Roadway Classification: Minor Avenue

	NOISE PARAMETERS AT 55 FEET FROM CENTERLINE (Equiv. Lane Dist: 49.49 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	65.11	1.28	-0.04	-1.20	65.15	63.03	61.72	55.71	64.13	64.75	70 dBA:	**22**	**25**
Medium Trucks	74.83	-15.96	-0.04	-1.20	57.63	36.39	42.41	24.11	37.26	40.01	65 dBA:	**48**	**53**
Heavy Trucks	80.05	-19.91	-0.04	-1.20	58.90	33.55	30.15	34.79	40.99	41.09	60 dBA:	**104**	**115**
				Total:	**66.66**	**63.05**	**61.77**	**55.74**	**64.16**	**64.79**	55 dBA:	**224**	**247**

Road Name: Clark Avenue **Segment: North of Lew Davis Street**

Average Daily Traffic: 21010 Vehicles Vehicle Speed: 40 MPH Vehicle Mix: 1 Roadway Classification: Minor Avenue

	NOISE PARAMETERS AT 55 FEET FROM CENTERLINE (Equiv. Lane Dist: 49.49 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	67.36	1.78	-0.04	-1.20	67.91	65.79	64.47	58.46	66.88	67.51	70 dBA:	**34**	**38**
Medium Trucks	76.31	-15.45	-0.04	-1.20	59.62	38.37	44.39	26.10	39.25	42.00	65 dBA:	**74**	**81**
Heavy Trucks	81.16	-19.41	-0.04	-1.20	60.51	35.16	31.76	36.41	42.61	42.71	60 dBA:	**159**	**175**
				Total:	**69.15**	**65.80**	**64.52**	**58.49**	**66.90**	**67.53**	55 dBA:	**342**	**377**

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

Scenario: OPENING YEAR 2029 WITH PROJECT CONDITIONS **Project: LAC SASC**

Site Conditions: Soft

Road Name: Clark Avenue **Segment: South of Lew Davis Street**

Average Daily Traffic: 19790 Vehicles Vehicle Speed: 40 MPH Vehicle Mix: 1 Roadway Classification: Minor Avenue

	NOISE PARAMETERS AT 70 FEET FROM CENTERLINE (Equiv. Lane Dist: 65.76 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	67.36	1.52	-1.89	-1.20	65.80	63.67	62.36	56.35	64.77	65.40	70 dBA:	**31**	**35**
Medium Trucks	76.31	-15.71	-1.89	-1.20	57.51	36.26	42.28	23.99	37.13	39.89	65 dBA:	**68**	**75**
Heavy Trucks	81.16	-19.67	-1.89	-1.20	58.40	33.05	29.65	34.30	40.50	40.60	60 dBA:	**146**	**161**
				Total:	**67.04**	**63.69**	**62.41**	**56.38**	**64.79**	**65.42**	55 dBA:	**315**	**347**

Road Name: Clark Avenue **Segment: South of Conant Street**

Average Daily Traffic: 20730 Vehicles Vehicle Speed: 40 MPH Vehicle Mix: 1 Roadway Classification: Minor Avenue

	NOISE PARAMETERS AT 105 FEET FROM CENTERLINE (Equiv. Lane Dist: 102.22 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	67.36	1.73	-4.76	-1.20	63.12	61.00	59.69	53.68	62.10	62.72	70 dBA:	**31**	**35**
Medium Trucks	76.31	-15.51	-4.76	-1.20	54.84	33.59	39.61	21.32	34.46	37.21	65 dBA:	**67**	**74**
Heavy Trucks	81.16	-19.47	-4.76	-1.20	55.73	30.38	26.98	31.63	37.83	37.92	60 dBA:	**145**	**160**
				Total:	**64.37**	**61.01**	**59.73**	**53.71**	**62.12**	**62.75**	55 dBA:	**313**	**345**

Road Name: Clark Avenue **Segment: South of Wardlow Road**

Average Daily Traffic: 19040 Vehicles Vehicle Speed: 40 MPH Vehicle Mix: 1 Roadway Classification: Minor Avenue

	NOISE PARAMETERS AT 110 FEET FROM CENTERLINE (Equiv. Lane Dist: 107.35 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	67.36	1.36	-5.08	-1.20	62.44	60.31	59.00	52.99	61.41	62.03	70 dBA:	**30**	**33**
Medium Trucks	76.31	-15.88	-5.08	-1.20	54.15	32.90	38.92	20.63	33.77	36.52	65 dBA:	**64**	**70**
Heavy Trucks	81.16	-19.84	-5.08	-1.20	55.04	29.69	26.29	30.94	37.14	37.23	60 dBA:	**137**	**151**
				Total:	**63.68**	**60.32**	**59.05**	**53.02**	**61.43**	**62.06**	55 dBA:	**295**	**325**

Road Name: Bellflower Boulevard **Segment: North of Carson Street**

Average Daily Traffic: 22230 Vehicles Vehicle Speed: 40 MPH Vehicle Mix: 2 Roadway Classification: Boulevard

	NOISE PARAMETERS AT 85 FEET FROM CENTERLINE (Equiv. Lane Dist: 79.9 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	67.36	1.78	-3.16	-1.20	64.78	62.41	61.12	55.06	63.50	64.13	70 dBA:	**36**	**39**
Medium Trucks	76.31	-13.09	-3.16	-1.20	58.87	39.66	31.88	41.09	47.24	47.28	65 dBA:	**77**	**84**
Heavy Trucks	81.16	-10.87	-3.16	-1.20	65.94	48.95	41.16	50.37	56.53	56.56	60 dBA:	**166**	**180**
				Total:	**68.87**	**62.63**	**61.17**	**56.46**	**64.38**	**64.90**	55 dBA:	**359**	**389**

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

Scenario: OPENING YEAR 2029 WITH PROJECT CONDITIONS **Project: LAC SASC**

Site Conditions: Soft

Road Name: Carson Street **Segment: West of Lakewood Boulevard**

Average Daily Traffic: 31750 Vehicles Vehicle Speed: 40 MPH Vehicle Mix: 2 Roadway Classification: Major Avenue

	NOISE PARAMETERS AT 60 FEET FROM CENTERLINE (Equiv. Lane Dist: 51.37 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	67.36	3.33	-0.28	-1.20	69.21	66.84	65.54	59.49	67.92	68.55	70 dBA:	**50**	**54**
Medium Trucks	76.31	-11.54	-0.28	-1.20	63.30	44.09	36.31	45.51	51.67	51.70	65 dBA:	**108**	**117**
Heavy Trucks	81.16	-9.32	-0.28	-1.20	70.36	53.37	45.59	54.80	60.95	60.99	60 dBA:	**232**	**251**
				Total:	**73.29**	**67.05**	**65.59**	**60.89**	**68.80**	**69.33**	55 dBA:	**499**	**541**

Road Name: Carson Street **Segment: West of Faculty Avenue**

Average Daily Traffic: 28000 Vehicles Vehicle Speed: 40 MPH Vehicle Mix: 2 Roadway Classification: Major Avenue

	NOISE PARAMETERS AT 55 FEET FROM CENTERLINE (Equiv. Lane Dist: 45.43 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	67.36	2.78	0.52	-1.20	69.46	67.09	65.80	59.74	68.18	68.81	70 dBA:	**48**	**52**
Medium Trucks	76.31	-12.08	0.52	-1.20	63.55	44.34	36.56	45.77	51.92	51.96	65 dBA:	**103**	**111**
Heavy Trucks	81.16	-9.86	0.52	-1.20	70.62	53.63	45.84	55.05	61.21	61.24	60 dBA:	**221**	**239**
				Total:	**73.55**	**67.31**	**65.85**	**61.14**	**69.06**	**69.58**	55 dBA:	**476**	**516**

Road Name: Carson Street **Segment: East of Clark Avenue**

Average Daily Traffic: 27780 Vehicles Vehicle Speed: 40 MPH Vehicle Mix: 2 Roadway Classification: Major Avenue

	NOISE PARAMETERS AT 60 FEET FROM CENTERLINE (Equiv. Lane Dist: 51.37 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	67.36	2.75	-0.28	-1.20	68.63	66.26	64.96	58.91	67.34	67.97	70 dBA:	**46**	**50**
Medium Trucks	76.31	-12.12	-0.28	-1.20	62.72	43.51	35.73	44.93	51.09	51.12	65 dBA:	**98**	**107**
Heavy Trucks	81.16	-9.90	-0.28	-1.20	69.78	52.79	45.01	54.22	60.37	60.41	60 dBA:	**212**	**230**
				Total:	**72.71**	**66.47**	**65.01**	**60.31**	**68.22**	**68.75**	55 dBA:	**457**	**495**

Road Name: Carson Boulevard **Segment: East of Bellflower Boulevard**

Average Daily Traffic: 28670 Vehicles Vehicle Speed: 40 MPH Vehicle Mix: 2 Roadway Classification: Major Avenue

	NOISE PARAMETERS AT 65 FEET FROM CENTERLINE (Equiv. Lane Dist: 57.13 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	67.36	2.89	-0.97	-1.20	68.07	65.70	64.41	58.35	66.79	67.42	70 dBA:	**45**	**49**
Medium Trucks	76.31	-11.98	-0.97	-1.20	62.16	42.95	35.17	44.38	50.53	50.57	65 dBA:	**98**	**106**
Heavy Trucks	81.16	-9.76	-0.97	-1.20	69.23	52.24	44.45	53.66	59.82	59.85	60 dBA:	**211**	**229**
				Total:	**72.16**	**65.92**	**64.46**	**59.75**	**67.67**	**68.19**	55 dBA:	**454**	**493**

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

Scenario: OPENING YEAR 2029 WITH PROJECT CONDITIONS **Project: LAC SASC**

Site Conditions: Soft

Road Name: Conant Street **Segment: East of Clark Avenue**

Average Daily Traffic: 2610 Vehicles Vehicle Speed: 30 MPH Vehicle Mix: 1 Roadway Classification: Connector

	NOISE PARAMETERS AT 55 FEET FROM CENTERLINE (Equiv. Lane Dist: 52.62 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	62.51	-6.02	-0.44	-1.20	54.85	52.73	51.42	45.40	53.82	54.45	70 dBA:	**5**	**5**
Medium Trucks	73.11	-23.26	-0.44	-1.20	48.22	26.97	32.99	14.69	27.84	30.59	65 dBA:	**10**	**11**
Heavy Trucks	80.26	-27.22	-0.44	-1.20	51.41	26.06	22.66	27.30	33.50	33.60	60 dBA:	**21**	**24**
				Total:	**57.08**	**52.75**	**51.48**	**45.47**	**53.88**	**54.50**	55 dBA:	**46**	**51**

Road Name: Wardlow Road **Segment: East of Clark Avenue**

Average Daily Traffic: 12210 Vehicles Vehicle Speed: 35 MPH Vehicle Mix: 1 Roadway Classification: Minor Avenue

	NOISE PARAMETERS AT 60 FEET FROM CENTERLINE (Equiv. Lane Dist: 54.99 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	65.11	0.01	-0.72	-1.20	63.19	61.07	59.76	53.75	62.17	62.79	70 dBA:	**18**	**20**
Medium Trucks	74.83	-17.23	-0.72	-1.20	55.67	34.42	40.45	22.15	35.30	38.05	65 dBA:	**39**	**43**
Heavy Trucks	80.05	-21.19	-0.72	-1.20	56.94	31.59	28.19	32.83	39.03	39.13	60 dBA:	**84**	**93**
				Total:	**64.70**	**61.09**	**59.81**	**53.78**	**62.20**	**62.83**	55 dBA:	**181**	**199**

APPENDIX E

Operational Reference Noise Measurements Printouts

General Information

Serial Number	02509
Model	831
Firmware Version	2.314
Filename	831_Data.003
User	GT
Job Description	Avalon K-12 Modernization
Location	On North Side of Falls Cyn Rd across from Gymnasium
Measurement Description	
Start Time	Monday, 2019 April 29 09:58:51
Stop Time	Monday, 2019 April 29 10:08:51
Duration	00:10:00.0
Run Time	00:10:00.0
Pause	00:00:00.0
Pre Calibration	Monday, 2019 April 29 09:04:32
Post Calibration	None
Calibration Deviation	---

Note

Noise from kids during recess getting snacks and playing inside of Gym Building
62 F, 29.67 in Hg, 78% Hu, 2 mph wind, cloudy

Overall Data

LAeq		57.4	dB
LASmax	2019 Apr 29 10:04:09	78.5	dB
LApeak (max)	2019 Apr 29 10:04:09	92.4	dB
LASmin	2019 Apr 29 09:59:19	41.6	dB
LCeq		59.9	dB
LAeq		57.4	dB
LCeq - LAeq		2.4	dB
LAIeq		63.2	dB
LAeq		57.4	dB
LAIeq - LAeq		5.8	dB
Ldn		57.4	dB
LDay 07:00-22:00		57.4	dB
LNight 22:00-07:00		---	dB
Lden		57.4	dB
LDay 07:00-19:00		57.4	dB
LEvening 19:00-22:00		---	dB
LNight 22:00-07:00		---	dB
LAE		85.2	dB
# Overloads		0	
Overload Duration		0.0	s
# OBA Overloads		0	
OBA Overload Duration		0.0	s

Statistics

LAS5.00	61.2	dBA
LAS10.00	58.2	dBA
LAS33.30	53.3	dBA
LAS50.00	51.4	dBA
LAS66.60	49.9	dBA
LAS90.00	47.4	dBA
LAS > 65.0 dB (Exceedence Counts / Duration)	5 / 19.8	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	Low	
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	75.7	dB
Noise Floor	17.0	dB
Overload	143.3	dB

1/1 Spectra

Freq. (Hz):	8.0	16.0	31.5	63.0	125	250	500	1k	2k	4k	8k	16k
LZeq	54.6	54.0	52.3	50.9	49.8	48.4	51.3	55.3	49.2	43.5	36.6	25.7
LZSmax	78.5	73.0	72.0	64.7	63.7	65.1	66.0	77.6	69.7	61.1	47.5	37.9
LZSmin	37.7	43.5	45.8	41.4	36.0	33.7	35.7	35.5	32.8	29.9	32.0	18.3

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	51.3	52.0	48.2	47.1	50.6	49.1	48.5	47.7	46.5	44.8	45.7	47.4
LZSmax	73.6	75.5	66.7	65.3	67.4	69.8	70.4	66.2	63.0	60.6	60.0	61.4
LZSmin	29.8	31.1	31.1	34.6	30.7	40.4	42.6	39.9	33.3	33.2	30.6	30.8

Freq. (Hz):	100	125	160	200	250	315	400	500	630	800	1k	1.25k
LZeq	46.7	45.3	41.7	41.4	43.2	45.6	45.4	47.0	47.0	48.8	53.3	46.5
LZSmax	62.5	61.5	60.0	59.7	60.7	61.5	61.4	60.5	62.7	68.5	77.1	65.4
LZSmin	25.1	33.2	24.1	24.9	28.2	26.1	29.8	33.9	30.6	29.1	31.0	28.3

Freq. (Hz):	1.6k	2k	2.5k	3.15k	4k	5k	6.3k	8k	10k	12.5k	16k	20k
LZeq	44.5	45.7	42.2	40.7	38.7	34.9	33.7	32.0	28.4	24.1	19.3	14.2
LZSmax	62.8	68.4	57.2	57.9	58.1	47.8	46.4	42.4	38.9	36.8	31.5	30.7
LZSmin	28.4	27.5	24.8	24.3	23.4	26.1	28.8	27.5	23.5	15.1	13.4	9.4

Calibration History

Preamp	Date	dB re. 1V/Pa
PRM831	29 Apr 2019 09:04:32	-25.7
PRM831	07 Feb 2019 12:06:19	-25.3
PRM831	07 Feb 2019 11:34:23	-25.9
PRM831	20 Dec 2018 10:51:31	-26.0
PRM831	17 Dec 2018 14:56:06	-26.1
PRM831	04 Dec 2018 09:35:01	-25.5
PRM831	16 Nov 2018 13:58:18	-25.8
PRM831	24 Oct 2018 13:08:44	-26.1
PRM831	12 Oct 2018 09:55:27	-25.9
PRM831	26 Sep 2018 15:49:25	-26.2
PRM831	21 Sep 2018 08:51:56	-25.6

Measurement Report

Report Summary

Meter's File Name	831_Data.004	Computer's File Name	SLM_0002509_831_Data_004.02.ldbin
Meter	831		
Firmware	2.314		
User	GT	Location	
Description	Riverside - The Motorcycle Company - Phase 3		
Note	On Roof - Approx 6 feet from HVAC Unit		
Start Time	2020-05-09 13:23:15	Duration	0:10:00.2
End Time	2020-05-09 13:33:15	Run Time	0:10:00.2
Pause Time	0:00:00.0		

Results

Overall Metrics

LA_{eq}	65.1 dB		
LAE	92.9 dB	SEA	--- dB
EA	214.7 µPa²h		
LZ_{peak}	106.4 dB	2020-05-09 13:25:40	
LAS_{max}	80.1 dB	2020-05-09 13:25:19	
LAS_{min}	55.1 dB	2020-05-09 13:30:14	
LA_{eq}	65.1 dB		
LC_{eq}	78.1 dB	LC_{eq} - LA_{eq}	13.0 dB
LAI_{eq}	68.9 dB	LAI_{eq} - LA_{eq}	3.8 dB

Exceedances	Count	Duration
LAS > 65.0 dB	16	0:02:46.5
LAS > 85.0 dB	0	0:00:00.0
LZpeak > 135.0 dB	0	0:00:00.0
LZpeak > 137.0 dB	0	0:00:00.0
LZpeak > 140.0 dB	0	0:00:00.0

Community Noise	LDN	LDay	LNight
	65.1 dB	65.1 dB	0.0 dB

	LDEN	LDay	LEve	LNight
	65.1 dB	65.1 dB	--- dB	--- dB

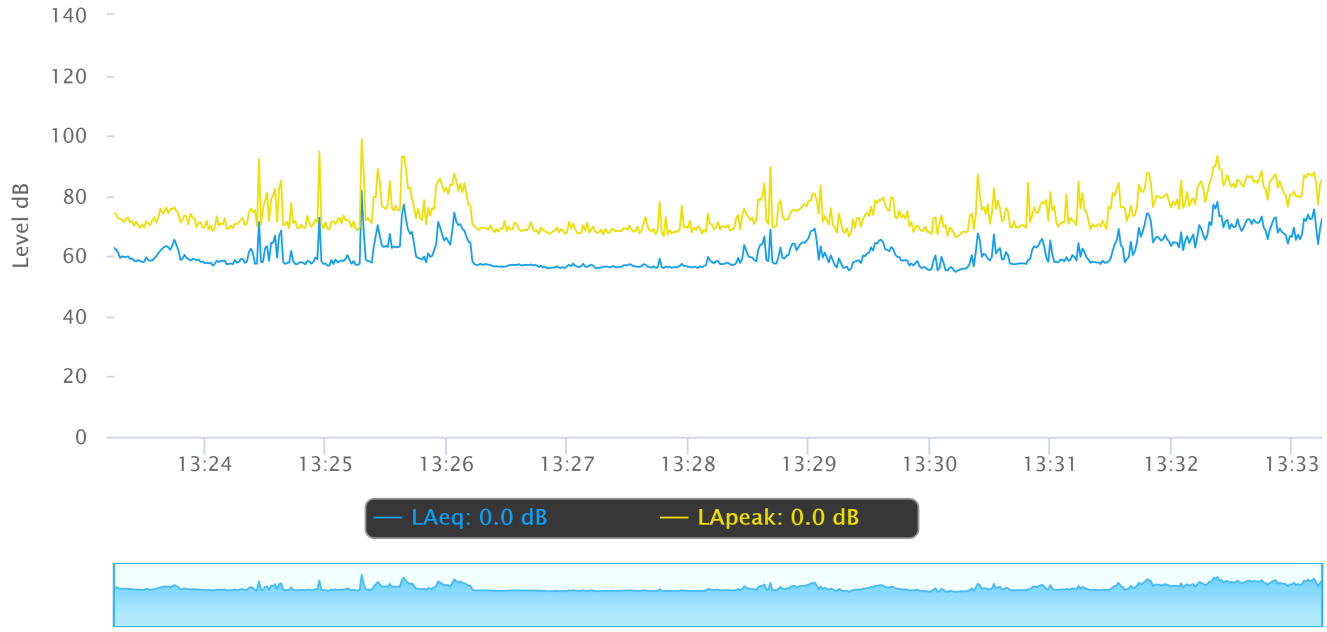
Any Data	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L_{eq}	65.1 dB		78.1 dB		80.9 dB	
$LS_{(max)}$	80.1 dB	2020-05-09 13:25:19	91.6 dB	2020-05-09 13:26:05	97.4 dB	2020-05-09 13:23:15
$LF_{(max)}$	84.7 dB	2020-05-09 13:25:18	95.4 dB	2020-05-09 13:25:40	97.5 dB	2020-05-09 13:23:15
$LI_{(max)}$	86.7 dB	2020-05-09 13:25:18	97.5 dB	2020-05-09 13:25:40	99.6 dB	2020-05-09 13:23:15
$LS_{(min)}$	55.1 dB	2020-05-09 13:30:14	64.7 dB	2020-05-09 13:30:02	67.4 dB	2020-05-09 13:28:06
$LF_{(min)}$	54.3 dB	2020-05-09 13:30:13	63.0 dB	2020-05-09 13:30:12	65.8 dB	2020-05-09 13:27:31
$LI_{(min)}$	54.6 dB	2020-05-09 13:30:13	65.0 dB	2020-05-09 13:30:02	68.0 dB	2020-05-09 13:27:59
$L_{Peak(max)}$	98.9 dB	2020-05-09 13:25:18	105.7 dB	2020-05-09 13:25:40	106.4 dB	2020-05-09 13:25:40

Overloads	Count	Duration	OBA Count	OBA Duration
	0	0:00:00.0	0	0:00:00.0

Statistics

LAS 5.0	71.5 dB
LAS 10.0	69.4 dB
LAS 33.3	62.7 dB
LAS 50.0	59.5 dB
LAS 66.6	58.1 dB
LAS 90.0	56.5 dB

Time History



OBA 1/1 Leq