Appendix M

Acoustical Assessment

Acoustical Assessment

South El Monte Athletic Fields and Business Park Project

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May 2025

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LIST OF ABBREVIATED TERMS

APN	Assessor's Parcel Number
ADT	Average daily traffic
dBA	A-weighted sound level
Caltrans	California Department of Transportation
CEQA	California Environmental Quality Act
CNEL	Community equivalent noise level
L_{dn}	Day-night noise level
dB	Decibel
L_{eq}	Equivalent noise level
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
HVAC	Heating ventilation and air conditioning
Hz	Hertz
in/sec	Inches per second
L_{max}	Maximum noise level
µPa	Micropascals
L_{min}	Minimum noise level
PPV	Peak particle velocity
RCNM	Roadway Construction Noise Model
RMS	Root mean square
STC	Sound transmission class
VdB	Vibration velocity level

1.0 INTRODUCTION

This report documents the results of an Acoustical Assessment completed for the South El Monte Athletic Fields and Business Park Project ("Project" or "proposed Project"). The purpose of this Acoustical Assessment is to evaluate the potential construction and operational noise and vibration levels associated with the Project and determine the level of impact the Project would have on the environment.

1.1 Project Location

The Project site is located at 825 Lexington-Gallatin Road in the City of South El Monte (City), County of Los Angeles (County), California. The Project site is located within the U.S. Army Corps of Engineers (USACE) reservoir flowage easement lands. The Project site involves the development of an approximately 21.17-acre vacant parcel (Assessor Parcel Number [APN] 8119-005-032). The Project site is in the southwest area of the City, approximately 200 feet to the south of State Route 60 (SR-60). Specifically, the site is bounded by SR-60 to the north, Santa Anita Avenue to the north and west, an undeveloped parcel to the east, and commercial uses and Lexington-Gallatin Road to the south/southeast; refer to Figure 1: Regional Map and Figure 2: Vicinity Map. Regional access would be provided via SR-60. Local access to the future warehouse component would be provided via Lexington-Gallatin Road. Local access to the future park component would be provided via Santa Anita Avenue.

The topography of the site generally slopes downward from the east to the west at a gradient of less than one percent with elevations ranging from 219 to 226 above mean sea level. The majority of the Project site is vacant with ruderal vegetation and exposed soil. There are remnants of a dilapidated building and concrete slab located along the southern boundary of the Project site.

1.2 Project Description

The Project proposes the development of a warehouse, park, and associated surface parking and landscaping; refer to Figure 3: Project Site Plan. The future warehouse component would encompass 10.20 acres of the eastern portion of the Project site. The future park component would be dedicated to the City and encompass approximately 10.97 acres of the northwestern portion of the Project site. The Project would include an approximately 70 feet in height digital billboard sign with two displays on the northern portion of the Project site within the future City park area.

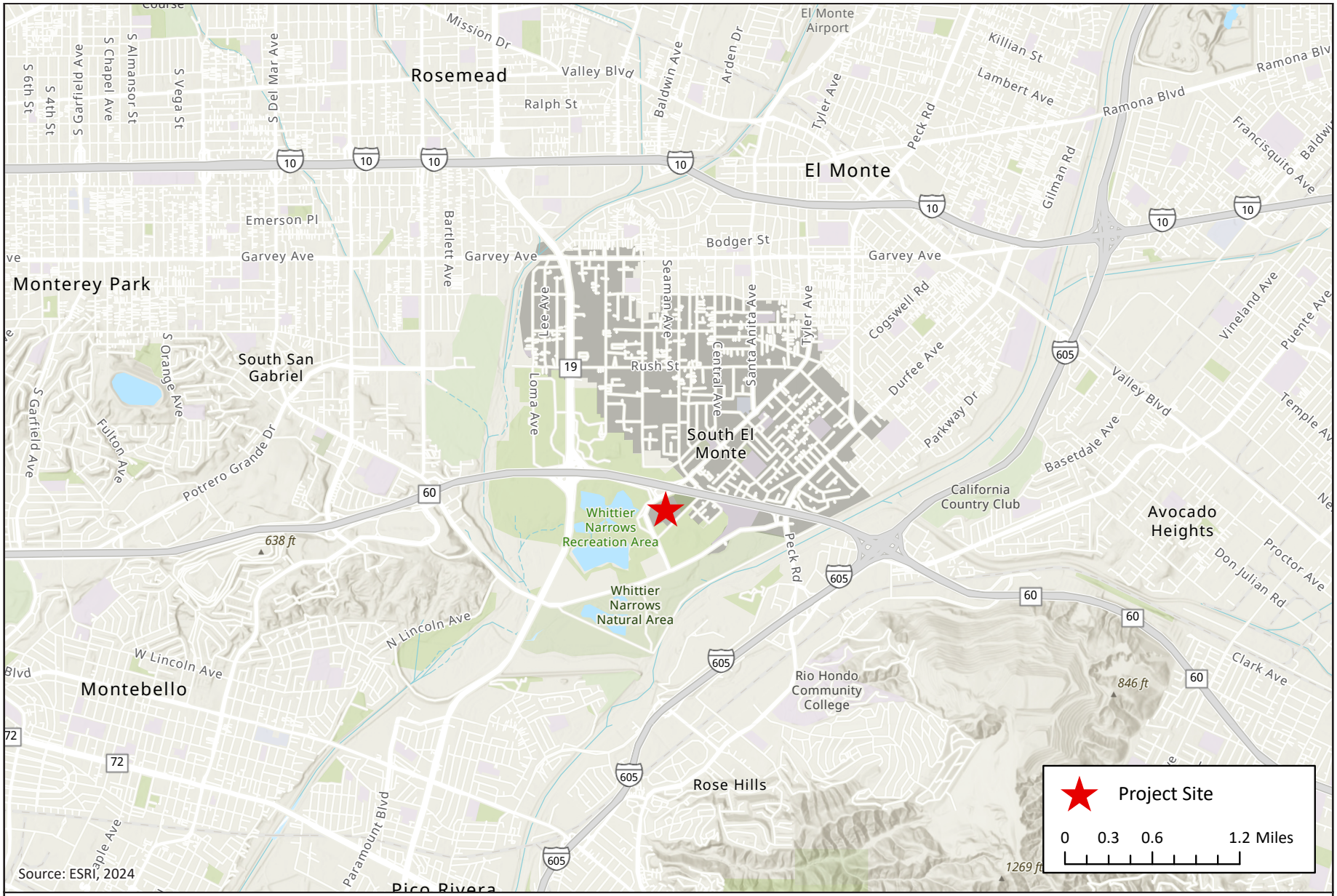

Figure 1: Regional Map

South El Monte Athletic Fields and Business Park Project

Not to scale

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Figure 2: Vicinity Map

South El Monte Athletic Fields and Business Park Project

Not to scale

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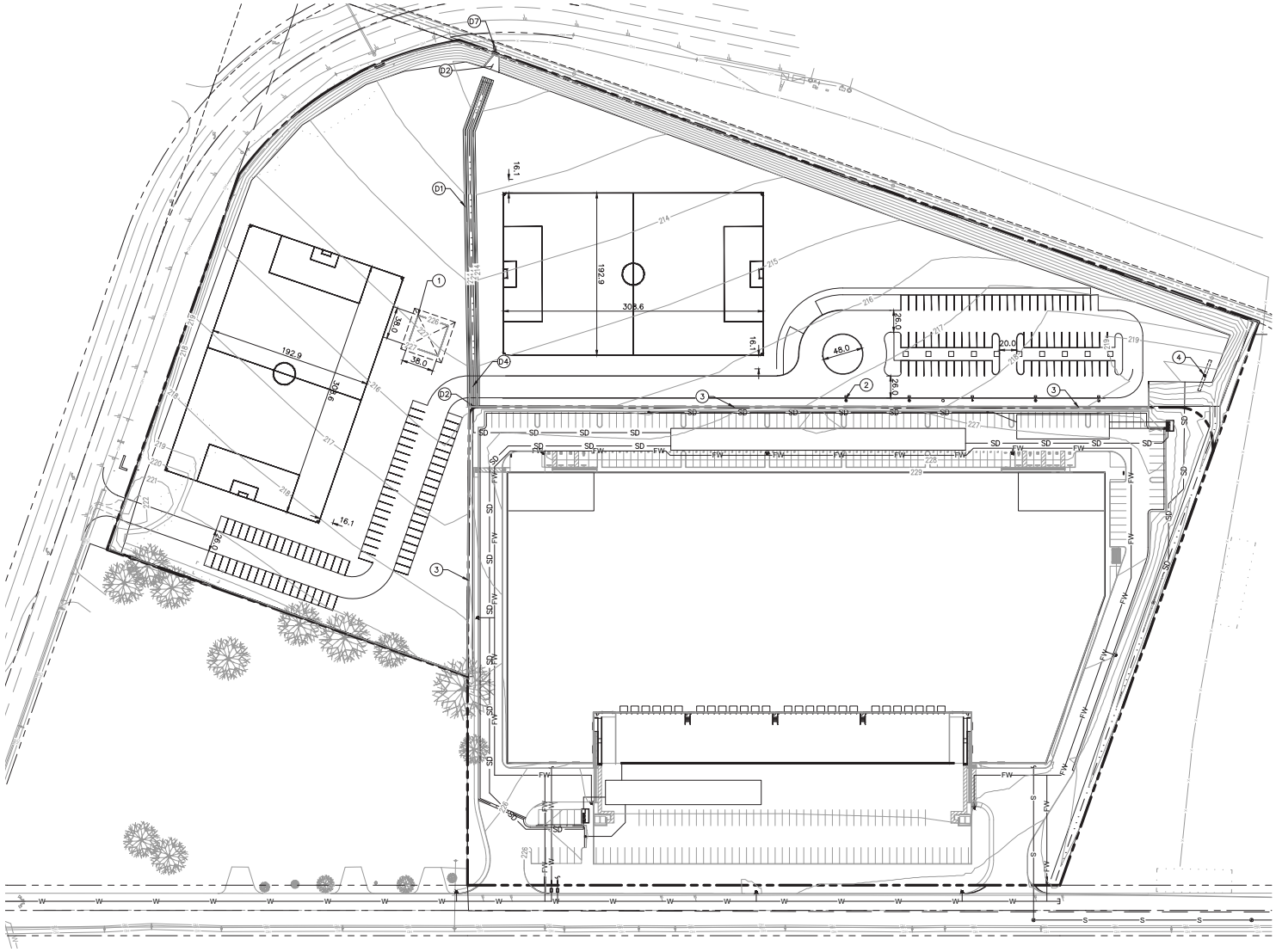

Source: Kimley-Horn and Associates, Inc., 2024

Figure 3: Project Site Plan

South El Monte Athletic Fields and Business Park Project

Not to scale

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Warehouse

The future warehouse would have approximately 201,815 square feet (sf) of warehouse space, 10,000 sf of ancillary office on the first floor, and 10,000 sf of ancillary office on the mezzanine level for a total 221,815 sf of building space; refer to Table 1: Building Site Summary. The warehouse would be a two-story concrete tilt up warehouse, approximately 45 feet in height. Truck and passenger vehicle access to the warehouse would be provided via two approximately 40-feet driveways on Lexington-Gallatin Road. The building would have a total of 277 passenger vehicle parking spaces located along the northwest and southeast sides of the building. The southeast parking lot would have 40 truck trailer parking spaces, allow access to the 27 dock doors, and be shielded by a 14-foot concrete screen wall. In addition, an 8-foot tall wrought iron fence would surround the perimeter of the warehouse site. The building would have 27 dock doors located along the southeast side of the building. The building frontage would be setback a minimum of approximately 5 feet from Lexington-Gallatin Road.

Table 1: Building Site Summary

Warehouse (sf)	Office (sf)	Office Mezzanine (sf)	Total Building (sf)	Dock Doors	Parking Stalls	
					Required	Provided
201,815	10,000	10,000	221,815	27	269	277
sf = square feet						

Landscaping

The Project would include landscaping along Lexington-Gallatin Road in front of the proposed screen wall, along the west elevation of the building, along the northeast and northwest property lines, and internal to the site. Landscaping would encompass 12.7 percent of the 10.2-acre business park component, approximately 56,470 sf.

City Park

The Project Applicant does not propose the construction or operation of the park; therefore, specific information regarding final design is not known at this time. This analysis conservatively analyzes the conceptual plan of the future City park, which includes two athletic fields, open lawn areas, public surface parking, restroom facilities, and site access via one driveway off Santa Anita Avenue. The future City park would conceptually have 154 parking spaces with safety and security lighting. The athletic fields would have stadium lighting. The lighting would be shielded to direct the source of light downward and prevent interference with highways and neighboring properties.

Off-Site Improvements

Off-site utility improvements would include sewer main and water main extensions. There is an existing sanitary sewer mainline located approximately 400 feet north of Lexington Gallatin Road at the intersection with Andrews Street. Project implementation would extend the existing sewer line south toward the northern boundary of the Project site on Lexington-Gallatin Road. Additionally, there is an existing water main in Durfee Avenue, approximately 0.3 miles south of the Project site.

Project implementation would require a main line extension on Santa Anita Avenue from Durfee Avenue to the Project site on Lexington-Gallatin Road to provide potable water service and fire protection to the site. Off-site improvements would occur within public right-of-way.

Wastewater collection for the future City park component of the Project would be provided via either a septic system or running a domestic sewer line through the warehouse component of the Project through a private easement.

General Plan Amendment and Zone Change

The Project would require a General Plan Amendment from the existing Commercial (C) designation to Commercial-Manufacturing (C-M), which would allow for the development of a warehouse use. The Project would also require a zone change from Commercial (C) to Manufacturing (M). Warehousing is a permitted use in the M zone.

Hours of Operation

The tenant(s) of the warehouse facility has not been identified; therefore, the precise nature of facility operations cannot be determined at this time. Any future occupant would be required to adhere to the pertinent City regulations. For the purposes of this analysis, the hours of operation are assumed to be 7 days a week, 24 hours per day.

Construction Activities

Based on assumptions provided by the Applicant, Project construction is anticipated to begin in October 2025 with a construction duration of approximately 12 months, see Appendix A: Noise Data for a breakdown of the construction schedule. Since information regarding the construction of the City park is not known at this time, it is conservatively assumed that construction of the warehouse component and City park component would occur simultaneously.

The Project proposes to demolish the building remnants and concrete slab located along the southern boundary of the Project site. To maintain the flood storage capacity of the reservoir, the Project proposes to excavate the park component to raise the finished grade of the warehouse component by approximately 229 feet, above the spillway activation elevation using the excavated material. The retention basin elevation within the future City park area would have a minimum elevation of approximately 213 feet. Grading activities would require approximately 17,300 cubic yards of export. Construction of the Project would require the following phases: demolition, site preparation, grading, infrastructure improvements, paving, building construction, and architectural coatings.

2.0 ACOUSTIC FUNDAMENTALS

2.1 Sound and Environmental Noise

Acoustics is the science of sound. Sound can be described as the mechanical energy of a vibrating object transmitted by pressure waves through a medium (e.g., air) to human (or animal) ear. If the pressure variations occur frequently enough (at least 20 times per second), they can be heard and are called sound. The number of pressure variations per second is called the frequency of sound and is expressed as cycles per second, or hertz (Hz).[1]

Noise is defined as loud, unexpected, or annoying sound.[2] The fundamental model consists of a noise source, a receptor, and the propagation path between the two.[3] The loudness of the noise source, obstructions, or atmospheric factors affecting the propagation path, determine the perceived sound level and noise characteristics at the receptor. Acoustics deal primarily with the propagation and control of sound.[4] A typical noise environment consists of ambient noise that is the sum of many distant and indistinguishable noise sources. Superimposed on this ambient noise is the sound from individual local sources. These sources can vary from an occasional aircraft or train passing by to continuous noise from traffic on a major highway. Perceptions of sound and noise are highly subjective from person to person.

Measuring sound directly in terms of pressure would require a large range of numbers. To avoid this, the decibel (dB) scale was devised. The dB scale uses the hearing threshold of 20 micro-pascals (µPa) as a point of reference, defined as 0 dB.[5] Other sound pressures are then compared to this reference pressure, and the logarithm is taken to keep the numbers in a practical range. The dB scale allows a million-fold increase in pressure to be expressed as 120 dB, and changes in levels correspond closely to human perception of relative loudness. Table 2: Typical Noise Levels provides typical noise levels.

Table 2: Typical Noise Levels

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	– 110 –	Rock Band
Jet fly-over at 1,000 feet		
	– 100 –	
Gas lawnmower at 3 feet		
	– 90 –	
Diesel truck at 50 feet at 50 miles per hour		Food blender at 3 feet
	– 80 –	Garbage disposal at 3 feet
Noisy urban area, daytime		
Gas lawnmower, 100 feet	**– 70 –**	Vacuum cleaner at 10 feet
Commercial area		Normal Speech at 3 feet
Heavy traffic at 300 feet	**– 60 –**	
		Large business office
Quiet urban daytime	**– 50 –**	Dishwasher in next room

[1] California Department of Transportation, *Technical Noise Supplement to the Traffic Noise Analysis Protocol*, September 2013, https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/tens-sep2013-a11y.pdf, accessed July 2024.
[2] Harris, Cyril M., *Noise Control in Buildings: A Practical Guide for Architects and Engineers,* 1994.
[3] California Department of Transportation, *Technical Noise Supplement to the Traffic Noise Analysis Protocol*, September 2013.
[4] Ibid.
[5] Ibid.

Table 2: Typical Noise Levels		
Common Outdoor Activities	**Noise Level (dBA)**	**Common Indoor Activities**
Quiet urban nighttime	**– 40 –**	Theater, large conference room (background)
Quiet suburban nighttime		
	– 30 –	Library
Quiet rural nighttime		Bedroom at night, concert hall (background)
	– 20 –	
		Broadcast/recording studio
	– 10 –	
Lowest threshold of human hearing	**– 0 –**	Lowest threshold of human hearing
Source: California Department of Transportation, Technical Noise Supplement to the Traffic Noise Analysis Protocol, September 2013.		

Noise Descriptions

The dB scale alone does not adequately characterize how humans perceive noise. The dominant frequencies of a sound have a substantial effect on the human response to that sound. Several rating scales have been developed to analyze the adverse effect of community noise on people. Because environmental noise fluctuates over time, these scales consider that the effect of noise on people is largely dependent on the total acoustical energy content of the noise, as well as the time of day when the noise occurs. [6] The equivalent noise level (L_{eq}) represents the equivalent continuous sound pressure level over the measurement period, while the day-night noise level (L_{dn}) and Community Equivalent Noise Level (CNEL) are measures of sound energy during a 24-hour period, with dB weighted sound levels from 7:00 p.m. to 7:00 a.m. Most commonly, environmental sounds are described in terms of L_{eq} that has the same acoustical energy as the summation of all the time-varying events. Each is applicable to this analysis and defined in Table 3: Definitions of Acoustical Terms.

Table 3: Definitions of Acoustical Terms	
Term	**Definitions**
Decibel (dB)	A unit describing the amplitude of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure. The reference pressure for air is 20.
Sound Pressure Level	Sound pressure is the sound force per unit area, usually expressed in µPa (or 20 micronewtons per square meter), where 1 pascal is the pressure resulting from a force of 1 newton exerted over an area of 1 square meter. The sound pressure level is expressed in dB as 20 times the logarithm to the base 10 of the ratio between the pressures exerted by the sound to a reference sound pressure (e.g. 20 µPa). Sound pressure level is the quantity that is directly measured by a sound level meter.
Frequency (Hz)	The number of complete pressure fluctuations per second above and below atmospheric pressure. Normal human hearing is between 20 Hz and 20,000 Hz. Infrasonic sound are below 20 Hz and ultrasonic sounds are above 20,000 Hz.
A-Weighted Sound Level (dBA)	The sound pressure level in dB as measured on a sound level meter using the A-weighting filter network. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the

[6] Ibid.

Table 3: Definitions of Acoustical Terms	
Term	**Definitions**
	frequency response of the human ear and correlates well with subjective reactions to noise.
Equivalent Noise Level (L_{eq})	The average acoustic energy content of noise for a stated period of time. Thus, the L_{eq} of a time-varying noise and that of a steady noise are the same if they deliver the same acoustic energy to the ear during exposure. For evaluating community impacts, this rating scale does not vary, regardless of whether the noise occurs during the day or the night.
Maximum Noise Level (L_{max}) Minimum Noise Level (L_{min})	The maximum and minimum dBA during the measurement period.
Exceeded Noise Levels (L_{01}, L_{10}, L_{50}, L_{90})	The dBA values that are exceeded 1%, 10%, 50%, and 90% of the time during the measurement period.
Day-Night Noise Level (L_{dn})	A 24-hour average L_{eq} with a 10-dBA weighting added to noise during the hours of 10:00 p.m. to 7:00 a.m. to account for noise sensitivity at nighttime. The logarithmic effect of these additions is that a 60 dBA 24-hour L_{eq} would result in a measurement of 66.4 dBA L_{dn}.
Community Noise Equivalent Level (CNEL)	A 24-hour average L_{eq} with a 5-dBA weighting during the hours of 7:00 a.m. to 10:00 a.m. and a 10-dBA weighting added to noise during the hours of 10:00 p.m. to 7:00 a.m. to account for noise sensitivity in the evening and nighttime, respectively. The logarithmic effect of these additions is that a 60 dBA 24-hour L_{eq} would result in a measurement of 66.7 dBA CNEL.
Ambient Noise Level	The composite of noise from all sources near and far. The normal or existing level of environmental noise at a given location.
Intrusive	That noise which intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of a sound depends on its amplitude, duration, frequency, and time of occurrence and tonal or informational content as well as the prevailing ambient noise level.
Source: California Department of Transportation, Technical Noise Supplement to the Traffic Noise Analysis Protocol, September 2013.	

The A-weighted decibel (dBA) sound level scale gives greater weight to the frequencies of sound to which the human ear is most sensitive. Because sound levels can vary markedly over a short period of time, a method for describing either the average character of the sound or the statistical behavior of the variations must be utilized. Most commonly, environmental sounds are described in terms of an average level that has the same acoustical energy as the summation of all the time-varying events.

The scientific instrument used to measure noise is the sound level meter. Sound level meters can accurately measure environmental noise levels to within about plus or minus 1 dBA.[7] Various computer models are used to predict environmental noise levels from sources, such as roadways and airports. The accuracy of the predicted models depends on the distance between the receptor and the noise source.

[7] Ibid.

A-Weighted Decibels

The perceived loudness of sounds is dependent on many factors, including sound pressure level and frequency content.[8] However, within the usual range of environmental noise levels, perception of loudness is relatively predictable and can be approximated by dBA values. There is a strong correlation between dBA and the way the human ear perceives sound. For this reason, the dBA has become the standard tool of environmental noise assessment. All noise levels reported in this document are in terms of dBA, but are expressed as dB, unless otherwise noted.

Addition of Decibels

The dB scale is logarithmic, not linear, and therefore sound levels cannot be added or subtracted through ordinary arithmetic. Two sound levels 10 dB apart differ in acoustic energy by a factor of 10.[9] When the standard logarithmic dB is A-weighted, an increase of 10 dBA is generally perceived as a doubling in loudness. For example, a 70-dBA sound is half as loud as an 80-dBA sound and twice as loud as a 60-dBA sound.[10] When two identical sources are each producing sound of the same loudness, the resulting sound level at a given distance would be 3 dBA higher than one source under the same conditions.[11] Under the dB scale, three sources of equal loudness together would produce an increase of approximately 5 dBA.[12]

Sound Propagation and Attenuation

Sound spreads (propagates) uniformly outward in a spherical pattern, and the sound level decreases (attenuates) at a rate of approximately 6 dB for each doubling of distance from a stationary or point source. Sound from a line source, such as a highway, propagates outward in a cylindrical pattern. Sound levels attenuate at a rate of approximately 3 dB for each doubling of distance from a line source, such as a roadway, depending on ground surface characteristics.[13] No excess attenuation is assumed for hard surfaces like a parking lot or a body of water. Soft surfaces, such as soft dirt or grass, can absorb sound, so an excess ground-attenuation value of 1.5 dB per doubling of distance is normally assumed when soft ground conditions exist between the source and receptor locations.[14] For line sources, an overall attenuation rate of 3 dB per doubling of distance is assumed in this report.

Noise levels may also be reduced by intervening structures; generally, a single row of buildings between the receptor and the noise source reduces the noise level by about 5 dBA, while a solid wall or berm can reduce noise levels by 5 to 15 dBA.[15] The way older homes in California were constructed generally provides a reduction of exterior-to-interior noise levels of about 20 to 25 dBA with closed windows. The exterior-to-interior reduction of newer residential units is generally 30 dBA or more.

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[8] Harris, Cyril M., *Noise Control in Buildings: A Practical Guide for Architects and Engineers*, 1994.
[9] California Department of Transportation, *Technical Noise Supplement to the Traffic Noise Analysis Protocol,* September 2013.
[10] Federal Highway Administration, *Noise* Fundamentals, 2017, https://www.fhwa.dot.gov/environMent/noise/regulations_and_guidance/polguide/polguide02.cfm, accessed July 2024.
[11] Ibid.
[12] California Department of Transportation, *Technical Noise Supplement to the Traffic Noise Analysis Protocol*, September 2013.
[13] Ibid.
[14] Federal Highway Administration, *FHWA Traffic Noise Model User's Guide*, January 1998.
[15] Federal Highway Administration, *Highway Traffic and Construction Noise - Problem and Response*, April 2006.

Human Response to Noise

The human response to environmental noise is subjective and varies considerably from individual to individual. Noise in the community has often been cited as a health problem, not in terms of actual physiological damage, such as hearing impairment, but in terms of inhibiting general well-being and contributing to undue stress and annoyance. The health effects of noise in the community arise from interference with human activities, including sleep, speech, recreation, and tasks that demand concentration or coordination. Hearing loss can occur at the highest noise intensity levels.

Noise environments and consequences of human activities are usually well represented by median noise levels during the day or night or over a 24-hour period. Environmental noise levels are generally considered low when the CNEL is below 60 dBA, moderate in the 60 to 70 dBA range, and high above 70 dBA.[16] Examples of low daytime levels are isolated, natural settings with noise levels as low as 20 dBA and quiet, suburban, residential streets with noise levels around 40 dBA.[17] Noise levels above 45 dBA at night can disrupt sleep. Examples of moderate-level noise environments are urban residential or semi-commercial areas (typically 55 to 60 dBA) and commercial locations (typically 60 dBA). People may consider louder environments adverse, but most will accept the higher levels associated with noisier urban residential or residential-commercial areas (60 to 75 dBA) or dense urban or industrial areas (65 to 80 dBA). Regarding increases in dBA, the following relationships should be noted:[18]

- Except in carefully controlled laboratory experiments, a 1-dBA change cannot be perceived by humans.
- Outside of the laboratory, a 3-dBA change is considered a just-perceivable difference.
- A minimum 5-dBA change is required before any noticeable change in community response would be expected. A 5-dBA increase is typically considered substantial.
- A 10-dBA change is subjectively heard as an approximate doubling in loudness and would almost certainly cause an adverse change in community response.

Effects of Noise on People

Hearing Loss. While physical damage to the ear from an intense noise impulse is rare, a degradation of auditory acuity can occur even within a community noise environment. Hearing loss occurs mainly due to chronic exposure to excessive noise but may be due to a single event such as an explosion. Natural hearing loss associated with aging may also be accelerated from chronic exposure to loud noise. The Occupational Safety and Health Administration has a noise exposure standard that is set at the noise threshold where hearing loss may occur from long-term exposures. The maximum allowable level is 90 dBA averaged over 8 hours. If the noise is above 90 dBA, the allowable exposure time is correspondingly shorter.[19]

Annoyance. Attitude surveys are used for measuring the annoyance felt in a community for noises

[16] Compiled from James P. Cowan, *Handbook of Environmental Acoustics,* 1994, and Cyril M. Harris, *Handbook of Noise Control*, 1979.
[17] Ibid.
[18] Compiled from California Department of Transportation, *Technical Noise Supplement to the Traffic Noise Analysis Protocol*, September 2013, and Federal Highway Administration, *Noise Fundamentals,* 2017.
[19] U.S. Department of Labor, *Occupational Safety and Health Standards, 29 CFR 1910 (Occupational Noise Exposure).*

intruding into homes or affecting outdoor activity areas. In these surveys, it was determined that causes for annoyance include interference with speech, radio and television, house vibrations, and interference with sleep and rest. The L_{dn} as a measure of noise has been found to provide a valid correlation of noise level and the percentage of people annoyed. People have been asked to judge the annoyance caused by aircraft noise and ground transportation noise. There continues to be disagreement about the relative annoyance of these different sources. A noise level of about 55 dBA L_{dn} is the threshold at which a substantial percentage of people begin to report annoyance.[20]

2.2 Ground-Borne Vibration

Sources of ground-borne vibrations include natural phenomena (earthquakes, volcanic eruptions, sea waves, landslides, etc.) or man-made causes (explosions, machinery, traffic, trains, construction equipment, etc.). Vibration sources may be continuous (e.g., factory machinery) or transient (e.g., explosions or heavy equipment used during construction). Ground vibration consists of rapidly fluctuating motions or waves with an average motion of zero.[21] Several different methods are typically used to quantify vibration amplitude. One is vibration decibels (VdB) (the vibration velocity level in decibel scale). Other methods are the peak particle velocity (PPV) and the root mean square (RMS) velocity. The PPV is defined as the maximum instantaneous positive or negative peak of the vibration wave and expressed in terms of inches-per-second (in/sec). The RMS velocity is defined as the average of the squared amplitude of the signal and is expressed in terms of VdB.[22] The PPV and RMS vibration velocity amplitudes are used to evaluate human response to vibration.

Table 4: Human Reaction and Damage to Buildings for Continuous or Frequent Intermittent Vibrations displays the reactions of people and the effects on buildings produced by continuous vibration levels. The human annoyance levels shown in the table should be interpreted with care since vibration may be found to be annoying at much lower levels than those listed, depending on the level of activity or the sensitivity of the individual. To sensitive individuals, vibrations approaching the threshold of perception can be annoying. Low-level vibrations frequently cause irritating secondary vibration, such as a slight rattling of windows, doors, or stacked dishes. The rattling sound can give rise to exaggerated vibration complaints, even though there is very little risk of actual structural damage. In high noise environments, which are more prevalent where ground-borne vibration approaches perceptible levels, this rattling phenomenon may also be produced by loud airborne environmental noise causing induced vibration in exterior doors and windows.

Ground vibration can be a concern in instances where buildings shake, and substantial rumblings occur. However, it is unusual for vibration from typical urban sources such as buses and heavy trucks to be perceptible.[23] Common sources for ground-borne vibration are planes, trains, and construction activities such as earth-moving, which requires the use of heavy-duty earth moving equipment.[24] For the purposes of this analysis, a PPV descriptor with units of inches per second (in/sec) was used to evaluate construction-generated vibration for building damage and human complaints.

[20] Federal Interagency Committee on Noise, *Federal Agency Review of Selected Airport Noise Analysis Issues*, August 1992.
[21] Federal Transit Administration, *Transit Noise and Vibration Impact Assessment Manual,* September 2018.
[22] Ibid.
[23] Ibid.
[24] Ibid.

Table 4: Human Reaction and Damage to Buildings for Continuous or Frequent Intermittent Vibrations

Maximum PPV (in/sec)	Caltrans Vibration Annoyance Potential Criteria	Caltrans Vibration Damage Potential Threshold Criteria	FTA Vibration Damage Criteria
0.008	--	Extremely fragile historic buildings, ruins, ancient monuments	--
0.08	Readily Perceptible	--	--
0.1	Begins to Annoy	Fragile buildings	--
0.12	--	--	Buildings extremely susceptible to vibration damage
0.2	Annoying	--	Non-engineered timber and masonry buildings
0.25	--	Historic and some old buildings	--
0.3	--	Older residential structures	Engineered concrete and masonry
0.4	Unpleasant	--	--
0.5	--	New residential structures, Modern industrial/commercial buildings	Reinforced-concrete, steel or timber (no plaster)

Source: California Department of Transportation, Transportation and Construction Vibration Guidance Manual, 2020 and Federal Transit administration, Transit Noise and Vibration Assessment Manual, 2018.

2.3 Ground-Borne Noise

Ground-borne noise specifically refers to the rumbling noise emanating from the motion of building room surfaces due to the vibration of floors and walls; it is perceptible only inside buildings.[25] The relationship between ground-borne vibration and ground-borne noise depends on the frequency content of the vibration and the acoustical absorption characteristics of the receiving room. For typical buildings, ground-borne vibration that causes low frequency noise (i.e., the vibration spectrum peak is less than 30 Hz) results in a ground-borne noise level that is approximately 50 decibels lower than the velocity level. For ground-borne vibration that causes mid-frequency noise (i.e., the vibration spectrum peak is between 30 and 60 Hz), the ground-borne noise level will be approximately 35 dB lower than the velocity level. For ground-borne vibration that cause high-frequency noise (i.e., the vibration spectrum peak is greater than 60 Hz), the ground-borne noise level will be approximately 20 dB lower than the velocity level.[26] The Federal Transit Administration (FTA) provides a ground-borne noise threshold of 43 dBA for infrequent vibration events in Category 2 buildings such as residences and buildings where people normally sleep. For frequent and occasional vibratory events, the FTA established ground-borne noise thresholds of 35 dBA and 38 dBA, respectively.[27]

[25] Ibid.
[26] Ibid.
[27] Ibid.

3.0 REGULATORY SETTING

To limit population exposure to physically or psychologically damaging, as well as intrusive, noise levels, the Federal government, the State of California, various county governments, and most municipalities in the state have established standards and ordinances to control noise.

3.1 Federal

Federal Transit Administration Noise and Vibration Guidance

The FTA has published the *Transit Noise and Vibration Impact Assessment Manual* (FTA Transit Noise and Vibration Manual) to provide guidance on procedures for assessing impacts at different stages of transit project development.[28] The report covers both construction and operational noise impacts and describes a range of measures for controlling excessive noise and vibration. In general, the primary concern regarding vibration relates to potential physical damage from construction. The guidance document establishes criteria for evaluating the potential for damage to various structural categories from vibration.

3.2 State of California

California Government Code

California Government Code Section 65302(f) mandates that the legislative body of each county and city adopt a noise element as part of its comprehensive general plan. The local noise element must recognize the land use compatibility guidelines established by the State Department of Health Services.[29] The guidelines rank noise land use compatibility in terms of "Normally Acceptable", "Conditionally Acceptable", "Normally Unacceptable", and "Clearly Unacceptable" noise levels for various land use types.

Title 24 – Building Code

The State's noise insulation standards are codified in the California Code of Regulations, Title 24: Part 1, Building Standards Administrative Code, and Part 2, California Building Code. These noise standards are applied to new construction in California for interior noise compatibility from exterior noise sources. The regulations specify that acoustical studies must be prepared when noise-sensitive structures, such as residential buildings, schools, hotel rooms, or hospitals, are located near major transportation noise sources, and where such noise sources create an exterior noise level of 65 dBA CNEL or higher. Acoustical studies that accompany building plans must demonstrate that the structure has been designed to limit interior noise in habitable rooms to acceptable noise levels. For new multi-family residential buildings and habitable rooms (including hotels), the acceptable interior noise limit for new construction is 45 dBA CNEL.

Assembly Bill 1307

On September 7, 2023, Governor Newsom signed AB 1307, which added section 21085 to the Public

[28] Ibid.

[29] State of California Governor's Office of Planning and Research, *General Plan Guidelines, Appendix D: Noise Element Guidelines*, page 374, 2017, https://opr.ca.gov/docs/OPR_COMPLETE_7.31.17.pdf, accessed July 2024.

Resources Code to read, in pertinent part, "for residential projects, the effects of noise generated by project occupants and their guests on human beings is not a significant effect on the environment".[30]

3.3 Local

Although the Project site is located in the City, sensitive receptors near the Project site are located within both the City and County. Therefore, both the City and County standards are discussed below.

Los Angeles County Code

The County has adopted regulations to manage unnecessary, excessive, and intrusive noise, as outlined in the County's Noise Control Ordinance (Chapter 12.08 of the Los Angeles County Code [County Code]). The County Code establishes exterior noise standards to regulate fixed noise sources, such as mechanical equipment, within various land use zones. It specifies that operational noise from these sources must not exceed the noise levels identified in Table 5: Los Angeles County Exterior Operational Noise Standards, or the existing ambient noise level, whichever is greater.

Table 5: Los Angeles County Exterior Operational Noise Standards

Noise Zone	Designated Noise Zone Land Use (Receptor property)	Time Interval	Exterior Noise Level (dBA)
I	Noise-sensitive area	Anytime	45
II	Residential properties	10:00 p.m. to 7:00 a.m. (nighttime)	45
		7:00 a.m. to 10:00 p.m. (daytime)	50
III	Commercial properties	10:00 p.m. to 7:00 a.m. (nighttime)	55
		7:00 a.m. to 10:00 p.m. (daytime)	60
IV	Industrial properties	Anytime	70

Source: Los Angeles County, *Los Angeles County Code*, *Section 12.08.390 - Exterior noise standards*, https://library.municode.com/ca/los_angeles_county/codes/code_of_ordinances?nodeId=TIT12ENPR_CH12.08NOCO, accessed May 2025.

Section 12.08.390 of the County Code also states that no person shall operate or cause to be operated, any source of sound at any location within the unincorporated county, or allow the creation of any noise on property owned, leased, occupied, or otherwise controlled by such person which causes the noise level, when measured on any other property either incorporated or unincorporated, to exceed any of the following exterior noise standards:

> Standard No. 1 shall be the exterior noise level which may not be exceeded for a cumulative period of more than 30 minutes in any hour. Standard No. 1 shall be the applicable noise level; or, if the ambient noise level exceeded for 50 percent of the time of the measurement duration (L_{50}) exceeds the foregoing level, then the ambient L_{50} becomes the exterior noise level for Standard No. 1.
>
> Standard No. 2 shall be the exterior noise level which may not be exceeded for a cumulative

[30] AB 1307, *Public Resources Code Section 21085*.

period of more than 15 minutes in any hour. Standard No. 2 shall be the applicable noise level plus 5 dB; or, if the ambient noise level exceeded for 25 percent of the time of the measurement duration (L_{25}) exceeds the foregoing level, then the ambient L_{25} becomes the exterior noise level for Standard No. 2.

Standard No. 3 shall be the exterior noise level which may not be exceeded for a cumulative period of more than 5 minutes in any hour. Standard No. 3 shall be the applicable noise level plus 20 dB; or, if the ambient noise level exceeded for 8.3 percent of the time of the measurement duration ($L_{8.3}$) exceeds the foregoing level, then the ambient $L_{8.3}$ becomes the exterior noise level for Standard No. 3.

Standard No. 4 shall be the exterior noise level which may not be exceeded for a cumulative period of more than 1 minute in any hour. Standard No. 4 shall be the applicable noise level plus 15 dB; or, if the ambient noise level exceeded for 1.7 percent of the time of the measurement duration ($L_{1.7}$) exceeds the foregoing level, then the ambient $L_{1.7}$ becomes the exterior noise level for Standard No. 4.

Standard No. 5 shall be the exterior noise level which may not be exceeded for any period of time. Standard No. 5 shall be the applicable noise level plus 20 dB; or, if the highest ambient noise level that occurred at the site (L_0) exceeds the foregoing level, then the ambient L_0 becomes the exterior noise level for Standard No. 5.

The County Code also identifies specific restrictions regarding construction noise. Construction noise limits are included in County Code Chapter 12.08.440, Noise Control. Pursuant to the County Code, the operation of equipment used in construction, repair, alteration, drilling, or demolition work is prohibited between the hours of 7:00 p.m. and 7:00 a.m., Monday through Friday; before 8:00 a.m. or after 6:00 p.m. on Saturday; and anytime on Sundays or legal holidays if such noise would create a noise disturbance across a residential or commercial real-property line. Table 6: Los Angeles County Construction Noise Standards identifies the maximum noise levels at the affected buildings allowed by the County Code.

Table 6: Los Angeles County Construction Noise Standards			
Time	**Single-Family Residential (dBA)**	**Multi-Family Residential (dBA)**	**Semi-Residential/ Commercial (dBA)**
At Residential Structures			
Mobile Equipment. Maximum noise levels for nonscheduled, intermittent, short-term operation (less than 10 days) of mobile equipment:			
Daily, except Sundays and legal holidays, 7:00 a.m. to 8:00 p.m.	75	80	85
Daily, 8:00 p.m. to 7:00 a.m., and all day Sunday and legal holidays	60	64	70
Stationary Equipment. Maximum noise level for repetitively scheduled and relatively long-term operation (periods of 10 days or more) of stationary equipment:			
Daily, except Sundays and legal holidays, 7:00 a.m. to 8:00 p.m.	60	65	70
Daily, 8:00 p.m. to 7:00 a.m. and all day Sunday and legal holidays	50	55	60
At Business Structures			
Mobile Equipment. Maximum noise levels for nonscheduled, intermittent, short-term operation of mobile equipment:			
Daily, including Sundays and legal holidays, all hours	85 (All Structures)		
Source: Los Angeles County, *Los Angeles County Code*, *Section 12.08.440 - Construction noise*, https://library.municode.com/ca/los_angeles_county/codes/code_of_ordinances?nodeId=TIT12ENPR_CH12.08NOCO, accessed May 2025.			

County Code Section 12.08.560 provides a ground-borne vibration limit as to not exceed the vibration human perception threshold of 0.01 in/sec over the range of 1 to 100 hertz (80 VdB).

Los Angeles County General Plan

The Noise Element of the Los Angeles County General Plan 2035 (County General Plan), adopted October 6, 2015, aims to reduce and limit the exposure of the general public to excessive noise levels. The Nosie Element sets goals and policies for the management of noise in unincorporated areas of the County. The below goals and policies are applicable to the proposed Project:

Goal N 1: **The reduction of excessive noise impacts.**

Policy N 1.3: Minimize impacts to noise-sensitive land uses by ensuring adequate site design, acoustical construction, and use of barriers, berms, or additional engineering controls through Best Available Technologies (BAT).

Policy N 1.4: Enhance and promote noise abatement programs in an effort to maintain acceptable levels of noise as defined by the Los Angeles County Exterior Noise Standards and other applicable noise standards.

Policy N 1.6: Ensure cumulative impacts related to noise do not exceed health-based safety margins.

Policy N 1.7: Utilize traffic management and noise suppression techniques to minimize noise from traffic and transportation systems.

Policy N 1.9: Require construction of suitable noise attenuation barriers on noise sensitive uses that would be exposed to exterior noise levels of 65 dBA CNEL and above, when unavoidable impacts are identified.

Policy N 1.11: Maximize buffer distances and design and orient sensitive receptor structures (hospitals, residential, etc.) to prevent noise and vibration transfer from commercial/light industrial uses.

City of South El Monte General Plan

The South El Monte General Plan (City General Plan) Public Safety Element, adopted October 12, 2021, addresses the relationship between noise and land use planning. The Public Safety Element notes that early consideration of the relationship between noise sources and noise receptors is one way to minimize noise effects in the City. Some areas of the City experiencing noise impacts may require improvements. City General Plan goals and policies that directly address reducing and avoiding noise or vibration impacts that are applicable to the proposed Project are as follows:

Goal 3: **Minimize the adverse effects of excessive or unusual noise on the City's residential and business populations.**

Policy 3.1: Use the noise/land use compatibility standards presented in Table PS-1 as a guide for future planning and development decisions. (See Table 7: Land Use Noise Compatibility.)

Policy 3-2: Enforce the City's noise ordinance using both City code enforcement and law enforcement personnel

Table 7: Land Use Noise Compatibility

Land Use Category		Community Noise Equivalent Level (CNEL)						
Categories	**Land Uses**	**<55**	**55-60**	**60-65**	**65-70**	**70-75**	**75-80**	**>80**
Residential	Single-Family, Duplex, Multiple Family, Mobile Homes	A	B	C	C	C	D	D
Mixed Use	Residential, Retail, and Service Commercial	A	B	B	C	C	C	D
Commercial	Hotel, Motel, Transient Lodging	A	A	A	B	B	B	C
Commercial	General Retail, Bank, Restaurant, Entertainment	A	A	A	B	B	B	C

Table 7: Land Use Noise Compatibility								
Land Use Category		**Community Noise Equivalent Level (CNEL)**						
Categories	**Land Uses**	**<55**	**55-60**	**60-65**	**65-70**	**70-75**	**75-80**	**>80**
Commercial Commercial Manufacturing Industrial Public Facilities	Professional Office, Research and Development, City Hall	A	A	A	B	B	C	D
Commercial Commercial Manufacturing Public Facilities	Automobile Sales and Services, Manufacturing, Warehousing, Wholesale, Utilities	A	A	A	A	B	B	B
Public Facilities	Hospital, Church, Library, Schools	A	B	B	C	C	D	D
Parks	Parks	A	A	A	B	C	D	D
CNEL: community noise equivalent level. **Zone A:** Clearly Compatible— Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction without any special noise insulation requirements. **Zone B:** Normally Compatible— New construction or development should be undertaken only after detailed analysis of the noise reduction requirements and are made and needed noise insulation features in the design are determined. Conventional construction with closed windows and fresh air supply systems or air conditioning will normally suffice. **Zone C:** Normally Incompatible— Potential noise impacts exist. If new construction or development does proceed, a detailed analysis of noise reduction requirements must be made and needed noise insulation features included in the design. **Zone D:** Clearly Incompatible— New construction or development should generally not be undertaken.								
Source: City of South El Monte, General Plan, Public Safety Element, October 2000.								

City of South El Monte Municipal Code

The City has adopted regulations to control unnecessary, excessive, and annoying noise, as set forth in the City's Noise Ordinance (Chapter VIII, Health and Safety, of the South El Monte Municipal Code [Municipal Code]). The City's Noise Ordinance establishes acceptable ambient sound levels to regulate intrusive noises (e.g., stationary mechanical equipment and vehicles other than those traveling on public streets) within specific land use zones and provides procedures and criteria for the measurement of the sound level of noise sources. These procedures recognize and account for differences in the perceived level of different types of noise and/or noise sources.

Municipal Code Section 8.20.020. With regards to exterior noise levels, Municipal Code Section 8.20.020 specifies baseline noise values in Table 8: Exterior Noise Limits by Zone and Table 9: Exterior Noise Limits by Use and prohibits exterior noise registered by another property that exceeds

A. The exterior noise limit outlined in Table 8 and Table 9 for a cumulative period more than thirty minutes in any hour; or

B. the exterior noise limit outlined in Table 8 and Table 9 plus five dBA for a cumulative period of more than fifteen minutes in an hour; or

C. the exterior noise limit outlined in Table 8: Exterior Noise Limits by Zone and Table 9: Exterior Noise Limits by Use plus ten dBA for a cumulative period of more than one minute in any hour; or

D. the exterior noise limit as outlined in Table 8 and Table 9 plus fifteen dBA for a cumulative

period of more than one minute in any hour; or

E. the exterior noise limit as outlined in Table 8 and Table 9 plus twenty dBA for any period of time.

With respect to steady offensive noises such as a whine, screech, or hum, or a repetitive noise (e.g., hammering or riveting, or music or speech conveying information content), the exterior noise limit identified in Table 8: Exterior Noise Limits by Zone and Table 9 must be reduced by 5 dBA.

Where the measured ambient noise level exceeds the allowable exterior noise limits in Table 8: Exterior Noise Limits by Zone and Table 9, Municipal Code Section 8.20.020 states that the exterior noise level shall be adjusted in 5 dBA increments to encompass or reflect the measured ambient noise level.

Table 8: Exterior Noise Limits by Zone

Receiving Land Zoning Categories	Time Period	Noise Level Standard (dBA)
One-or two-family residential zone	10:00 p.m. to 7:00 a.m.	45
	7:00 a.m. to 10:00 p.m.	55
Multiple dwelling residential zone, public zone	10:00 p.m. to 7:00 a.m.	50
	7:00 a.m. to 10:00 p.m.	60
Commercial zone or commercial manufacturing zone	10:00 p.m. to 7:00 a.m.	55
	7:00 a.m. to 10:00 p.m.	60
Manufacturing zone	anytime	70

Source: City of South El Monte, Municipal Code, Section 8.20.020, Exterior Noise Limits, https://ecode360.com/44542750?highlight=noise,noises&searchId=1878241043397576#44542739, accessed July 2024.

Table 9: Exterior Noise Limits by Use

Land Use Categories	Time Period	Noise Level Standard (dBA)
Property partially or entirely developed for one- or two- family residential uses	10:00 p.m. to 7:00 a.m.	45
Property partially or entirely developed for multifamily residential uses	10:00 p.m. to 7:00 a.m.	50

Source: City of South El Monte, Municipal Code, Section 8.20.020, Exterior Noise Limits, https://ecode360.com/44542750?highlight=noise,noises&searchId=1878241043397576#4454273, accessed July 2024.

With respect to vibration from operatable instruments, Municipal Code Section 8.20.020 states no person shall operate or permit the operation of any device or machine that creates a vibration above the vibration perception threshold of 0.01 in/sec over the range of 1 to 100 hertz (80 VdB).

Municipal Code Section 8.20.030. With regards to loading and unloading, Municipal Code Section 8.20.030 prohibits loading and unloading between the hours of 10:00 p.m. to 7:00 a.m., such that a noise disturbance is registered across the property line by a property developed or partially developed for residential use.

With regards to speakers, musical instruments, motorized vehicles, and other sounds in public

spaces, Municipal Code Section 8.20.030 prohibits a noise disturbance that exceeds 95 dBA as registered by a slow response sound level meter unless a sign stating, "WARNING! SOUND LEVELS WITHIN MAY CAUSE HEARING IMPAIRMENT" is present.

With regards to construction and construction equipment noise, Municipal Code Section 8.20.030 prohibits construction between the hours of 10:00 p.m. and 7:00 a.m. Monday through Friday, or at any time on weekends and nationally recognized holidays (i.e., construction is allowed Monday through Friday between 7:00 a.m. and 10:00 p.m.), such that a noise disturbance is registered across the property line by a property developed or partially developed for residential use.

4.0 EXISTING CONDITIONS

4.1 Existing Noise Sources

The Project site is currently impacted by various noise sources. Mobile sources of noise, including traffic along Santa Anita Avenue, Lexington-Gallatin Road, and SR-60 are the most common and prominent existing sources of noise in the Project area. The primary stationary noise sources in the Project vicinity are those associated with the surrounding residential, educational (South El Monte High School), and recreational uses. Such stationary noise sources include mechanical equipment (e.g., heating, ventilation, and air conditioning [HVAC] equipment), idling vehicles, music playing, dogs barking, people talking, and parking lot activities (cars parking, open and closing doors, etc. The noise associated with these sources may represent a single-event noise occurrence, short-term, or long-term/continuous noise.

Mobile Traffic Noise

Existing roadway noise levels were calculated for the roadway segments in the Project vicinity using the Federal Highway Administration (FHWA) Highway Traffic Noise Prediction Model (FHWA-RD-77-108) and existing traffic volumes from the *Transportation Study - South El Monte Athletic Fields and Business Park Project,* prepared by Kimley-Horn and Associates, Inc. (2025).[31] The noise prediction model calculates the average noise level at specific locations based on traffic volumes, average speeds, roadway geometry, and site environmental conditions. The average vehicle noise rates (also referred to as energy rates) used in the FHWA model have been modified to reflect average vehicle noise rates identified for California by the California Department of Transportation (Caltrans). The Caltrans data indicates that California automobile noise is 0.8 to 1.0 dBA higher than national levels and that medium and heavy truck noise is 0.3 to 3.0 dBA lower than national levels. The average daily noise levels along roadway segments in proximity to the Project site are included in Table 10: Existing Traffic Noise Levels.

Table 10: Existing Traffic Noise Levels

Roadway Segment	Existing Conditions	
	ADT	dBA CNEL at 100 feet from Roadway Centerline
Durfee Avenue		
Rosemead Boulevard to Santa Anita Avenue	18,745	64.7

[31] Kimley-Horn and Associates, Inc., Transportation Study - South El Monte Athletic Fields and Business Park Project, 2025.

Table 10: Existing Traffic Noise Levels		
Roadway Segment	**Existing Conditions**	
	ADT	**dBA CNEL at 100 feet from Roadway Centerline**
Santa Anita Avenue to Peck Road	16,587	64.2
Santa Anita Avenue		
SR- 60 to Lexington-Gallatin Road	10,823	61.1
Lexington-Gallatin Road to Durfee Avenue	8,852	60.2
Lexington-Gallatin Road		
East of Santa Anita Avenue	1,079	48.7
ADT = average daily traffic; dBA = A-weighted decibels; CNEL = day-night noise level;		
Source: Based on traffic data within the *Transportation Study - South El Monte Athletic Fields and Business Park Project,* prepared by Kimley-Horn and Associates, Inc. (2025). Refer to Appendix A for traffic noise modeling assumptions and results.		

4.2 Noise Measurements

To quantify existing ambient noise levels in the Project area, Kimley-Horn conducted five short-term (10-minute) on July 30, 2024, and one long-term (24-hour) measurements from July 30 to 31, 2024; see Appendix A: Noise Data for additional details regarding how the ambient noise measurements were taken.[32] The noise measurement sites were selected to be representative of the existing ambient noise levels at the noise-sensitive uses immediately adjacent to the Project site. The 10-minute daytime measurements were taken between 9:18 a.m. and 10:43 a.m. on July 30, 2024. The 24-hour measurement was taken between 11:15 a.m. on July 30, 2024, to 11:25 a.m. the following day. Measurements of L_{eq} are considered representative of the noise levels throughout the day. The average noise levels measured at each location are listed in Table 11: Existing Noise Measurement Locations and Measurements and shown on Figure 4: Noise Measurement Locations .

Table 11: Existing Noise Measurement Locations and Measurements

Site	Location	Measurement Period	Duration	Daytime Average (dBA L_{eq})	Nighttime Average (dBA L_{eq})[1]	24-hour Average (dBA L_{eq})
ST-1	Inside Whittier Narrows Recreation area, near SR-60, northwest of the Project site (recreational uses)	9:18 a.m. – 9:28 a.m.	10 minutes	60.6	–	–
ST-2	End of cul-de-sac on Lexington-Gallatin Road, near SR-60, east of Project site (residential uses)	10:33 a.m. – 10:43 a.m.	10 minutes	64.7	–	–
ST-3	End of cul-de-sac on Andrews Street, east of Project site (recreational and residential uses)	10:18 a.m.– 10:28 a.m.	10 minutes	52.2	–	–
ST-4	Northwest corner of Whittier Narrows picnic and disk golf course area, south of the Project site (recreational uses)	9:53 a.m.– 10:03 a.m.	10 minutes	54.2	–	–

[32] City of South El Monte, *Municipal Code, Section 8.20.020, Exterior Noise Limits,* https://ecode360.com/44542750?highlight=noise,noises&searchId=1878241043397576#44542739 , accessed July 2024.

Table 11: Existing Noise Measurement Locations and Measurements

Site	Location	Measurement Period	Duration	Daytime Average (dBA L_{eq})	Nighttime Average (dBA L_{eq})[1]	24-hour Average (dBA L_{eq})
ST-5	Inside Whittier Narrows Recreation area, southwest of the Project site (recreational, residential, and public facility uses)	9:36 a.m. – 9:46 a.m.	10 minutes	53.0	–	–
LT-1	Adjacent to the southeastern corner of the Project site on Lexington-Gallatin Road (recreational and residential uses)	July 30, 2024, 9:45 a.m.– July 31, 2024, 9:55 a.m.	24 hours	58.4	62.3	60.3

1. The long-term noise measurement was taken in a recreational and residential area, approximately 637 feet to the south of SR-60. The primary nighttime noise source would be the traffic traveling along SR-60. Free-flowing traffic during nighttime hours generate noise levels greater than peak traffic conditions during daytime hours. Source: California Department of Transportation, *Technical Noise Supplement to the Traffic Noise Analysis Protocol,* September 2013, https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/tens-sep2013-a11y.pdf, accessed May 2025.

Source: Noise measurements taken by Kimley-Horn and Associates, July 30 and July 31, 2024. See Appendix A for noise measurement results.

Figure 4: Noise Measurement Locations

South El Monte Athletic Fields and Business Park Project

Not to scale

Kimley»Horn

4.3 Sensitive Receptors

Noise exposure standards and guidelines for various types of land uses reflect the varying noise sensitivities associated with each of these uses. Noise sensitive receptors typically include residences, dormitories, hotels, transient lodging, houses of worship, hospitals, schools, and places of assembly. Sensitive receptors near the Project site are listed in Table 12: Sensitive Receptors and shown in Figure 5: Noise Receptor Locations.

Table 12: Sensitive Receptors

Receptor Description	Distance[1] and Direction from the Project
1- Whittier Narrows Recreation Area[2]	40 feet to the southeast
2- Future City Park[3]	40 feet to the west
3- Single-family Residences	230 feet to the east
4- Ramada by Wyndham South El Monte	800 feet to the north
5- Single-family Residences	1,040 feet to the north
6- South El Monte High School	1,250 feet to the southeast
7- Shiveley Park	1,750 feet to the north
8- South El Monte Library	2,600 feet to the north
9- New Temple Park	2,600 feet to the northeast
10- New Temple Elementary School	2,700 feet to the northeast

1. Distance measured from the property line of the Project site to the nearest receptor property line (all numbers are approximate).
2. Whittier Narrows Recreation Area park uses (i.e., sensitive receptors), would be located as close as 40 feet from the Project site. However, the Whittier Narrows Recreation Area also includes commercial/office uses (i.e., non-sensitive receptor), which are located as close as 20 feet from the Project site.
3. The proposed Project would include the future development of a recreational park by the City that would be exposed to emissions associated with the future operations of the proposed warehouse component. Therefore, this analysis considers the future recreational use as a sensitive receptor.

Source: Google Earth, 2024.

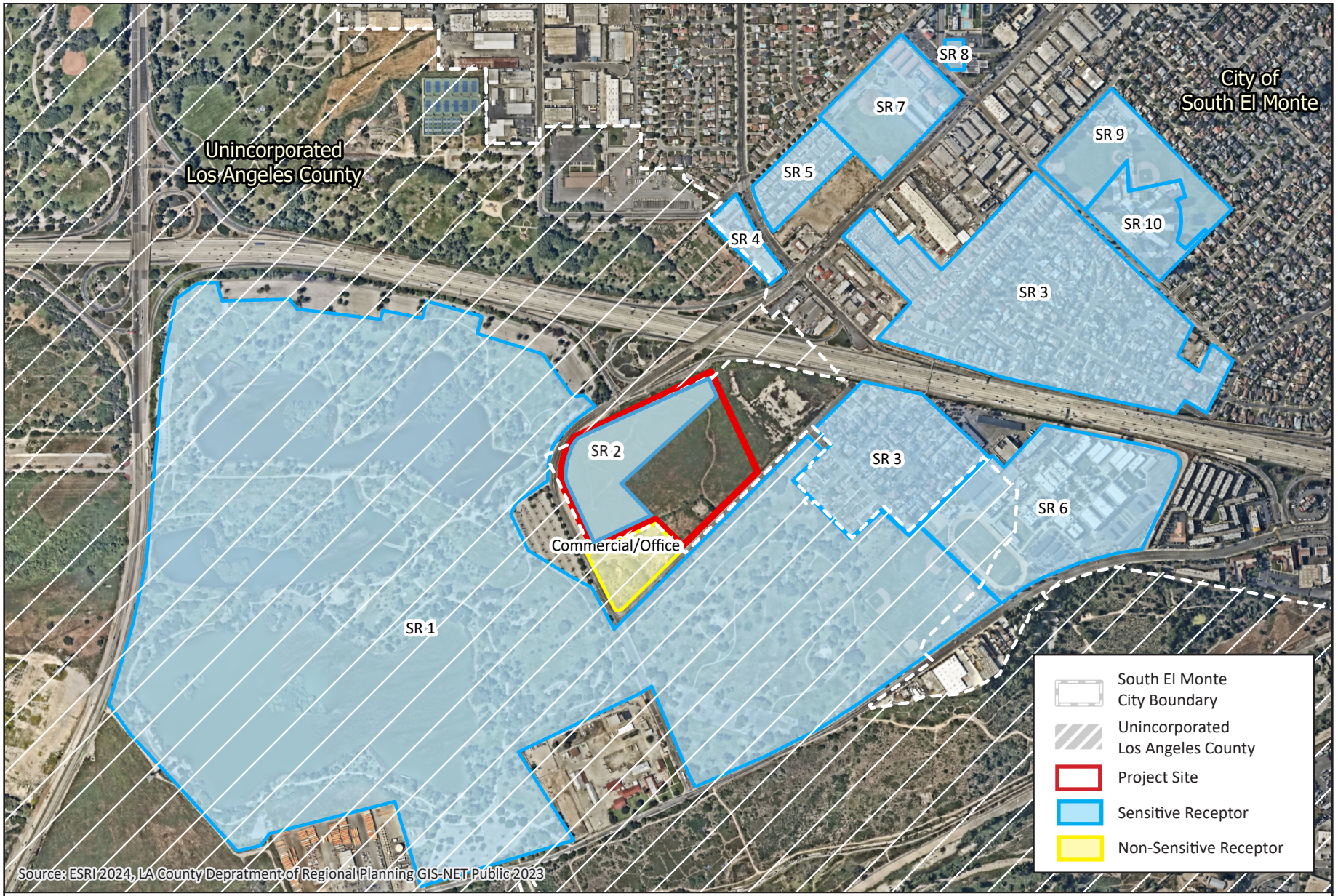

Figure 5: Noise Receptor Locations

South El Monte Athletic Fields and Business Park Project

Not to scale

Kimley»Horn

5.0 SIGNIFICANCE CRITERIA AND METHODOLOGY

5.1 CEQA Thresholds

California Environmental Quality Act (CEQA) Guidelines Appendix G contains analysis guidelines related to noise impacts. The City has determined to use these guidelines as thresholds of significance for this analysis. A project would create a significant environmental impact if it would:

- 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;
- Generate excessive ground-borne vibration or ground-borne noise levels; and
- 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, expose people residing or working in the project area to excessive noise levels.

Noise

Although the Project site is located in the City, sensitive receptors near the Project site are located in both the City and County. Specifically, the nearest residential receptors (SR-3) are located in the City and the commercial/office uses and Whittier Narrows Recreation area (SR-1) are located in the County; refer to Figure 5. Therefore, both the City and County standards are discussed below.

Construction Noise

City Receptors

Pursuant to Municipal Code Section 8.20.030, construction that causes a registered noise disturbance at a residential use is prohibited between the hours of 10:00 p.m. and 7:00 a.m. Monday through Friday, or at any time on weekends and nationally recognized holidays. The City does not establish quantitative construction noise standards. Therefore, this analysis uses the FTA's threshold of 80 dBA (8-hour L_{eq}) for residential uses to evaluate construction noise impacts.[33]

County Receptors

The County Code establishes specific regulations for construction-related noise in Chapter 12.08.440. Under these provisions, the operation of construction equipment, repair, alteration, drilling, or demolition is prohibited between the hours of 7:00 p.m. and 7:00 a.m., Monday through Friday; before 8:00 a.m. or after 6:00 p.m. on Saturdays; and at any time on Sundays or legal holidays, if such activity creates a noise disturbance across a residential or commercial real-property line. Noise limits vary by the type of equipment (mobile or stationary), the duration of activity, and the adjacent land use. Table 6 identifies the County's maximum allowable construction noise levels at affected buildings, based on land use and time of day.

[33] Federal Transit Administration, *Transit Noise and Vibration Impact Assessment Manual*, Table 7-3, Page 179, September 2018.

Operational Noise

A change in noise levels of less than 3 dBA is not discernible to the general population.[34] According to Caltrans, an increase in average noise levels of 1 dBA cannot be perceived by humans, an increase of 3 dBA is considered barely perceptible, and an increase of 5 dBA is considered readily perceptible to most people.[35] The City and County have not defined a "substantial increase" in ambient noise levels. Therefore, this analysis uses 5 dBA above ambient as the substantial increase threshold.

Stationary Noise

City Receptors

Operational noise impacts on the residential receptors are evaluated based on the standards within the City's Noise Ordinance (Municipal Code Chapter VIII: Health and Safety) and City General Plan, as well as the substantial increase threshold. An operational stationary noise impact would occur if both the City's noise standard and the substantial increase threshold are exceeded at receptors located within the City.

County Receptors

Operational noise impacts on the commercial/office receptors and recreational receptors are evaluated based on standards within County Code Section 12.08 or the ambient noise level, whichever is greater; refer to Table 5. An operational stationary noise impact would occur if both the County's noise standard and the substantial increase threshold are exceeded at receptors located within the County.

Traffic Noise

City Receptors

The Project's potential effect on traffic noise conditions at off-site land uses is evaluated based on the "Clearly Compatible" standard within the City General Plan; refer to Table 7. A traffic noise impact would occur if both the City's noise standard and the substantial increase threshold are exceeded at receptors located within the City.

County Receptors

The Project's potential effect on traffic noise conditions at off-site noise-sensitive land uses is evaluated based on County General Plan Policy N 1.9, which identifies the standard as 65 dBA CNEL. A traffic noise impact would occur if both the County's noise standard and the substantial increase threshold are exceeded at receptors located within the County.

Vibration

Increases in ground-borne vibration levels attributable to the Project would be primarily associated with short-term construction-related activities. Project construction could result in varying degrees

[34] California Department of Transportation, *Technical Noise Supplement to Traffic Noise Analysis Protocol*, September 2013
[35] Ibid.

of temporary ground-borne vibration, depending on the specific construction equipment used, the location of that equipment relative to the receptor, and the operations involved.

City Receptors

Although the City has established a human annoyance criterion, the City has not established a structural damage criterion. Municipal Code Section 8.20.020 states no person shall operate or permit the operation of any device or machine that creates a vibration above the vibration perception threshold of 0.01 in/sec over the range of 1 to 100 hertz (80 VdB). The FTA guidelines state that engineered buildings built with concrete and masonry can withstand vibration levels up to 0.3 in/sec PPV and not experience vibration damage. Therefore, this analysis uses the City's 80 VdB human annoyance criterion and the FTA's 0.3 in/sec PPV structural damage criterion for receptors located in the City.

County Receptors

Although the County has established a human annoyance criterion, the County has not established a structural damage criterion. County Code Section 12.08.560 provides a ground-borne vibration limit as to not exceed the vibration human perception threshold of 0.01 in/sec over the range of 1 to 100 hertz (80 VdB). The FTA guidelines state that engineered buildings built with concrete and masonry can withstand vibration levels up to 0.3 in/sec PPV and not experience vibration damage. Therefore, this analysis uses the County's 80 VdB human annoyance criterion and the FTA's 0.3 in/sec PPV structural damage criterion for receptors located in the County.

5.2 Methodology

Construction

Construction noise levels were based on typical noise levels generated by construction equipment published by the FTA and FHWA. Construction noise is assessed in dBA L_{eq}. This unit is appropriate because L_{eq} can be used to describe the noise level from the operation of each piece of equipment separately, and the levels can be combined to represent the noise level from all equipment operating concurrently during a given period.

Construction noise was modeled using the FHWA Roadway Construction Noise Model (RCNM). Reference noise levels are used to estimate operational noise levels at nearby sensitive receptors based on a standard noise attenuation rate of 6 dB per doubling of distance (line-of-sight method of sound attenuation for point sources of noise). Noise level estimates do not account for the presence of intervening structures or topography, which may reduce noise levels at receptor locations. Therefore, the noise levels presented herein represent a conservative, reasonable worst-case estimate of actual temporary construction noise.

Operations

The analysis of the Existing and Existing Plus Project noise environments is based on noise prediction modeling and empirical observations. Reference noise level data are used to estimate the Project operational noise impacts from stationary sources. Noise levels were collected from published sources from similar types of activities and used to estimate noise levels expected with the Project's

stationary sources. The reference noise levels are used to represent a worst-case noise environment as noise level from stationary sources can vary throughout the day.

An analysis was conducted of the Project's effect on traffic noise conditions at off-site land uses. Without Project traffic noise levels were compared to With Project traffic noise levels. The environmental baseline is the Without Project condition. The Without Project and With Project traffic noise levels in the Project vicinity were calculated using the FHWA Highway Noise Prediction Model (FHWA-RD-77-108). The actual sound level at any receptor location is dependent upon such factors as the source-to-receptor distance and the presence of intervening structures (walls and buildings), barriers, and topography. The noise attenuating effects of changes in elevation, topography, and intervening structures were not included in the model. Therefore, the modeling effort is considered a conservative representation of the roadway noise.

Vibration

Ground-borne vibration levels associated with construction activities for the Project were evaluated utilizing typical ground-borne vibration levels associated with construction equipment, obtained from FTA published data for construction equipment. Potential ground-borne vibration impacts related to building/structure damage and interference with sensitive existing operations were evaluated, considering the distance from construction activities to nearby land uses and typically applied criteria for structural damage.

Construction vibration levels were calculated using the following formula for structural damage:

$$PPV_{equip} = PPV_{ref} \times (25/D)^{1.5}$$

where: PPV_{equip} = the peak particle velocity in in/sec of the equipment adjusted for the distance

PPV_{ref} = the reference vibration level in in/sec from Table 7-4 of the Federal Transit Administration, *Transit Noise and Vibration Impact Assessment Manual*, 2018.

D = the distance from the equipment to the receiver

Additionally, the following formula was utilized for human annoyance:

$$L_{v.distance} = L_{vref} - 30\log(D/25)$$

where: $L_{v.distance}$ = the rms velocity level adjusted for distance, VdB

L_{vref} = the source reference vibration level at 25 ft in VdB from Table 7-4 of the Federal Transit Administration, Transit Noise and Vibration Impact Assessment Manual, 2018.

D = the distance from the equipment to the receiver

6.0 POTENTIAL IMPACTS AND MITIGATION

6.1 Project-Level Impacts

Threshold 6.1 Would the Project 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?

Construction

On-Site Construction Noise

Construction noise typically occurs intermittently and varies depending on the nature or phase of construction (e.g., land clearing, grading, excavation, paving). Noise generated by construction equipment, including earth movers, material handlers, and portable generators, can reach high levels. During construction, exterior noise levels could affect the receptors near the construction site. The nearest receptors are the residential uses (SR-3) located approximately 230 feet to the southeast and the commercial/office uses (a non-sensitive receptor located within Whittier Narrows Recreation area) located approximately 20 feet to the south of the Project site.[36] Although Whittier Narrows Recreation area (SR-1) is located approximately 40 feet to the southeast of the Project site, the County and FTA have not defined construction noise thresholds for recreational uses. Therefore, construction noise levels were not quantified for Whittier Narrows Recreation area (SR-1) but have been quantified for the commercial/office uses within the Whittier Narrows Recreation area; refer to Figure 5 for receptor locations.

Construction activities would include USACE detention basin improvements, demolition, site preparation, grading, building construction, infrastructure improvements, paving, and architectural coating applications. Such activities would require dozers, excavators, and concrete saws during demolition; dozers and tractors during site preparation; graders, excavators, tractors, dozers, and scrapers during grading; forklifts, cranes, generators, tractors, and welders during building construction; pavers, rollers, and paving equipment during paving; and air compressors during architectural coating applications. Typical operating cycles for these types of construction equipment may involve 1 or 2 minutes of full power operation followed by 3 to 4 minutes at lower power settings. Other primary sources of acoustical disturbance would be random incidents, which would last less than one minute, such as dropping large pieces of equipment or the hydraulic movement of machinery lifts. Noise levels associated with individual construction equipment operating at full power are listed in Table 13: Project Construction Equipment Noise Levels.[37]

[36] Although commercial uses are not considered sensitive receptors, this analysis conservatively includes the estimated construction noise level at the commercial uses located within Whittier Narrows Recreation area.
[37] Federal Highway Association, *Roadway Construction Noise Model, User Guide, 2006.*

Table 13: Project Construction Equipment Noise Levels	
Equipment	**Typical Noise Level ($dBA\ L_{max}$) at 50 feet from Source**
Air Compressor	80
Backhoe	80
Compactor	82
Concrete Mixer	85
Concrete Pump	82
Concrete Vibrator	76
Crane, Derrick	88
Crane, Mobile	83
Dozer	85
Generator	82
Graders	85
Loader	80
Pavers	85
Roller	85
Saw	76
Scraper	85
Shovel	82
Truck	84
1. Calculated using the inverse square law formula for sound attenuation: $dBA_2 = dBA_1+20Log(d_1/d_2)$ Where: dBA_2 = estimated noise level at receptor; dBA_1 = reference noise level; d_1 = reference distance; d_2 = receptor location distance	
Source: Federal Transit Administration, Transit Noise and Vibration Impact Assessment Manual, September 2018.	

Daytime construction noise is not typically a concern for human health and is a common occurrence within the urban environment. Pursuant to Municipal Code Section 8.20.030, construction noise is prohibited between the hours of 10:00 p.m. and 7:00 a.m. Monday through Friday, or at any time on weekends and nationally recognized holidays. The nearest receptors to the Project site are residential uses located within the City and commercial/office uses located within the County; refer to Figure 5. The Project would adhere to the allowable hours of construction identified in Municipal Code Section 8.20.030 (7:00 a.m. to 10:00 p.m.). It should be noted that County Code Section 12.08.440 identifies allowable hours of construction (7:00 a.m. to 7:00 p.m.) if such activity creates a noise disturbance across a commercial property line. The commercial/office use located to the south of the Project site would not be operational past 6:00 p.m., and therefore, Project construction activities would not create a noise disturbance at the commercial/office use past 6:00 p.m. Thus, Project construction activities would not be subject to allowable hours of construction identified in County Code Section 12.08.440.

Since the City has not established quantitative construction noise standards, this analysis conservatively uses the FTA's threshold of 80 dBA (8-hour L_{eq}) for residential uses.[38] The County has established 85 dBA as the construction noise threshold for nonscheduled operation of construction

[38] Federal Transit Administration, *Transit Noise and Vibration Impact Assessment Manual*, Table 7-3, Page 179, September 2018.

mobile equipment at business structures. Therefore, noise generated from scheduled Project construction was conservatively analyzed against the County's threshold for the commercial/office receptors.

The FHWA RCNM was used to calculate noise levels during construction activities; refer to Appendix A. Noise levels were calculated for each construction phase and are based on the equipment used, distance to the nearest property/receptor, and acoustical use factor for equipment. The modeled receptor locations represent the closest existing receiving land uses to Project construction activities. Noise levels at other receptors surrounding the Project site would be located further away and would experience lower construction noise levels than the closest receptors modeled.

Table 14: Project Construction Noise Levels shows the estimated exterior noise levels at the nearest receptors for each construction phase. The nearest noise receptors to the Project site are the commercial/office uses located 20 feet to the south (non-sensitive receptors located within the Whittier Narrows Recreation area) and residential uses (SR-3) approximately 230 feet to the southeast of the Project site. Since there is no defined FTA construction noise threshold for recreational uses and sensitive receptors at parks would not have a long exposure duration for noise (i.e., recreational receptors do not typically spend more than a few hours at parks, etc.), construction noise levels were not quantified for the Whittier Narrows Recreation area (SR-1).

Following a more conservative approach than the FTA methodology, the loudest piece of equipment is assumed to operate at the property line nearest to the receptor while all other equipment anticipated for each individual construction phase is assumed to operate at the center of the construction area. This methodology accounts for equipment operating throughout the Project site and not at a fixed location for extended periods of time. Therefore, the distance used in the RCNM model was measured from the property line of the Project site to the nearest receptor for the loudest piece of equipment and measured from the center of the Project construction area to the receptor for all other pieces of equipment. The equipment for the construction phases that are anticipated to overlap, such as demolition/site preparation and building construction/infrastructure improvements/paving, have been combined.

Table 14: Project Construction Noise Levels

Construction Phase	Land Use[1]	Ambient Noise Level (dBA L_{eq})	Receptor Location			Exterior Noise Level without Mitigation (dBA L_{eq})	Exterior Noise Level with Mitigation (dBA L_{eq})[4]	Noise Threshold (dBA L_{eq})[5]	Exceeded?
			Direction	Distance to Project site (feet)[2]	Distance to Center Construction Area (feet)[2,3]				
Individual Construction Phases									
Demolition	Commercial/Office	54.2	South	20	428	90.6	77.6	85	**No**
	Residential	52.2	Southeast	230	890	69.7	69.7	80	**No**
Site Preparation	Commercial/Office	54.2	South	20	428	88.0	75.0	85	**No**
	Residential	52.2	Southeast	230	890	67.8	67.8	80	**No**
Grading	Commercial/Office	54.2	South	20	428	89.0	76.0	85	**No**
	Residential	52.2	Southeast	230	890	68.9	68.9	80	**No**
Building Construction	Commercial/Office	54.2	South	20	455	88.0	75.0	85	**No**
	Residential	52.2	Southeast	230	650	69.2	69.2	80	**No**
Infrastructure Improvements	Commercial/Office	54.2	West	N/A[6]	1,203	54.3	54.3	85	**No**
	Residential	52.2	East	N/A[6]	85	77.3	77.3	80	**No**
Paving	Commercial/Office	54.2	South	20	455	90.0	77.0	85	**No**
	Residential	52.2	Southeast	230	650	69.5	69.5	80	**No**
Architectural Coating	Commercial/Office	54.2	South	20	455	81.7	68.7	85	**No**
	Residential	52.2	Southeast	230	650	60.5	60.5	80	**No**
Overlapping Construction Phases									
Demolition/ Site Preparation	Commercial/Office	54.2	-	-	-	92.5	79.5	85	**No**
	Residential	52.2	-	-	-	71.9	78.5	80	**No**
Building Construction/ Infrastructure Improvements/ Paving	Commercial/Office	54.2	-	-	-	92.1	79.1	85	**No**
	Residential	52.2	-	-	-	78.5	78.5	80	**No**

1. The Whittier Narrows Recreation area (SR-1) was not analyzed because the County has not established construction noise thresholds for recreational uses. The FTA has also not established a noise threshold for recreational uses. Sensitive receptors at this use would not have a long exposure duration to construction noise levels.
2. For a conservative, worst-case exterior noise level estimation, it is assumed for all phases except for infrastructure improvements that the loudest piece of equipment would operate near the Project property line and all other equipment would operate at the center of the construction area. Since the infrastructure improvements phase would occur off-site, all of the equipment was measured from the center of the construction area.

Table 14: Project Construction Noise Levels

3. The construction area for demolition, site preparation, and grading phases was considered to be the Project site boundary. The warehouse boundary represents the construction area for building construction, paving, and architectural coating. The construction area for the infrastructure improvements was assumed to be located at the nearest utility connection point along Lexington-Gallatin Road.
4. Mitigation Measure NOI-1 requires a 10-foot temporary noise barrier along the property line adjacent to the commercial/office uses within the Whitter Narrows to the southwest as depicted in Figure 6. Based on noise attenuation calculations data from the Noise Tools.net *Sound Propagation Level Calculator* (https://noisetools.net/barriercalculator, accessed November 2024), a 10-foot-high noise barrier would reduce on-site construction noise levels by approximately 13 dBA at the commercial/office uses within Whittier Narrows Recreation area.
5. The residential receptors are located in the City and the commercial/office receptors are located in the County. The City does not have a quantitative noise threshold for construction and only limits the hours of the construction activities. Therefore, the FTA's construction noise threshold is conservatively used for the residential receptors (FTA, *Transit Noise and Vibration Impact Assessment Manual*, September 2018). The County has established a construction noise threshold for nonscheduled operation of construction mobile equipment at business structures (85 dBA; refer to County Code Section 12.08.440). Therefore, the commercial/office receptors were conservatively analyzed against the County's threshold.
6. Infrastructure improvements, including sewer main and water main extensions, are off-site improvements that would occur within roadway right-of-way.

Source: Federal Highway Administration, *Roadway Construction Noise Model,* 2006;. Refer to Appendix A for noise modeling results.

Figure 6: Construction Noise Barrier Location

South El Monte Athletic Fields and Business Park Project

Not to scale

Kimley»Horn

Table 14 shows the worst-case scenario construction noise levels at the nearest commercial/office uses would occur during the overlapping demolition and site preparation phases and would be up to 92.5 dBA L_{eq}. In addition, Table 14 shows the worst-case scenario construction noise levels at the nearest residential uses would occur during the overlapping building construction, infrastructure improvements, and paving phases and would be up to 78.5 dBA L_{eq}. The unmitigated construction noise level would not exceed the FTA standard (80 dBA L_{eq}) at the residential uses, but would exceed the County's standard (85 dBA L_{eq}) at the commercial/office uses. Therefore, mitigation is necessary to reduce noise impacts at the commercial/office uses to the south of the Project site. The mitigation would also help reduce noise impacts at the Whitter Narrows Recreation area, for which there is no established County or FTA standard.

Mitigation Measure NOI-1 (MM-1) would require the use of a 10-foot-high temporary noise barrier along the construction site perimeter adjacent to the commercial/office uses to the south; see Figure 6: Construction Noise Barrier Location. A 10-foot-high temporary noise barrier would reduce construction noise levels by approximately 13 dBA at the commercial/office uses (Table 14**: Project Construction Noise Levels**). Construction noise levels at the commercial/office uses to the south would be 79.5 dBA L_{eq} and would not exceed the County's construction threshold of 85 dBA L_{eq}. Project construction would not result in temporary noise levels in exceedance of standards established by the County and FTA.

As there are no established construction thresholds related to temporary increases in ambient noise, the following analysis is provided for informational purposes only. As shown in Table 14**: Project Construction Noise Levels**, temporary construction noise levels would exceed the measured ambient noise levels at residential and commercial/office receptors. In order to minimize construction noise, the Project would include the following Standard Condition of Approval (SC) NOI-1.

SC NOI-1 Prior to issuance of a building permit, the applicant shall demonstrate, to the satisfaction of the City of South El Monte Building Official or Chief Engineer, that the construction contracts include the following:

- Noise Shielding and Muffling. The Project will install noise dampening material and muffling devices consistent with manufacturer's standards or the Best Available Control Technology. Noise dampening material will be installed in equipment hoods, shielding engine noise. Mufflers will be installed on equipment exhaust. All equipment will be properly maintained, and the construction contractor will be required to keep documentation on-site during any earthwork or construction activities demonstrating that the equipment has been maintained in accordance with manufacturer's specifications.
- Enclosure or Screening of Outdoor Mechanical Equipment. All stationary outdoor mechanical equipment (e.g., generators, compressors) will be enclosed or visually screened, breaking the line of sight between the equipment and off-site noise-sensitive uses.
- Location of Construction Staging Areas. Construction staging areas will be

located as far from noise-sensitive uses as reasonably possible and technically feasible in consideration of site boundaries, topography, intervening roads and uses, and operational constraints.

The FHWA states that muffler systems can reduce noise levels by 10 dBA or more.[39] Noise dampening material attached to construction equipment to dampen/shield noise emanating from equipment engines can provide noise level reductions of between 10 and 20 dBA.[40] Table 15: Project Construction Noise Levels Over Ambient includes the maximum construction noise levels at each studied noise-sensitive receptor and potential reductions provided by SC NOI-1. Generally, an increase of 10 dBA is considered a doubling of loudness.[41] As shown in Table 15, with implementation of SC NOI-1 and MM NOI-1, maximum Project construction noise levels would exceed the ambient noise at the commercial/office use to the south of the Project site by 5.3 dBA L_{eq} and would exceed ambient noise at residential uses to the southeast of the Project site by 6.3 dBA L_{eq}. However, Project construction would not result in a doubling of loudness.

Table 15: Project Construction Noise Levels Over Ambient

Receptor	Ambient Noise Level (dBA L_{eq})[1]	Maximum Exterior Noise Level with Mitigation (dBA L_{eq})[2]	Maximum Exterior Noise Level with SC NOI-1 (dBA L_{eq})[3]	Project Construction Noise over Ambient (dBA L_{eq})
Commercial/Office	54.2	79.5	59.5	5.3
Residential	52.2	78.5	58.5	6.3

1. See Table 11: Existing Noise Measurement Locations and Measurements for representative ambient noise levels.
2. Mitigation Measure NOI-1 requires a 10-foot temporary noise barrier along the property line adjacent to the commercial/office uses within the Whitter Narrows Recreation area to the southwest as depicted in Figure 5: Noise Receptor Locations. Although Mitigation Measure NOI-1 does not apply to the infrastructure improvements phase, unmitigated noise levels would remain below the maximum noise levels generated during the overlapping construction phases with mitigation; refer to Table 14. Therefore, the maximum mitigated overlapping construction phase noise levels are presented in this table.
3. Muffling systems can provide reductions of at least 10 dBA and noise dampening material can provide reductions of at least 10 dBA.

Construction equipment would operate throughout the Project site and the associated noise levels would not occur at a fixed location for extended periods of time. Construction-related noise would be temporary and would not result in a permanent increase in ambient noise levels in the area. Further, construction activities that could cause a registered noise disturbance at a residential use would only occur during daytime hours and are a typical part of living in an urban environment. Impacts would be less than significant with MM NOI-1.

Off-Site Construction Traffic Noise

In addition to on-site construction noise, the Project would generate mobile-source noise from delivery/haul trucks and construction workers traveling to and from the Project site during the Project's construction. Haul trucks would travel to and from the Project site using Lexington-Gallatin Road and Santa Anita Avenue. Although construction workers would arrive from various directions,

[39] Federal Highway Administration, *Special Report – Measurement, Prediction, and Mitigation. Chapter 4 Mitigation*. https://www.fhwa.dot.gov/environment/noise/construction_noise/special_report/hcn00.cfm, accessed September 2024.
[40] Ibid.
[41] California Department of Transportation, *Technical Noise Supplement to the Traffic Noise Analysis Protocol*, September 2013.

worker trips would likely all utilize Lexington-Gallatin Road and Santa Anita Avenue to arrive at to the Project site. It is reasonable to assume that workers would already have arrived at the Project site to begin grading activities prior to the arrival of haul trucks. The greatest contributor to on-road traffic noise during construction would be haul trucks arriving from SR-60 to the Project site along Lexington-Gallatin Road and Santa Anita Avenue. Therefore, this analysis reasonably focuses on noise generated by haul trucks. According to modeling assumptions included in the Air Quality Assessment prepared by Kimley-Horn (2025), the construction phase with the highest assumed number of haul trucks would be grading, when it is conservatively assumed there would be up to 59 daily haul truck trips accessing the Project site. A heavy-duty truck passing by a receptor is assumed to generate a noise level of 70 dBA at 50 feet.[42] Conservatively assuming that all 59 haul trucks would pass through the same roadway segment along Lexington-Gallatin Road and Santa Anita Avenue within a 15-minute period, the estimated noise level from the grading phase haul truck trips would be 68.3 dBA L_{eq} at 50 feet from the roadway centerline. This worst-case noise level would not exceed the FTA's Noise and Vibration Thresholds significance criterion of 80 dBA L_{eq} for residential uses and the County's construction noise threshold of 85 dBA L_{eq} for commercial uses. Impacts would be less than significant, and no mitigation is required.

Operations

The proposed Project consists of a warehouse and park development. Implementation of the proposed Project would create new sources of noise in the Project vicinity. The major noise sources associated with the Project that would potentially impact existing nearby residences include the following:

- Mechanical equipment;
- Truck and loading dock noise: slow moving trucks on the project site; approaching and leaving the loading areas;
- Activities at the loading areas (i.e., maneuvering and idling trucks, equipment noise);
- Parking lot noise (i.e., car door slamming, car radios, engine start-up, and car pass-by);
- Recreational activities (i.e., sports games and practice noise); and
- Off-site traffic noise.

Mechanical Equipment Noise

With respect to the warehouse use, potential stationary noise sources related to long-term operations associated with the warehouse component would include mechanical equipment (e.g., HVAC equipment) located on the rooftop of the proposed warehouse. Mechanical equipment (e.g., HVAC equipment) typically generates noise levels of approximately 52 dBA at 50 feet.[43] It is conservatively assumed that the warehouse's mechanical equipment would be located within a portion of the rooftop nearest to each receptor and would not be shielded. The nearest receptors to the proposed warehouse roof are the commercial/office use approximately 70 feet to the west, future City park (SR-2) approximately 80 feet to the west, Whittier Narrows Recreation area (SR-1)

[42] Elliott H. Berger, Rick Neitzel, and Cynthia A. Kladden, *Noise Navigator Sound Level Database with Over 1700 Measurement Values*, July 6, 2010.
[43] Ibid.

approximately 216 feet to the southeast, and residential uses (SR-3) approximately 370 feet to the southeast.[44, 45] As shown in Table 16: Daytime On-site Composite Noise Levels and Table 17: Nighttime On-site Composite Noise Levels the noise level from mechanical equipment would not exceed the City or County's noise standards at any receptor. The proposed City park is not anticipated to use mechanical equipment that would generate significant noise levels. Impacts would be less than significant, and no mitigation is required.

Truck and Loading Dock Noise

Truck Loading Activities

During loading and unloading activities associated with the warehouse, noise would be generated by the trucks' diesel engines, exhaust systems, and brakes during low gear shifting and breaking activities; backing up toward the docks; dropping down the dock ramps; and maneuvering away from the docks. Loading or unloading activities would occur along the southeastern side of the Project site; refer to Figure 3.

Typically, heavy truck and loading dock operations generate a noise level of 64.4 dBA at a distance of 50 feet.[46] The nearest receptors to the loading docks are the commercial/office use approximately 183 feet to the west, Whittier Narrows Recreation area (SR-1) approximately 212 feet to the southeast, future City park (SR-2) approximately 220 feet to the west, and the residential uses (SR-3) approximately 412 feet to the southeast. As identified in Table 16 and Table 17, the noise levels from loading and unloading trucks at the warehouse would not exceed the City or County's noise standards at any receptor. The loading dock doors would have protective aprons, gaskets, or similar improvements that, when a trailer is docked, would serve as a noise barrier between the interior warehouse activities and the exterior loading area. This would attenuate noise emanating from interior loading activities to negligible noise levels outside of the warehouse building. Therefore, interior loading and associated activities would comply with Municipal Code Section 8.20.030 during nighttime hours. Impacts would be less than significant, and no mitigation is required.

Cargo Forklift Operations

It is also noted that cargo forklifts could be used at the outdoor warehouse loading dock area during daytime and nighttime hours for truck loading/unloading activities. Cargo forklifts generate noise levels of approximately 85 dBA at 3 feet.[47] The nearest receptors to where cargo forklifts would operate at the warehouse are the commercial/office uses approximately 183 feet to the southwest (from the cargo forklifts), Whittier Narrows Recreation area (SR-1) approximately 212 feet to the southeast, future City park (SR-2) approximately 220 feet to the west, and residential uses (SR-3) approximately 412 feet to the southeast. The noise levels from operating cargo forklifts would not exceed the City or County's noise standards at any receptors (shown in Table 16 and Table 17).

[44] Commercial uses are not considered sensitive receptors; however, this analysis conservatively includes the estimated operational noise level at the commercial uses located within Whittier Narrows Recreation area.

[45] The distances listed in Table 12: Sensitive Receptors represent the distance from the project site property line to the nearest sensitive receptor property line. The distances from the operational noise sources to the nearest sensitive receptors are based on the project site plan.

[46] Loading dock reference noise level measurements conducted by Kimley-Horn on December 18, 2018.

[47] Noise Testing Workplace Noise Consultants, *Warehouse & Forklift Workplace Noise Levels*, https://www.noisetesting.info/blog/warehouse-forklift-workplace-noise-levels/, accessed July 2024.

Impacts would be less than significant and no mitigation is required.

Table 16: Daytime On-site Composite Noise Levels

Receptor[1]	Mechanical Equipment (dBA L_{eq})	Truck Loading (dBA L_{eq})[2]	Cargo Forklifts (dBA L_{eq})[2]	Backup Alarms (dBA L_{eq})[2]	Recreational Activities and Special Events (dBA L_{eq})	Combined Parking (dBA L_{eq})	Combined Noise at Receptor (dBA L_{eq})[3]	Ambient Level (dBA L_{eq})[4]	Ambient + Project Noise at Receptor (dBA L_{eq})	Incremental Increase (dBA L_{eq})	Noise Standard (dBA)[5]	Significant?
SR-1: Whittier Narrows Recreation area	39.3	37.9	34.0	54.9	47.5	43.3	56.1	54.2	58.3	4.1	65	**No**
SR-2: Future City Park	47.9	40.5	36.7	47.9	0.0	48.0	53.1	53.0	56.0	3.0	65	**No**
SR-3: Residential Uses	34.6	35.1	31.2	46.4	40.2	32.5	48.0	52.2	53.6	1.4	55	**No**
Commercial/ Office Use	49.1	41.1	37.3	50.7	56.8	42.8	58.5	54.2	59.9	5.7	60	**No**

1. The proposed Project would include the future development of a City park, which would be exposed to operational noise associated with the proposed warehouse component. The nearest residential and recreational uses would be exposed to the operational noise associated with the future City park and the warehouse. Refer to Figure 5 for the receptor locations.
2. Noise levels for truck loading, cargo forklifts, and truck backup alarms account for the proposed 14-foot-high screening wall and 8-foot-high sliding gate surrounding the truck court area. The following noise level reductions were applied based on partial noise barrier calculations (refer to Appendix A):
   - 14 dBA at the Whittier Narrows Recreation area to the southeast;
   - 11 dBA at the future (on-site) park;
   - 11 dBA at the residential uses to the southeast; and
   - 12 dBA at the commercial/office uses to the south.
3. Noise levels for all operational sources were logarithmically added together and conservatively assumed to operate in a simultaneous, constant manner.
4. Ambient noise measurements were taken by Kimley-Horn and Associates on July 30 and July 31, 2024, and are shown in Table 11: Existing Noise Measurement Locations and Measurements.
5. The future city park receptors and residential receptors are located in the City and the Whittier Narrows Recreation area receptors and commercial/office receptors are located in the County. Therefore, the applicable City or County standards were applied to each receptor:
   - City: The City's Municipal Code has not established noise standards for recreational uses. Therefore, the City General Plan land use standard for recreational uses of 65 dBA has been used in this analysis for the future city park. The City's Municipal Code Section 8.20.020 establishes a daytime exterior noise standard of 55 dBA for residentially zoned properties.
   - County: The County Code has not established noise standards for recreational uses. Therefore, the State land use compatibility standards for recreational uses of 65 dBA has been used in this analysis for the Whittier Narrows Recreation area receptor, which is consistent with the City General Plan land use standard. County Code Section 12.08.390 establishes a daytime exterior noise standard of 60 dBA for commercial properties.

Source: City of South El Monte, *General Plan, Public Safety Element*, October 2000; City of South El Monte, *Municipal Code*, *Section 8.20.020*, *Exterior Noise Limits*, https://ecode360.com/44542750?highlight=noise,noises&searchId=1878241043397576#44542739, accessed July 2024; and Los Angeles County, *Los Angeles County Code, Chapter 12.08 - Noise Control*, https://library.municode.com/ca/los_angeles_county/codes/code_of_ordinances?nodeId=TIT12ENPR_CH12.08NOCO, accessed May 2025.

Table 17: Nighttime On-site Composite Noise Levels

Receptor[1]	Mechanical Equipment (dBA L_{eq})	Truck Loading (dBA L_{eq})[2]	Cargo Forklifts (dBA L_{eq})[2]	Backup Alarms (dBA L_{eq})[2]	Recreational Activities and Special Events (dBA L_{eq})	Combined Parking (dBA L_{eq})	Combined Noise at Receptor (dBA L_{eq})[3]	Ambient Level (dBA L_{eq})[4]	Ambient + Project Noise at Receptor (dBA L_{eq})	Incremental Increase (dBA L_{eq})	Noise Standard (dBA)[5]	Significant?
SR-1: Whittier Narrows Recreation area	39.3	37.9	34.0	54.9	47.5	43.3	56.1	62.3	63.2	0.9	65	**No**
SR-2: Future City Park	47.9	40.5	36.7	47.9	0.0	48.0	53.1	62.3	62.8	0.5	65	**No**
SR-3: Residential Uses	34.6	35.1	31.2	46.4	40.2	32.5	48.0	62.3	62.5	0.2	65	**No**
Commercial/ Office Use	49.1	41.1	37.3	50.7	56.8	42.8	58.5	62.3	63.8	1.5	62.3	**No**

1. The proposed Project would develop a park, which would be exposed to operational noise associated with the future warehouse component. The nearest residential and recreational uses would be exposed to the operational noise associated with the future City park and the warehouse. Refer to Figure 5 for the receptor locations.
2. Noise levels for truck loading, cargo forklifts, and truck backup alarms account for the proposed 14-foot-high screening wall and 8-foot-high sliding gate surrounding the truck court area. The following noise level reductions were applied based on partial noise barrier calculations (refer to Appendix A):
   - 14 dBA at the Whittier Narrows Recreation area to the southeast;
   - 11 dBA at the future (on-site) park;
   - 11 dBA at the residential uses to the southeast; and
   - 12 dBA at the commercial/office uses to the south.
3. Noise levels for all operational sources were logarithmically added together and conservatively assumed to operate in a simultaneous, constant manner.
4. Ambient noise measurements were taken by Kimley-Horn and Associates on July 30 and July 31, 2024, and are shown in Table 11.
5. The future city park receptors and residential receptors are located in the City and the Whittier Narrows Recreation area receptors and commercial/office receptors are located in the County. Therefore, the applicable City or County standards were applied to each receptor:
   - City: The City's Municipal Code has not established noise standards for recreational uses. Therefore, the City General Plan land use standard for recreational uses of 65 dBA has been used in this analysis for the future city park. The City's Municipal Code Section 8.20.020 has established an adjusted nighttime exterior noise standard of 65 dBA for residentially zoned properties, based on the ambient noise level.
   - County: The County Code has not established noise standards for recreational uses. Therefore, the State land use compatibility standards for recreational uses of 65 dBA has been used in this analysis for the Whittier Narrows Recreation area receptor, which is consistent with the City General Plan land use standard. County Code Section 12.08.390 states that the nighttime exterior noise standard for commercial uses is 55 dBA or the existing ambient noise level, whichever is greater. Therefore, this analysis uses the existing ambient noise level (62.3 dBA) as the nighttime exterior noise standard for the commercial/office use.

Source: City of South El Monte, *General Plan*, *Public Safety Element*, October 2000; City of South El Monte, *Municipal Code*, *Section 8.20.020*, *Exterior Noise Limits*, https://ecode360.com/44542750?highlight=noise,noises&searchId=1878241043397576#44542739, accessed July 2024; and Los Angeles County, Los Angeles County Code, Chapter 12.08 - Noise Control, https://library.municode.com/ca/los_angeles_county/codes/code_of_ordinances?nodeId=TIT12ENPR_CH12.08NOCO, accessed May 2025.

Truck Back-Up Alarms

Medium and heavy-duty trucks reversing into loading docks would produce noise from back-up alarms (also known as back-up beepers). Back-up beepers produce a typical volume of 97 dBA at one meter (3.28 feet) from the source.[48] The nearest receptors to the loading dock area where trucks would be reversing are the Whittier Narrows Recreation area (SR-1) approximately 83 feet to the southeast, commercial/office uses approximately 170 feet to the west, future City park (SR-2) approximately 263 feet to the west, and residential uses (SR-3) approximately 312 feet to the southeast. The noise levels from truck back-up alarms would not exceed the City or County's noise standards at any receptors (Table 16 and Table 17). Additionally, back-up beeper noise is short in duration and would occur intermittently throughout the day/night. Therefore, back-up beeper noise would be lower than the estimated levels when averaged over time. Impacts would be less than significant, and no mitigation is required.

Recreational Activities and Special Events

Potential noise sources related to the long-term operations of the recreational athletic fields conservatively assumed for the future City park would include sports games and practices at the athletic fields, which typically generate noise levels of approximately 74 dBA at 20 feet from the center of the athletic field.[49] It is conservatively assumed that a game or practice would occur at the athletic field closest to the receptors. The nearest receptors to the athletic fields are the commercial/office use approximately 145 feet to the south, Whittier Narrows Recreation area (SR-1) approximately 412 feet to the southeast, and residential uses (SR-3) approximately 985 feet to the southeast. Although field lighting would be turned off by 10:00 p.m., this analysis conservatively assumed that sports games and practices could occur during nighttime hours (i.e., from 10:00 p.m. to 7:00 a.m.). The noise levels from sports games and practices would not exceed the City or County's noise standards at any receptors (shown in Table 16 and Table 17). Given the nature of the future recreational park use (conservatively assumed to include athletic fields), it is assumed that there would be no permanent on-site speakers. It is possible that portable speakers may be brought to the site for special events. However, the frequency of special events is uncertain and any such events would be required to obtain a Group Use Permit (pursuant to Municipal Code Chapter 12 Streets, Sidewalks, and Public Places) that acknowledges the event would comply with the City's noise standards. Impacts would be less than significant, and no mitigation is required.

Parking Noise

Traffic associated with parking lots is typically not of sufficient volume to exceed community noise standards, which are based on a time-averaged scale such as the CNEL scale. The instantaneous maximum sound levels generated by a car door slamming, engine starting up, and car pass-bys range from 53 to 61 dBA.[50] Conversations in parking areas may also be an annoyance to sensitive receptors. Sound levels of speech typically range from 33 dBA at 50 feet for normal speech to 50 dBA at 50 feet for very loud speech. It should be noted that parking lot noises are instantaneous noise

[48] Environmental Health Perspectives, *Vehicle Motion Alarms: Necessity, Noise Pollution, or Both?* https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3018517/, accessed July 2024.

[49] Elliott H. Berger, Rick Neitzel, and Cynthia A. Kladden, *Noise Navigator Sound Level Database with Over 1700 Measurement Values*, July 6, 2010

[50] Kariel, H. G., *Noise in Rural Recreational Environments*, *Canadian Acoustics 19(5), 3-10*, 1991.

levels compared to noise standards in the hourly L_{eq} metric, which are averaged over the entire duration of a time period.

For the purpose of providing a conservative, quantitative estimate of the noise levels that would be generated from the vehicles entering and exiting the warehouse and City park parking lots, the methodology recommended by FTA for the general assessment of stationary transit noise sources is used. The peak hourly noise level that would be generated by the parking lots for the future warehouse and park components was estimated using the following FTA equation for a parking lot:

$$L_{eq(h)} = SEL_{ref} + 10 \log (NA/1{,}000) - 35.6$$

Where:

$L_{eq(h)}$ = hourly L_{eq} noise level at 50 feet

SEL_{ref} = reference noise level for stationary noise source represented in sound exposure level (SEL) at 50 feet

NA = number of automobiles per hour

35.6 is a constant in the formula, calculated as 10 times the logarithm of the number of seconds in an hour

Parking for the warehouse area of the Project would be provided along the western and eastern boundary of the warehouse component.[51] The warehouse component is expected to have 155 peak hour trips. Using the FTA's reference noise level of 92 dBA SEL at 50 feet from the noise source, the Project's highest peak hour vehicle trips would generate noise levels of approximately 48.3 dBA L_{eq} at 50 feet from the noise source.[52] The nearest receptors to the parking lot for the future warehouse are the Whittier Narrows Recreation area (SR-1) approximately 90 feet to the southeast, future City park (SR-2) approximately 52 feet to the west, commercial/office use approximately 112 feet to the west, and the residential uses (SR-3) approximately 312 feet to the southeast.

Parking for the future City park area is conceptually proposed to be located on the eastern boundary adjacent to the warehouse component. The future City park is forecasted to have 75 peak hour trips.[53] Using the FTA's reference noise level of 92 dBA SEL at 50 feet from the noise source, the Project's highest peak hour vehicle trips would generate noise levels of approximately 48.3 dBA L_{eq} at 50 feet from the parking lot.[54] The nearest receptors to the parking lot for the future City park component are the commercial/office uses approximately 124 feet to the south, Whittier Narrows Recreation area (SR-1) approximately 395 feet to the south, and residential uses (SR-3) approximately 782 feet to the southeast.

The worst-case parking lot noise scenario was quantified by conservatively combining the noise from the future warehouse and park components parking lots. As shown in Table 16 and Table 17, the combined parking noise level would not exceed the City or County's noise standard at any receptor. Actual noise levels over time resulting from parking lot activities would be far lower than the reference levels identified above, as parking lot noise would be dispersed throughout the on-site

[51] Kimley-Horn and Associates, Inc., *Transportation Study - South El Monte Athletic Fields and Business Park Project*, January 2025.
[52] Federal Transit Administration, *Transit Noise and Vibration Impact Assessment Manual*, September 2018.
[53] Kimley-Horn and Associates, Inc., *Transportation Study - South El Monte Athletic Fields and Business Park Project*, January 2025.
[54] Federal Transit Administration, *Transit Noise and Vibration Impact Assessment Manual*, September 2018.

parking lots. It is also noted that parking lot noise occurs at the surrounding recreational uses under existing conditions. It is also noted that parking lot noise occurs at the surrounding Whittier Narrows Recreation area under existing conditions. Parking lot noise would be consistent with the existing noise in the vicinity and would be partially masked by background noise from traffic along surrounding roadways and SR-60. Impacts would be less than significant, and no mitigation is required.

Composite Operational Noise

Given the future warehouse is assumed to operate 7 days a week, 24 hours per day and the uncertainty of recreational activity at the future City park, the potential maximum Project-related noise level increase at the nearest receptors was conservatively quantified by combining the daytime and nighttime noise levels from the future warehouse and park's various operational noise sources (i.e., composite noise level). It is conservatively assumed in this analysis that all the equipment and operational activity at the Project site would occur in a constant, simultaneous manner. However, noise sources would occur intermittently throughout the day (except for the warehouse HVAC which may operate in a steady-state manner).

As shown in Table 16 and Table 17, daytime and nighttime composite ambient plus project noise levels would not exceed both the substantial increase threshold (5 dBA) and the noise standard at any of the receptors. Impacts would be less than significant, and no mitigation is required.

Off-Site Traffic Noise

Implementation of the Project would generate increased traffic volumes along nearby roadway segments. According to the Average Daily Traffic (ADT) Volumes provided in the Traffic Study prepared by Kimley Horn (January 2025), the Project would increase the ADT volume, which would result in noise increases on Project site study area roadways.[55] Traffic noise levels on roadways primarily affected by Project-generated trips were calculated using the FHWA's Highway Noise Prediction Model (FHWA-RD-77-108). Traffic noise modeling shown in Table 18: Opening Year and Opening Year Plus Project Traffic Noise Levels, was conducted for conditions with and without the Project based on traffic volumes from the Traffic Study.

As shown in Table 18, traffic-generated noise levels on study area roadways would range between 52.3 dBA CNEL and 65.0 dBA CNEL at 100 feet from the roadway centerline. The Project would result in a maximum increase of 3.4 dBA CNEL along Lexington-Gallatin Road (east of Santa Anita Avenue), which would not exceed the substantial increase threshold (5 dBA). Additionally, Plus Project traffic noise levels remain within the County and City's "Clearly Compatible" standard. Impacts would be less than significant, and no mitigation is required.

[55] Kimley-Horn and Associates, Inc., *Transportation Study - South El Monte Athletic Fields and Business Park Project*, 2025.

Table 18: Opening Year and Opening Year Plus Project Traffic Noise Levels

Roadway Segment	Opening Year		Opening Year + Project		Land Use Compatibility Standards		Substantial Increase Threshold (dBA CNEL)	Difference between Opening Year + Project and Opening Year (dBA CNEL)	Significant Impact[3]
	ADT	dBA CNEL[1]	ADT	dBA CNEL[1]	Land Use[2]	Clearly Compatible			
Durfee Avenue between Rosemead Boulevard to Santa Anita Avenue	20,063	65.0	20,271	65.0	Park (County)	65	5	0.0	**No**
Durfee Avenue between Santa Anita Avenue to Peck Road	17,750	64.5	18,010	64.6	School (City)	55	5	0.1	**No**
Santa Anita Avenue between SR-60 to Lexington-Gallatin Road	9,513	60.6	11,032	61.2	Park (County)	65	5	0.6	**No**
Santa Anita Avenue between Lexington-Gallatin Road to Durfee Avenue	8,988	60.3	9,456	60.5	Park (County)	65	5	0.2	**No**
Lexington-Gallatin Road east of Santa Anita Avenue	1,150	48.9	2,496	52.3	Residential (City) Park (County)	65	5	3.4	**No**

ADT = average daily trips; dBA = A-weighted decibels; CNEL= Community Equivalent Noise Level

1. Traffic noise levels are at 100 feet from the roadway centerline. The actual sound level at any receptor location is dependent upon such factors as the source-to-receptor distance and the presence of intervening structures, barriers, and topography.
2. The identified land use represents the lowest land use compatibility standard along the referenced roadway segment.
3. Potential impacts occur when the incremental increase exceeds the substantial increase threshold (5 dBA) and the land use compatibility standard is exceeded (i.e., both must occur).

Source: Based on traffic data within the *Transportation Study - South El Monte Athletic Fields and Business Park Project*, prepared by Kimley-Horn and Associates, Inc. (2025). Refer Appendix A for traffic noise modeling results; City of South El Monte, *General Plan*, *Public Safety Element*, October 2021.; and Los Angeles County, *Los Angeles County General Plan 2035*, *Noise Element*, adopted October 6, 2015.

Mitigation Measures:

MM NOI-1 Prior to issuance of a building permit, the applicant shall demonstrate, to the satisfaction of the City of South El Monte Building Official or Chief Engineer, that the construction contracts include the installation a 10-foot-high temporary construction noise barrier along the portion of the southwest Project site boundary line that is within approximately 20 feet of the office/commercial uses within Whittier Narrows Recreation area as depicted in Figure 6. The temporary construction noise barrier shall have a sound transmission class (STC) of 25 or greater in accordance with the American Society for Testing and Materials (ASTM) Test Method E90, or a density of at least two pounds per sf to ensure adequate transmission loss characteristics. To achieve this, the barrier may consist of steel tubular framing, welded joints, a layer of 18-ounce tarp, a two-inch thick fiberglass blanket, a half-inch thick weatherwood asphalt sheathing, and 7/16-inch sturdy board siding An alternate design may be proposed by the applicant provided that the noise attenuation requirements above are met. The temporary construction noise barrier must be free of degrading holes or gaps and shall be designed to prevent structural failure due to factors such as wind, shear, shallow soil failure, earthquakes, and erosion.

Level of Significance: Less than significant impact.

Threshold 6.2 Would the Project generate excessive ground-borne vibration or ground-borne noise levels?

Construction

On-Site Construction Vibration

Increases in ground-borne vibration levels attributable to the Project would be primarily associated with construction-related activities. Project construction would have the potential to result in varying degrees of temporary ground-borne vibration, depending on the specific construction equipment used and the operations involved.

The types of construction vibration impacts include human annoyance and building damage. Human annoyance occurs when construction vibration rises significantly above the threshold of human perception for extended periods of time. Building damage can be cosmetic or structural. Ordinary buildings that are not particularly fragile would not experience any cosmetic damage (e.g., plaster cracks) at distances beyond 30 feet. This distance can vary substantially depending on the soil composition and underground geological layer between vibration source and receiver. In addition, not all buildings respond similarly to vibration generated by construction equipment. The City does not provide numerical vibration standards for construction activities. As the nearest structure is a commercial/office building within the Whittier Narrows Recreation area and located adjacent to the Project's western property line, this impact discussion uses the structural damage criterion of 0.3 in/sec PPV for commercial buildings and the human annoyance criterion of 80 VdB; refer to *Section 5.1*.

Table 19: Typical Construction Equipment Vibration Levels lists the reference vibration levels for typical construction equipment (measured at 25 feet). The ground-borne vibration generated by construction equipment spreads through the ground and diminishes in magnitude with increases in distance. Vibration-generating construction equipment to be used at the Project site includes reference vibration levels for include loaded haul trucks, large bulldozer, small bulldozer, jackhammer, hoe ram, and vibratory roller.[56] Haul trucks would be staged at locations within the warehouse boundaries that would provide ease of access/egress from the Project site and onto the roadway network. Loaded trucks would travel on roads at distances greater than 25 feet from structures. A vibratory roller could be used during the construction of the parking lots for the future warehouse and park components.

Table 19: Typical Construction Equipment Vibration Levels

Equipment	Structural Damage		Human Annoyance
	Reference Level PPV at 25 Feet (in/sec)	**PPV at 20 Feet (in/sec)[1]**	**VdB at 105 Feet[2]**
Vibratory Roller	0.210	0.293	75
Large Bulldozer	0.089	0.124	68
Hoe Ram	0.089	0.124	68
Loaded Trucks	0.076	0.106	67
Jackhammer	0.035	0.049	60
Small Bulldozer	0.003	0.004	39
Structural Damage Threshold	**-**	**0.3**	**-**
Human Annoyance Threshold	**-**	**-**	**80**
Exceeds Thresholds?	**-**	**No**	**No**

- = Not Applicable

1. Calculated using the following formula: $PPVequip = PPVref \times (25/D)^{1.5}$
   where: PPVequip = the peak particle velocity in in/sec of the equipment adjusted for the distance
   PPVref = the reference vibration level in in/sec from Table 7-4 of the Federal Transit Administration, *Transit Noise and Vibration Impact Assessment Manual*, 2018.
   D = the distance from the equipment to the receiver
2. Calculated using the following formula: $L_{v.distance} = L_{vref} - 30\log(D/25)$
   where: $L_{v.distance}$ = the rms velocity level adjusted for distance, VdB
   L_{vref} = the source reference vibration level at 25 ft in VdB from Table 7-4 of the Federal Transit Administration, *Transit Noise and Vibration Impact Assessment Manual*, 2018.
   D = the distance from the equipment to the receiver

Source: Federal Transit Administration, *Transit Noise and Vibration Impact Assessment Manual*, September 2018; City of South El Monte, *Municipal Code*, *Section 8.20.020*, *Exterior Noise Limits*, https://ecode360.com/44542750?highlight=noise,noises&searchId=1878241043397576#44542739, accessed July 2024.; and Los Angeles County, *Los Angeles County Code*, *Section 12.08.560 - Vibration*, https://library.municode.com/ca/los_angeles_county/codes/code_of_ordinances?nodeId=TIT12ENPR_CH12.08NOCO, accessed May 2025.

Construction activities are anticipated to occur throughout the Project site as well as off-site infrastructure improvements in Santa Anita Avenue and Lexington-Gallatin Road (temporary trenching activities. The nearest structure would be the garage associated with the commercial/office use located approximately 20 feet to the west of the Project site boundary. As indicated in Table 19 vibration velocities from typical heavy construction equipment operations that

[56] Federal Transit Administration, *Transit Noise and Vibration Impact Assessment Manual*, September 2018. Equipment where FTA guidance does not include reference vibration levels for are assumed to not require analysis.

would be used during Project construction range from 0.004 to 0.293 in/sec PPV at 20 feet from the source of activity. Therefore, ground-borne vibration generated from construction activities would not exceed the City and County structural damage criterion of 0.30 in/sec PPV. Although the commercial/office building is located approximately 20 feet to the west of the Project site boundary, a garage occupies the area closest to the Project site. Therefore, the office area of the commercial/office building would be the closest area of human occupation and is used in this analysis to determine human annoyance. The office area of the commercial/office use would be located approximately 105 feet to the west of the Project site boundary. At this distance, ground-borne vibration generated from construction activities could reach a maximum of 75 VdB. Therefore, ground-borne vibration generated from construction activities would not exceed the human annoyance criteria of 80 VdB. Impacts would be less than significant, and no mitigation is required.

Off-Site Construction Vibration

With respect to infrastructure improvements, Project construction would involve trenchers and tractors in Santa Anita Avenue and Lexington-Gallatin Road. The nearest sensitive receptor from Lexington-Gallatin Road are the residential uses approximately 80 feet to the east. Infrastructure improvements are anticipated to include the use of trenchers and tractors. The FTA does not have a vibratory reference level for trenchers or tractors. However, it is conservatively assumed that the vibration from trenchers/tractors would not exceed that of a small bulldozer, which creates a vibration level of 0.001 in/sec PPV at 80 feet or 79 VdB at 80 feet. Therefore, ground-borne vibration generated from off-site construction would not exceed the structural damage criterion (0.3 in/sec PPV) or human annoyance criteria (80 VdB). Impacts would be less than significant, and no mitigation is required.

With respect to construction trucks, Project construction would involve truck travel along nearby roadways, generating vibration events with each passing truck. During excavation, soil would be stockpiled by trucks within designated areas of the Project site prior to export. According to the FTA's Transit Noise and Vibration Impact Assessment, a truck rarely creates vibration levels that exceed 70 VdB (equivalent to 0.012 in/sec PPV) when on a roadway.[57] The factors influencing levels of ground-borne vibration include vehicle speed, vehicle suspension, and wheel condition and type. The frequency of vibration events is not listed as an influencing factor for vibration velocity by the FTA.[58] As such, multiple trucks traveling along the roadway would increase the frequency of vibration events but would not affect the vibration velocity experienced by receptors. Impacts would be less than significant, and no mitigation is required.

Operation

With respect to vibration-generating activities, operation of the Project would primarily involve personal automobiles used by employees accessing the surface parking, and trucks accessing the warehouse, including truck loading and unloading. Due to the rapid drop-off rate of ground-borne vibration and the short duration of the associated events, vehicular traffic-induced ground-borne vibration is rarely perceptible beyond the roadway right-of-way, and rarely results in vibration levels

[57] Federal Transit Administration, *Transit Noise and Vibration Impact Assessment Manual*, September 2018.
[58] Ibid.

that cause damage to buildings in the vicinity.[59] According to the FTA's Transit Noise and Vibration Impact Assessment, trucks such as delivery trucks, refuse collection trucks, and occasional moving trucks rarely create vibration levels that exceed 70 VdB (equivalent to 0.012 in/sec PPV) when they are on roadways.[60] It can be reasonably assumed that the same is true for trucks accessing the warehouse. Furthermore, according to Caltrans guidance (see Table 4), vibration from trucks accessing the warehouse would not be perceptible.

Truck movements at the warehouse would generally be low-speed (i.e., less than 15 miles per hour) and would occur over new, smooth surfaces. Caltrans has studied the effects of propagation of vehicle vibration on sensitive land uses and notes that "heavy trucks, and quite frequently buses, generate the highest earthborn vibrations of normal traffic." However, Caltrans further notes that the highest traffic-generated vibrations are along freeways and State routes. Furthermore, the Caltrans study finds that "vibrations measured on freeway shoulders (five meters from the centerline of the nearest lane) have never exceeded 0.08 in/sec, with the worst combinations of heavy trucks and poor roadway conditions (while such trucks were moving at freeway speeds). This level coincides with the maximum recommended safe level for ruins and ancient monuments (and historic buildings)".[61] Since the truck movements associated with the Project would be at low speed (not at freeway speeds) and would be over smooth surfaces (not under poor roadway conditions), Project-related vibration associated with truck activity would not result in excessive ground-borne vibrations; no vehicle-generated vibration impacts would occur. In addition, there are no sources of substantial ground-borne vibration associated with the Project, such as rail or subways. The Project would not create or cause any vibration impacts due to operations. Impacts would be less than significant, and no mitigation is required.

Mitigation Measures: No mitigation is required.

Level of Significance: Less than significant impact.

Threshold 6.3 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 of public use airport, would the Project expose people residing or working in the Project area to excessive noise levels?

The Project site is located approximately 2.9 miles south of the San Gabriel Valley Airport and is not located within the Planning Boundary/Influence Area. The Project site is not located within an existing or projected noise contour associated with any private or public airport. Therefore, approval of the Project would not result in any significant effects relating to excessive airport or airstrip-related noise levels.

Mitigation Measures: No mitigation is required.

Level of Significance: No impact.

[59] Ibid.
[60] Ibid.
[61] California Department of Transportation, *Technical Noise Supplement to the Traffic Noise Analysis Protocol ("TeNS"),* September 2013.

6.2 Cumulative Noise Impacts

Noise by definition is a localized phenomenon, and drastically reduces as distance from the source increases. Cumulative noise impacts describe how much noise levels are projected to increase over existing conditions with the development of the proposed Project and other foreseeable projects. Cumulative noise impacts would occur primarily as a result of the Project-generated traffic on local roadways in combination with cumulative projects in the vicinity. However, noise from generators and other stationary sources could also generate cumulative noise levels. As noise levels decrease as distance from the source increases, only projects in the nearby area could combine with the proposed Project to potentially result in cumulative noise impacts; refer to noise receptors shown in Figure 5.

Cumulative Construction Noise

As previously addressed, the Project's construction activities would not result in a substantial temporary increase in ambient noise levels and therefore, the Project's construction noise impacts would be less than significant. Construction noise would be periodic and would cease upon completion of construction activities. The Project would contribute to other proximate construction project noise impacts if construction activities were conducted concurrently. Construction activities at other planned and approved projects near the project site would also be required to comply with applicable City rules related to noise and any construction noise that could cause a registered noise disturbance at a residential use would take place during daytime hours on the days permitted by the applicable municipal code, and projects requiring discretionary City approvals would require the City to evaluate construction noise impacts, comply with the City's standard conditions of approval, and implement mitigation, if necessary, to minimize noise impacts. Construction noise impacts are by nature localized. Based on the fact that noise dissipates as it travels away from its source, noise impacts would be limited to the project site and immediate vicinity. Therefore, based on the foregoing, Project construction would not result in a cumulatively considerable contribution to any significant cumulative impacts. Cumulative impacts would be less than significant, and no mitigation is required.

Cumulative Operational Noise

Cumulative noise impacts describe how much noise levels are projected to increase over existing conditions with the development of the proposed Project and other foreseeable projects. Cumulative noise impacts would occur primarily as a result of the Project-generated traffic on local roadways in combination with cumulative projects in the vicinity. However, noise from generators and other stationary sources could also generate cumulative noise levels.

Stationary Noise

Stationary noise sources of the proposed Project would result in an incremental increase in non-transportation noise sources in the area. However, as discussed above, operational noise caused by the proposed Project would be less than significant. Similar to the proposed Project, other planned and approved projects would be required to mitigate for stationary noise impacts at nearby sensitive receptors, if necessary. Given that noise dissipates as it travels away from its source, operational noise impacts from on-site activities and other stationary sources would be limited to

the project site and the immediate vicinity. Thus, stationary noise sources are generally localized and there is a limited potential for other projects to contribute to cumulative noise impacts. Furthermore, no known past, present, or reasonably foreseeable projects would combine with the operational noise levels generated by the Project to increase noise levels above acceptable standards because each project must comply with applicable City regulations that limit operational noise levels.

Therefore, based on the foregoing, the Project would not result in a cumulatively considerable contribution to any significant cumulative impact. Cumulative impacts would be less than significant, and no mitigation is required.

Off-Site Traffic Noise

The cumulative mobile noise analysis is conducted in a two-step process. First, the combined effects from both the Project and other projects are assessed. Second, for combined effects that are determined to be cumulatively significant, the Project's incremental effects are then analyzed. A project's contribution to a cumulative traffic noise increase would be considered significant when the combined effect exceeds perception level (i.e., auditory level increase) threshold. The combined effect compares the "Cumulative With Project" condition to "Existing" conditions. This comparison accounts for the traffic noise increase generated by the Project combined with the traffic noise increase generated by cumulative projects.

The following criteria is used to evaluate the combined effect of the cumulative noise increase.

- Combined Effect. The cumulative with Project noise level ("Cumulative With Project") would cause a significant cumulative impact if a 3.0 dB increase over "Existing" conditions occurs and the resulting noise level exceeds the applicable exterior standard at a sensitive use.

Even if there would be a significant noise increase due to the Project in combination with identified cumulative projects (combined effects), it must also be demonstrated that the Project has an incremental effect. In other words, a significant portion of the noise increase must be due to the Project. The following criteria have been utilized to evaluate the incremental effect of the cumulative noise increase.

- Incremental Effects. The "Cumulative With Project" causes a 1.0 dBA increase in noise over the "Cumulative Without Project" noise level.

A significant impact would result only if both the combined and incremental effects criteria have been exceeded and if noise levels exceed acceptable noise levels. Noise by definition is a localized phenomenon and reduces as distance from the source increases. Consequently, only the proposed Project and growth due to occur in the general area would contribute to cumulative noise impacts. Increases in local volumes from related projects within a half-mile radius of the Project site have been estimated and included in cumulative traffic conditions.

Table 20: Cumulative Plus Project Buildout Conditions Traffic Noise Levels identifies the traffic noise effects along roadway segments in the vicinity of the Project site for "Existing," "Cumulative Without Project," and "Cumulative With Project," conditions, and net cumulative impacts. First, it must be determined whether the "Cumulative With Project" 3.0 dB increase above existing conditions (*Combined Effects*) is exceeded. Next, under the *Incremental Effects* criteria, cumulative noise

impacts are defined by determining if the forecast ambient ("Cumulative Without Project") noise level is increased by 1.0 dB or more.

Table 20: Cumulative Plus Project Buildout Conditions Traffic Noise Levels

Roadway Segment	CNEL at 100 feet from Centerline			Land Use Compatibility Standards		Combined Effects	Incremental Effects	Cumulatively Significant Impact?[2]
	Existing	Cumulative Without Project	Cumulative With Project	Land Use[1]	Clearly Compatible (dBA CNEL)	dBA Difference: Existing and Cumulative With Project	dBA Difference: Cumulative Without and With Project	
Durfee Avenue between Rosemead Boulevard to Santa Anita Avenue	64.9	65.0	65.0	Park (County)	65	0.1	0.0	**No**
Durfee Avenue between Santa Anita Avenue to Peck Road	64.5	64.5	64.6	School (City)	55	0.1	0.1	**No**
Santa Anita Avenue between SR-60 to Lexington-Gallatin Road	60.5	60.6	61.2	Park (County)	65	0.7	0.6	**No**
Santa Anita Avenue between Lexington-Gallatin Road to Durfee Avenue	60.2	60.3	60.5	Park (County)	65	0.3	0.2	**No**
Lexington-Gallatin Road east of Santa Anita Avenue	48.8	48.9	52.3	Residential (City) Park (County)	65	3.5	3.4	**No[3]**

ADT = average daily trips; dBA = A-weighted decibels; CNEL = day-night noise level

1. The identified land use represents the lowest land use compatibility standard along the referenced roadway segment.
2. Potential impacts occur when the combined effects exceed 3.0 dBA, incremental effects exceed 1.0 dBA, and the Cumulative with Project traffic noise level exceeds the land use compatibility standard (i.e., all must occur).
3. Although the increases in traffic noise would result in combined and incremental effects, Cumulative with Project traffic noise levels would remain within the "Clearly Compatible" noise level for residential and recreational land uses pursuant to the City General Plan and County General Plan.

Source: City of South El Monte, General Plan, *Public Safety Element*, October 2021; and Los Angeles County, *Los Angeles County General Plan 2035*, *Noise Element*, adopted October 6, 2015. Refer to Appendix A for traffic noise modeling assumptions and results.

As shown in Table 20, although Combined Effects (3.0 dBA) and Incremental Effects (1.0 dBA) criteria would be exceeded along Lexington-Gallatin Road (east of Santa Anita Avenue), cumulative traffic noise levels remain within the County and City's "Clearly Compatible" noise standards for nearby receptors, including residential and recreational land uses.[62] Cumulative impacts would be less than significant, and no mitigation is required.

Mitigation Measures: No mitigation is required.

Level of Significance: Less than significant impact.

[62] City of South El Monte, *General Plan, Public Safety Element*, October 2000.

7.0 REFERENCES

1. AB 1307, Public Resources Code Section 21085.
2. California Department of Transportation, Technical Noise Supplement to the Traffic Noise Analysis Protocol, September 2013, https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/tens-sep2013-a11y.pdf.
3. City of South El Monte, General Plan, Public Safety Element, October 2000.
4. City of South El Monte, Municipal Code, Section 8.20.020, Exterior Noise Limits, https://ecode360.com/44542750?highlight=noise,noises&searchId=1878241043397576#44542739.
5. Cyril M. Harris, Handbook of Noise Control, 1979
6. Elliott H. Berger, Rick Neitzel, and Cynthia A. Kladden, Noise Navigator Sound Level Database with Over 1700 Measurement Values, July 6, 2010
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Appendix A

NOISE DATA

Noise Measurement Field Data

Project:	South El Monte Atheltic Fields and Business Park	**Job Number:**	194550001
Site No.:	LT-1	**Date:**	7/30/2024-7/31/2024
Analyst:	Eric Wang & Jin Choi	**Time:**	11:15 AM -11: 25 AM
Location:	Southern portion of Lexington-Gallatin Rd.		
Noise Sources:	Residential noise, noise form the freeway		
Comments:			

Results (dBA):

Leq:	Lmin:	Lmax:	Peak:
60.3	46.1	82.9	102.8

Equipment	
Sound Level Meter:	LD SoundExpert LxT
Calibrator:	CAL200
Response Time:	Slow
Weighting:	A
Microphone Height:	5 feet

Weather	
Temp. (degrees F):	
Wind (mph):	
Sky:	
Bar. Pressure:	
Humidity:	

Photo:

Kimley»Horn

Measurement Report

Report Summary

Meter's File Name	LT_1.015.s	Computer's File Name	LxTse_0007061-20240730 094502-LT_1.015.ldbin
Meter	LxT SE 0007061	Firmware	2.404
User		Location	
Job Description			
Note			

Start Time	2024-07-30 09:45:02	Duration	24:10:39.8		
End Time	2024-07-31 09:55:42	Run Time	24:10:39.8	Pause Time	0:00:00.0
Pre-Calibration	2024-07-11 10:35:45	Post-Calibration	None	Calibration Deviation	---

Results

Overall Metrics

LA_{eq}	60.3 dB		
LAE	109.7 dB	SEA	--- dB
EA	10.4 mPa²h		
LA_{peak}	102.8 dB	2024-07-30 09:45:13	
LAS_{max}	82.9 dB	2024-07-31 06:00:22	
LAS_{min}	46.1 dB	2024-07-30 11:30:18	
LA_{eq}	60.3 dB		
LC_{eq}	68.8 dB	LC_{eq} - LA_{eq}	8.5 dB
LAI_{eq}	65.1 dB	LAI_{eq} - LA_{eq}	4.8 dB

Exceedances	Count	Duration
LAS > 85.0 dB	0	0:00:00.0
LAS > 115.0 dB	0	0:00:00.0
LApeak > 135.0 dB	0	0:00:00.0
LApeak > 137.0 dB	0	0:00:00.0
LApeak > 140.0 dB	0	0:00:00.0

Community Noise	LDN	LDay	LNight
	68.4 dB	58.4 dB	0.0 dB

	LDEN	LDay	LEve	LNight
	68.5 dB	58.2 dB	59.1 dB	62.3 dB

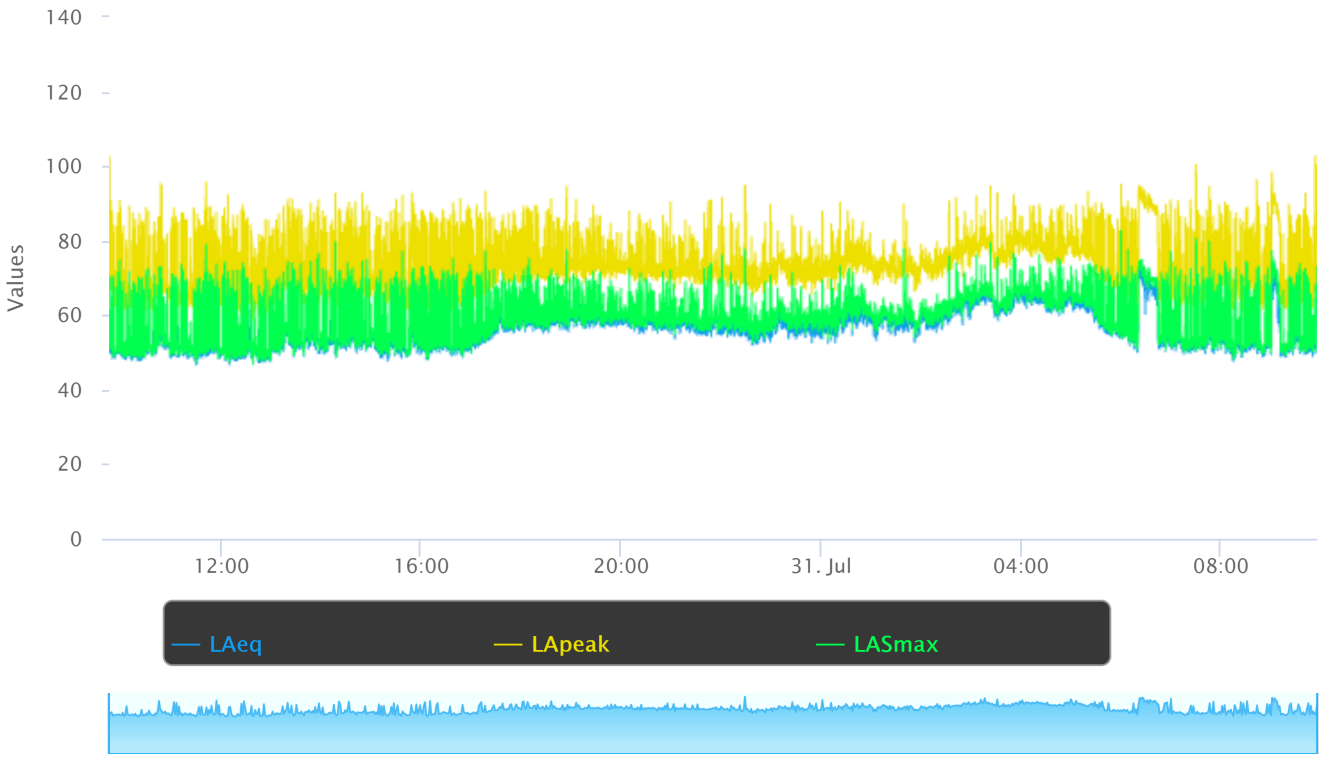
Any Data	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L_{eq}	60.3 dB		68.8 dB		--- dB	
$LS_{(max)}$	82.9 dB	2024-07-31 06:00:22	--- dB	None	--- dB	None
$LS_{(min)}$	46.1 dB	2024-07-30 11:30:18	--- dB	None	--- dB	None
$L_{Peak(max)}$	102.8 dB	2024-07-30 09:45:13	--- dB	None	--- dB	None

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

Statistics

LAS 5.0	66.1 dB
LAS 10.0	64.0 dB
LAS 33.3	58.6 dB
LAS 50.0	56.5 dB
LAS 66.6	53.2 dB
LAS 90.0	49.9 dB

Time History



Noise Measurement Field Data

Project:	South El Monte Atheltic Fields and Business Park	**Job Number:**	194550001
Site No.:	ST-1	**Date:**	7/30/2024
Analyst:	Eric Wang & Jin Choi	**Time:**	9:18 AM - 9:28 AM
Location:	Northern parking lot Whittier Narrows		
Noise Sources:	Auto traffic from CA60, automobiles coming in and out of parking lot, birds		
Comments:			

Results (dBA):

Leq:	Lmin:	Lmax:	Peak:
60.6	57.1	68.1	80.3

Equipment	
Sound Level Meter:	LD SoundExpert LxT
Calibrator:	CAL200
Response Time:	Slow
Weighting:	A
Microphone Height:	5 feet

Weather	
Temp. (degrees F):	68
Wind (mph):	3
Sky:	Clear
Bar. Pressure:	29.97
Humidity:	71%

Photo:

Kimley»Horn

Measurement Report

Report Summary

Meter's File Name	ST-1.081.s	Computer's File Name	LxTse_0007061-20240730 074723-ST-1.081.ldbin
Meter	LxT SE 0007061	Firmware	2.404
User		Location	
Job Description			
Note			

Start Time	2024-07-30 07:47:23	Duration	0:10:00.0		
End Time	2024-07-30 07:57:23	Run Time	0:10:00.0	Pause Time	0:00:00.0
Pre-Calibration	2024-07-30 07:46:04	Post-Calibration	None	Calibration Deviation	---

Results

Overall Metrics

LA_{eq}	60.6 dB		
LAE	88.4 dB	SEA	--- dB
EA	76.5 µPa²h		
LA_{peak}	80.3 dB	2024-07-30 07:55:03	
LAS_{max}	68.1 dB	2024-07-30 07:47:23	
LAS_{min}	57.1 dB	2024-07-30 07:47:35	
LA_{eq}	60.6 dB		
LC_{eq}	72.3 dB	LC_{eq} - LA_{eq}	11.7 dB
LAI_{eq}	61.4 dB	LAI_{eq} - LA_{eq}	0.8 dB

Exceedances	Count	Duration
LAS > 85.0 dB	0	0:00:00.0
LAS > 115.0 dB	0	0:00:00.0
LApeak > 135.0 dB	0	0:00:00.0
LApeak > 137.0 dB	0	0:00:00.0
LApeak > 140.0 dB	0	0:00:00.0

Community Noise	LDN	LDay	LNight
	60.6 dB	60.6 dB	0.0 dB

	LDEN	LDay	LEve	LNight
	60.6 dB	60.6 dB	--- dB	--- dB

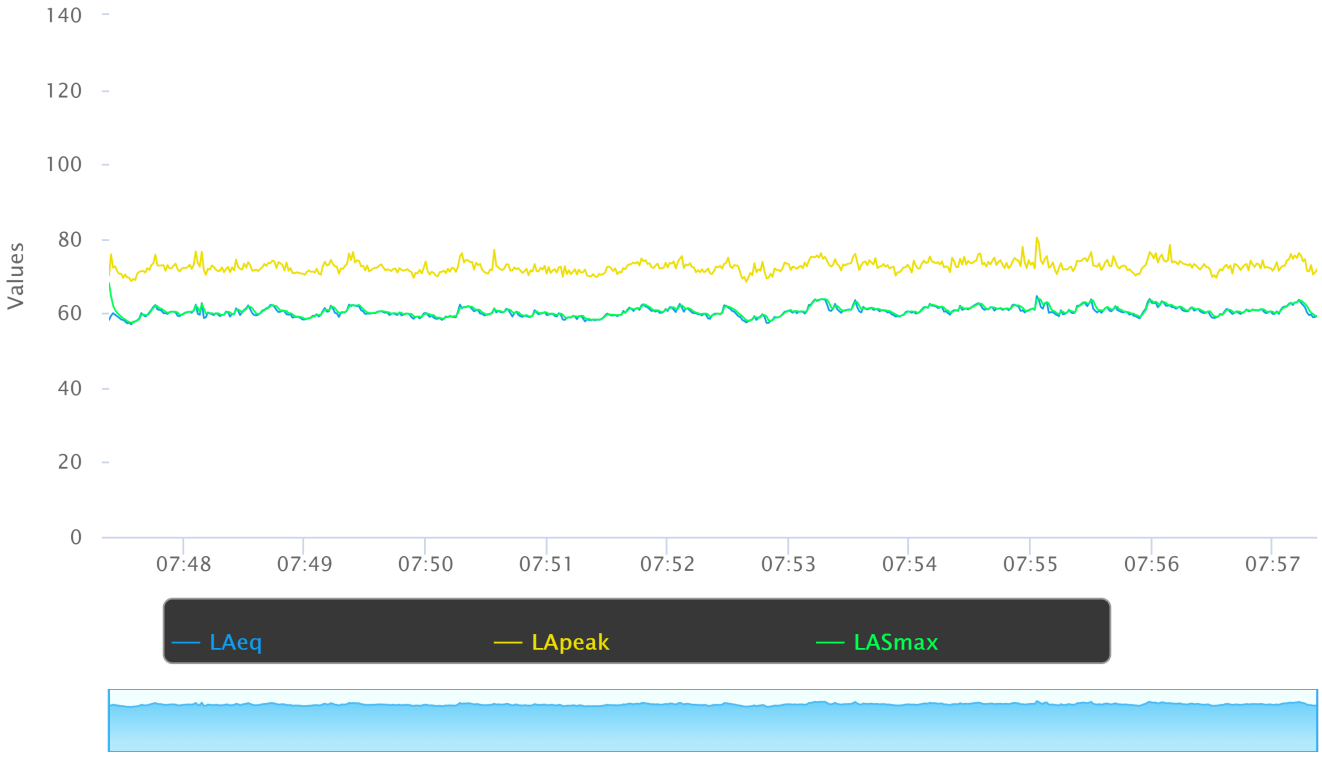
Any Data	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L_{eq}	60.6 dB		72.3 dB		--- dB	
$LS_{(max)}$	68.1 dB	2024-07-30 07:47:23	--- dB	None	--- dB	None
$LS_{(min)}$	57.1 dB	2024-07-30 07:47:35	--- dB	None	--- dB	None
$L_{Peak(max)}$	80.3 dB	2024-07-30 07:55:03	--- dB	None	--- dB	None

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

Statistics

LAS 5.0	62.5 dB
LAS 10.0	62.0 dB
LAS 33.3	60.9 dB
LAS 50.0	60.4 dB
LAS 66.6	59.9 dB
LAS 90.0	58.9 dB

Time History



Noise Measurement Field Data

Project:	South El Monte Atheltic Fields and Business Park	**Job Number:**	194550001
Site No.:	ST-2	**Date:**	7/30/2024
Analyst:	Eric Wang & Jin Choi	**Time:**	10:33 AM - 10:43 AM
Location:	End of Culde-sac on Lexington-Gallatin Rd.		
Noise Sources:	CA-60 auto traffic, neighbor gardening		
Comments:			

Results (dBA):

Leq:	Lmin:	Lmax:	Peak:
64.7	60.9	68.6	82.9

Equipment	
Sound Level Meter:	LD SoundExpert LxT
Calibrator:	CAL200
Response Time:	Slow
Weighting:	A
Microphone Height:	5 feet

Weather	
Temp. (degrees F):	75
Wind (mph):	4
Sky:	Clear
Bar. Pressure:	29.95
Humidity:	56%

Photo:

Kimley»Horn

Measurement Report

Report Summary

Meter's File Name	ST-1.085.s	Computer's File Name	LxTse_0007061-20240730 090236-ST-1.085.ldbin
Meter	LxT SE 0007061	Firmware	2.404
User		Location	
Job Description			
Note			

Start Time	2024-07-30 09:02:36	Duration	0:10:00.0		
End Time	2024-07-30 09:12:36	Run Time	0:10:00.0	Pause Time	0:00:00.0
Pre-Calibration	2024-07-11 10:35:45	Post-Calibration	None	Calibration Deviation	---

Results

Overall Metrics

LA_{eq}	64.7 dB		
LAE	92.5 dB	SEA	--- dB
EA	196.7 µPa²h		
LA_{peak}	82.9 dB	2024-07-30 09:02:41	
LAS_{max}	68.6 dB	2024-07-30 09:10:40	
LAS_{min}	60.9 dB	2024-07-30 09:04:49	
LA_{eq}	64.7 dB		
LC_{eq}	74.1 dB	LC_{eq} - LA_{eq}	9.4 dB
LAI_{eq}	65.3 dB	LAI_{eq} - LA_{eq}	0.6 dB

Exceedances

	Count	Duration
LAS > 85.0 dB	0	0:00:00.0
LAS > 115.0 dB	0	0:00:00.0
LApeak > 135.0 dB	0	0:00:00.0
LApeak > 137.0 dB	0	0:00:00.0
LApeak > 140.0 dB	0	0:00:00.0

Community Noise

LDN	LDay	LNight
64.7 dB	64.7 dB	0.0 dB

LDEN	LDay	LEve	LNight
64.7 dB	64.7 dB	--- dB	--- dB

Any Data

	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L_{eq}	64.7 dB		74.1 dB		--- dB	
$LS_{(max)}$	68.6 dB	2024-07-30 09:10:40	--- dB	None	--- dB	None
$LS_{(min)}$	60.9 dB	2024-07-30 09:04:49	--- dB	None	--- dB	None
$L_{Peak(max)}$	82.9 dB	2024-07-30 09:02:41	--- dB	None	--- dB	None

Overloads

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

Statistics

LAS 5.0	66.3 dB
LAS 10.0	66.1 dB
LAS 33.3	65.1 dB
LAS 50.0	64.6 dB
LAS 66.6	64.0 dB
LAS 90.0	62.9 dB

Noise Measurement Field Data

Project:	South El Monte Atheltic Fields and Business Park	**Job Number:**	194550001
Site No.:	ST-3	**Date:**	7/30/2024
Analyst:	Eric Wang & Jin Choi	**Time:**	10:18 AM - 10:28 AM
Location:	Andrews street (end of Culde-sac)		
Noise Sources:	Birds, auto		
Comments:			

Results (dBA):

Leq:	Lmin:	Lmax:	Peak:
52.2	46.8	63.6	83.4

Equipment	
Sound Level Meter:	LD SoundExpert LxT
Calibrator:	CAL200
Response Time:	Slow
Weighting:	A
Microphone Height:	5 feet

Weather	
Temp. (degrees F):	74
Wind (mph):	4
Sky:	Clear
Bar. Pressure:	29.95
Humidity:	55%

Photo:

Kimley»Horn

Measurement Report

Report Summary

Meter's File Name	ST-1.084.s	Computer's File Name	LxTse_0007061-20240730 084700-ST-1.084.ldbin
Meter	LxT SE 0007061	Firmware	2.404
User		Location	
Job Description			
Note			

Start Time	2024-07-30 08:47:00	Duration	0:10:00.0		
End Time	2024-07-30 08:57:00	Run Time	0:10:00.0	Pause Time	0:00:00.0
Pre-Calibration	2024-07-11 10:35:45	Post-Calibration	None	Calibration Deviation	---

Results

Overall Metrics

LA_{eq}	52.2 dB		
LAE	80.0 dB	SEA	--- dB
EA	11.1 µPa²h		
LA_{peak}	83.4 dB	2024-07-30 08:54:31	
LAS_{max}	63.6 dB	2024-07-30 08:54:31	
LAS_{min}	46.8 dB	2024-07-30 08:51:19	
LA_{eq}	52.2 dB		
LC_{eq}	64.7 dB	LC_{eq} - LA_{eq}	12.5 dB
LAI_{eq}	59.4 dB	LAI_{eq} - LA_{eq}	7.2 dB

Exceedances

Exceedances	Count	Duration
LAS > 85.0 dB	0	0:00:00.0
LAS > 115.0 dB	0	0:00:00.0
LApeak > 135.0 dB	0	0:00:00.0
LApeak > 137.0 dB	0	0:00:00.0
LApeak > 140.0 dB	0	0:00:00.0

Community Noise

LDN	LDay	LNight
52.2 dB	52.2 dB	0.0 dB

LDEN	LDay	LEve	LNight
52.2 dB	52.2 dB	--- dB	--- dB

Any Data

	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L_{eq}	52.2 dB		64.7 dB		--- dB	
$LS_{(max)}$	63.6 dB	2024-07-30 08:54:31	--- dB	None	--- dB	None
$LS_{(min)}$	46.8 dB	2024-07-30 08:51:19	--- dB	None	--- dB	None
$L_{Peak(max)}$	83.4 dB	2024-07-30 08:54:31	--- dB	None	--- dB	None

Overloads

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

Statistics

LAS 5.0	57.5 dB
LAS 10.0	56.1 dB
LAS 33.3	50.0 dB
LAS 50.0	49.1 dB
LAS 66.6	48.6 dB
LAS 90.0	47.7 dB

Time History

Noise Measurement Field Data

Project:	South El Monte Atheltic Fields and Business Park	**Job Number:**	194550001
Site No.:	ST-4	**Date:**	7/30/2024
Analyst:	Eric Wang & Jin Choi	**Time:**	9:53 AM - 10:03 AM
Location:	E. corner of Whittier Narrows picnic area		
Noise Sources:	Transmission line and autos on Lexington & Santa Ana		
Comments:			

Results (dBA):

Leq:	Lmin:	Lmax:	Peak:
54.2	46.4	64.1	85.6

Equipment	
Sound Level Meter:	LD SoundExpert LxT
Calibrator:	CAL200
Response Time:	Slow
Weighting:	A
Microphone Height:	5 feet

Weather	
Temp. (degrees F):	72
Wind (mph):	4
Sky:	Clear
Bar. Pressure:	29.95
Humidity:	59%

Photo:

Kimley»Horn

Measurement Report

Report Summary

Meter's File Name	ST-1.083.s	Computer's File Name	LxTse_0007061-20240730 082314-ST-1.083.ldbin
Meter	LxT SE 0007061	Firmware	2.404
User		Location	
Job Description			
Note			

Start Time	2024-07-30 08:23:14	Duration	0:10:00.0		
End Time	2024-07-30 08:33:14	Run Time	0:10:00.0	Pause Time	0:00:00.0
Pre-Calibration	2024-07-11 10:35:45	Post-Calibration	None	Calibration Deviation	---

Results

Overall Metrics

LA_{eq}	54.2 dB		
LAE	82.0 dB	SEA	--- dB
EA	17.5 µPa²h		
LA_{peak}	85.6 dB	2024-07-30 08:24:39	
LAS_{max}	64.1 dB	2024-07-30 08:24:40	
LAS_{min}	46.4 dB	2024-07-30 08:30:36	
LA_{eq}	54.2 dB		
LC_{eq}	68.3 dB	LC_{eq} - LA_{eq}	14.1 dB
LAI_{eq}	55.7 dB	LAI_{eq} - LA_{eq}	1.5 dB

Exceedances	Count	Duration
LAS > 85.0 dB	0	0:00:00.0
LAS > 115.0 dB	0	0:00:00.0
LApeak > 135.0 dB	0	0:00:00.0
LApeak > 137.0 dB	0	0:00:00.0
LApeak > 140.0 dB	0	0:00:00.0

Community Noise	LDN	LDay	LNight
	54.2 dB	54.2 dB	0.0 dB

	LDEN	LDay	LEve	LNight
	54.2 dB	54.2 dB	--- dB	--- dB

Any Data	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L_{eq}	54.2 dB		68.3 dB		--- dB	
$LS_{(max)}$	64.1 dB	2024-07-30 08:24:40	--- dB	None	--- dB	None
$LS_{(min)}$	46.4 dB	2024-07-30 08:30:36	--- dB	None	--- dB	None
$L_{Peak(max)}$	85.6 dB	2024-07-30 08:24:39	--- dB	None	--- dB	None

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

Statistics

LAS 5.0	58.6 dB
LAS 10.0	57.7 dB
LAS 33.3	54.4 dB
LAS 50.0	52.6 dB
LAS 66.6	50.5 dB
LAS 90.0	47.9 dB

Noise Measurement Field Data

Project:	South El Monte Atheltic Fields and Business Park	**Job Number:**	194550001
Site No.:	ST-5	**Date:**	7/30/2024
Analyst:	Eric Wang & Jin Choi	**Time:**	9:36 AM - 9:46 AM
Location:	Corner of trail fork in Whittier Narrows rec area		
Noise Sources:	Power line, auto circulation, pedestrian circulation		
Comments:	Person banging her shoes (9:41 AM)		

Results (dBA):

Leq:	Lmin:	Lmax:	Peak:
53.0	48.0	63.5	94.4

Equipment	
Sound Level Meter:	LD SoundExpert LxT
Calibrator:	CAL200
Response Time:	Slow
Weighting:	A
Microphone Height:	5 feet

Weather	
Temp. (degrees F):	71
Wind (mph):	3
Sky:	Clear
Bar. Pressure:	29.95
Humidity:	61%

Photo:

Kimley»Horn

Measurement Report

Report Summary

Meter's File Name	ST-1.082.s	Computer's File Name	LxTse_0007061-20240730 080536-ST-1.082.ldbin
Meter	LxT SE 0007061	Firmware	2.404
User		Location	
Job Description			
Note			

Start Time	2024-07-30 08:05:36	Duration	0:10:00.0		
End Time	2024-07-30 08:15:36	Run Time	0:09:58.6	Pause Time	0:00:01.4
Pre-Calibration	2024-07-11 10:35:45	Post-Calibration	None	Calibration Deviation	---

Results

Overall Metrics

LA_{eq}	53.0 dB		
LAE	80.8 dB	SEA	--- dB
EA	13.3 µPa²h		
LA_{peak}	94.4 dB	2024-07-30 08:10:00	
LAS_{max}	63.5 dB	2024-07-30 08:10:00	
LAS_{min}	48.0 dB	2024-07-30 08:11:12	
LA_{eq}	53.0 dB		
LC_{eq}	67.4 dB	LC_{eq} - LA_{eq}	14.4 dB
LAI_{eq}	57.0 dB	LAI_{eq} - LA_{eq}	4.0 dB

Exceedances

Exceedances	Count	Duration
LAS > 85.0 dB	0	0:00:00.0
LAS > 115.0 dB	0	0:00:00.0
LApeak > 135.0 dB	0	0:00:00.0
LApeak > 137.0 dB	0	0:00:00.0
LApeak > 140.0 dB	0	0:00:00.0

Community Noise

LDN	LDay	LNight
53.0 dB	53.0 dB	0.0 dB

LDEN	LDay	LEve	LNight
53.0 dB	53.0 dB	--- dB	--- dB

Any Data

	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L_{eq}	53.0 dB		67.4 dB		--- dB	
$LS_{(max)}$	63.5 dB	2024-07-30 08:10:00	--- dB	None	--- dB	None
$LS_{(min)}$	48.0 dB	2024-07-30 08:11:12	--- dB	None	--- dB	None
$L_{Peak(max)}$	94.4 dB	2024-07-30 08:10:00	--- dB	None	--- dB	None

Overloads

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

Statistics

LAS 5.0	57.6 dB
LAS 10.0	56.2 dB
LAS 33.3	52.2 dB
LAS 50.0	51.2 dB
LAS 66.6	50.2 dB
LAS 90.0	49.2 dB

Project: South El Monte Athletic Fields and Business Park
Construction Noise Impact on Sensitive Receptors

Parameters

Construction Hours:	Daytime hours (7 am to 7 pm)	8
	Evening hours (7 pm to 10 pm)	0
	Nighttime hours (10 pm to 7 am)	0
Leq to L10 factor		3

Construction Noise Level by Phase (Leq)								
Receptor (Land Use)	**Demo**	**Site Preparation**	**Grading**	**Building Construction**	**Paving**	**Infrastucture Improvements**	**Architectural Coating**	**Maximum**
Unmitigated								
1- Commercial	90.6	88.0	89.0	88.0	90.0	54.3	81.7	92.5
2- Residential	69.7	67.8	68.9	69.2	69.5	77.3	60.5	78.5
Mitigated								
1- Commercial	77.6	75.0	76.0	75.0	77.0	54.3	68.7	79.1

					RECEPTOR 1			RECEPTOR 2			MITIGATED RECEPTOR 1		
Construction Phase	**Equipment Type**	**No. of Equip.**	**Acoustical Usage Factor**	**Reference Noise Level at 50ft per Unit, Lmax**	**Distance (feet)**	**Noise Level at Receptor 1, Lmax**	**Noise Level at Receptor 1, Leq**	**Distance (feet)**	**Noise Level at Receptor 2, Lmax**	**Noise Level at Receptor 2, Leq**	**Distance (feet)**	**Mitigated Noise Level at Receptor 1, Lmax**	**Mitigated Noise Level at Receptor 1, Leq**
Demolition													
	Concrete Saw	1	20%	90	20	97.6	90.6	230.0	76.3	69.4	20	97.6	90.6
	Dozer	2	40%	82	428	66.1	62.1	890.0	59.7	55.7	428	66.1	62.1
	Excavator	3	40%	81	428	66.8	62.8	890.0	60.5	56.5	428	66.8	62.8
	Combined LEQ						**90.6**			**69.7**			**77.6**
Site Preparation													
	Tractor	1	40%	84	20	92.0	88.0	230.0	70.7	66.8	20	92.0	88.0
	Tractor	3	40%	84	428	70.1	66.1	890.0	63.8	59.8	428	70.1	66.1
	Dozer	2	40%	82	428	66.1	62.1	890.0	59.7	55.7	428	66.1	62.1
	Combined LEQ						**88.0**			**67.8**			**75.0**
Grading													
	Grader	1	40%	85	20	93.0	89.0	230.0	71.7	67.8	20	93.0	89.0
	Tractor	2	40%	84	428	68.4	64.4	890.0	62.0	58.0	428	68.4	64.4
	Scraper	2	40%	84	428	68.0	64.0	890.0	61.6	57.6	428	68.0	64.0
	Dozer	1	40%	82	428	63.1	59.1	890.0	56.7	52.7	428	63.1	59.1
	Excavator	2	40%	81	428	65.1	61.1	890.0	58.7	54.7	428	65.1	61.1
	Combined LEQ						**89.0**			**68.9**			**76.0**
Building Construction													
	Tractor	1	40%	84	20	92.0	88.0	230.0	70.7	66.8	20	92.0	88.0
	Tractor	5	40%	84	455	71.8	67.8	650.0	68.7	64.7	455	71.8	67.8
	Generator	1	50%	81	455	61.4	58.4	650.0	58.3	55.3	455	61.4	58.4
	Crane	1	16%	81	455	61.4	53.5	650.0	58.3	50.4	455	61.4	53.5
	Welder/Torch	1	40%	74	455	54.8	50.8	650.0	51.7	47.7	455	54.8	50.8
	Combined LEQ						**88.0**			**69.2**			**75.0**
Paving													
	All Other Equipment > 5 HP	1	50%	85	20	93.0	89.9	230.0	71.7	68.7	20	93.0	89.9
	All Other Equipment > 5 HP	1	50%	85	455	65.8	62.8	650.0	62.7	59.7	455	65.8	62.8
	Roller	2	20%	80	455	63.8	56.8	650.0	60.7	53.7	455	63.8	56.8
	Paver	2	50%	77	455	61.0	58.0	650.0	57.9	54.9	455	61.0	58.0
	Combined LEQ						**90.0**			**69.5**			**77.0**
Infrastructure Improvements													
	Slurry Trenching Machine	1	50%	80	1,203	52.8	49.8	85.0	75.8	72.8	1,203	52.8	49.8
	Tractor	1	40%	84	1,203	56.4	52.4	85.0	79.4	75.4	1,203	56.4	52.4
Combined LEQ							**54.3**			**77.3**			**54.3**
Architectural Coating													
	Compressor (air)	1	40%	78	20	85.7	81.7	230.0	64.4	60.5	20.0	85.7	81.7
	Combined LEQ						**81.7**			**60.5**			**68.7**
Overlapping Phases													
Demolition/Site Preparation							92.5			71.9			78.6
Building Construction/ Infrastructure Improvements/ Paving							92.1			78.5			79.1
Maximum Noise Level							**92.5**			**78.5**			**79.1**

Source for Ref. Noise Levels: RCNM, 2005

Construction Truck Pass-By Noise

Source	Noise Level	Reference Dist. (feet)	Dist. to Receptor (feet)	Distance Attenuation	Duration (minutes)
Truck passby (arrival, departure)	70	50	50	70.0	10.03
				Total*	10.03

Results		
Truck Pass-by Noise Levels at 50 feet from Roadway Centerline		Exceeds Daytime Noise Standard?
Metric	Exterior	Exterior
$L_{eq(15\text{-}min)}$	68.3	No
L_{max}	70.0	No

** Duration assumes 0.17 minutes per truck during a pass-by event.*

Source: University of Washington Department of Environmental and Occupational Health Sciences, Noise Navigator Sound Level Database, July 6, 2010.

Stationary Sources Noise Calculations

Receptor	Reference Level (dBA)	Reference Distance (feet)	Distance to Receptor (feet)	Level at Receptor (dBA)	Level at Receptor w/ Barrier (dBA)	
Mechanical						
Commercial Uses	52	50	70	49.1	49.1	
1- Whittier Narrows Recreation area			216	39.3	39.3	
2- City Park			80	47.9	47.9	
3- Residential Uses			370	34.6	34.6	
Truck Loading						
Commercial Uses	64.4	50	183	53.1	49.1	8-foot barrier would reduce noise levels by approximately 4 dBA
1- Whittier Narrows Recreation area			212	51.9	40.9	14-foot barrier would reduce noise levels by approximately 11 dBA
2- City Park			220	51.5	42.5	14-foot barrier would reduce noise levels by approximately 9 dBA
3- Residential Uses			412	46.1	43.1	8-foot barrier would reduce noise levels by approximately 3 dBA
Cargo Forklift Operations						
Commercial Uses	85	3	183	49.3	45.3	8-foot barrier would reduce noise levels by approximately 4 dBA
1- Whittier Narrows Recreation area			212	48.0	37.0	14-foot barrier would reduce noise levels by approximately 11 dBA
2- City Park			220	47.7	38.7	14-foot barrier would reduce noise levels by approximately 9 dBA
3- Residential Uses			412	42.2	39.2	8-foot barrier would reduce noise levels by approximately 3 dBA
Back-up Alarms						
Commercial Uses	97	3.28	170	62.7	58.7	8-foot barrier would reduce noise levels by approximately 4 dBA
1- Whittier Narrows Recreation area			83	68.9	57.9	14-foot barrier would reduce noise levels by approximately 11 dBA
2- City Park			263	58.9	49.9	14-foot barrier would reduce noise levels by approximately 9 dBA
3- Residential Uses			312	57.4	54.4	8-foot barrier would reduce noise levels by approximately 3 dBA
Recreational Activities and Special Events						
Commercial Uses	74	20	145	56.8	56.8	
1- Whittier Narrows Recreation area			421	47.5	47.5	
2- City Park			0	0.0	0.0	
3- Residential Uses			985	40.2	40.2	

Mechanical
distance measured from the warehouse rooftop closest to the receptor
source reference level: Elliott H. Berger, Rick Neitzel, and Cynthia A. Kladden, Noise Navigator Sound Level Database with Over 1700 Measurement Values, July 6, 2010.

Truck Loading
distance measured from loading dock area closest to the receptor
source reference level: Loading dock reference noise level measurements conducted by Kimley-Horn on December 18, 2018.
noise reduction based on noise attenuation calculations data from the Noise Tools.net Sound Propagation Level Calculator (https://noisetools.net/barriercalculator, accessed November 2024)

Cargo Forklift Operations
distance measured from loading dock area closest to the receptor
source reference level: Noise Testing Workplace Noise Consultants, Warehouse & Forklift Workplace Noise Levels, https://www.noisetesting.info/blog/warehouse-forklift-workplace-noise-levels/.
noise reduction based on noise attenuation calculations data from the Noise Tools.net Sound Propagation Level Calculator (https://noisetools.net/barriercalculator, accessed November 2024)

Backup Alarms
distance measured from loading dock area closest to the receptor
source reference level: Environmental Health Perspectives, Vehicle Motion Alarms: Necessity, Noise Pollution, or Both? https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3018517/.
noise reduction based on noise attenuation calculations data from the Noise Tools.net Sound Propagation Level Calculator (https://noisetools.net/barriercalculator, accessed November 2024)

Recreational Activities and Special Events
distance measured from atheltic fields closest to the receptor
source reference level: Elliott H. Berger, Rick Neitzel, and Cynthia A. Kladden, Noise Navigator Sound Level Database with Over 1700 Measurement Values, July 6, 2010.

Calculated using the inverse square law formula for sound attenuation: $dBA_2 = dBA_1+20Log(d_1/d_2)$, where dBA_2 = estimated noise level at receptor; dBA_1 = reference noise level; d_1 = reference distance; d_2 = receptor location distance.

Warehouse Parking Lot Noise

Number of Vehicles Per Hour (Park): 155
Hourly L_{eq} at 50 feet: 48.3
Number of Vehicles Per Hour (Warehouse): 155

$L_{eq(h)} = SEL_{ref} + 10\log(NA/1{,}000) - 35.6$
where:

$L_{eq(h)}$	=	48.3	hourly L_{eq} noise level at 50 feet
SEL_{ref}	=	92	reference noise level for stationary noise source represented in sound exposure level (SEL) at 50 feet
NA	=	155	number of automobiles per hour
35.6	=	35.6	Constant, calculated as 10 times the logarithm of the number of seconds in an hour

FTA's reference noise level is 92 dBA SEL at 50 feet from the noise source for a parking lot

Source: Federal Transit Administration, Transit Noise and Vibration Impact Assessment Manual, September 2018.

Receptor	Reference Level (dBA)	Reference Distance (feet)	Distance to Receptor (feet)[1]	Level at Receptor (dBA)
Commercial Uses	48.3	50	112	41.3
1- Whittier Narrows Recreation area	48.3	50	90	43.2
2- Recreational Park	48.3	50	52	48.0
3- Residential Uses	48.3	50	312	32.4

Distance estimated using location of parking lot closest to receptor

Calculated using the inverse square law formula for sound attenuation: $dBA_2 = dBA_1 + 20\text{Log}(d_1/d_2)$, where dBA_2 = estimated noise level at receptor; dBA_1 = reference noise level; d_1 = reference distance; d_2 = receptor location distance.

City Park Parking Lot Noise

Number of Vehicles Per Hour (Park): 75
Hourly L_{eq} at 50 feet: 45.2
Number of Vehicles Per Hour (Warehouse): Recreational A Recreational A Recreation Recreation Recreational Activities and Special

$L_{eq(h)} = SEL_{ref} + 10\log(NA/1{,}000) - 35.6$
where:

$L_{eq(h)}$	=	45.2	hourly L_{eq} noise level at 50 feet
SEL_{ref}	=	92	reference noise level for stationary noise source represented in sound exposure level (SEL) at 50 feet
NA	=	75	number of automobiles per hour
35.6	=	35.6	Constant, calculated as 10 times the logarithm of the number of seconds in an hour

FTA's reference noise level is 92 dBA SEL at 50 feet from the noise source for a parking lot

Source: Federal Transit Administration, Transit Noise and Vibration Impact Assessment Manual, September 2018.

Receptor	Reference Level (dBA)	Reference Distance (feet)	Distance to Receptor (feet)	Level at Receptor (dBA)
Commercial Uses	45.2	50	124	37.3
1- Whittier Narrows Recreation area	45.2	50	395	27.2
3- Residential Uses	45.2	50	782	16.3

Distance estimated using location of parking lot closest to receptor

Calculated using the inverse square law formula for sound attenuation: $dBA_2 = dBA_1 + 20\text{Log}(d_1/d_2)$, where dBA_2 = estimated noise level at receptor; dBA_1 = reference noise level; d_1 = reference distance; d_2 = receptor location distance.

Composite Parking Lot Noise

Receptor	Warehouse Parking Lot Noise (dBA)	Park Parking Lot Noise (dBA)	Level at Receptor (dBA)
Commercial Uses	41.3	37.3	42.8
1- Whittier Narrows Recreation area	43.2	27.2	43.3
2- Recreational Park	48.0	0.0	48.0
3- Residential Uses	32.4	16.3	32.5

Roadway	Roadway Segment	Existing	Opening Year NP	Opening Year WP	Horizon Year NP	Horizon Year WP
Durfee Avenue	Rosemead Blvd to Santa Anita Ave	18,745	19,129	19,426	21,001	21,298
	Santa Anita Ave to Peck Road	16,587	16,935	17,307	18,583	18,955
Santa Anita Avenue	SR-60 to Lexington-Gallatin Rd	10,823	11,071	13,996	12,149	15,075
	Lexington-Gallatin Road to Durfee Ave	8,852	9,038	9,707	9,905	10,575
Lexington-Gallatin Rd	East of Santa Anita Ave	1,079	1,103	3,769	1,203	3,868

NP No project
WP With Project

FHWA Highway Noise Prediction Model (FHWA-RD-77-108) with California Vehicle Noise (CALVENO) Emission Levels

Project Name: South El Monte Athletic Fields and Business Park
Project Number: 194550001
Scenario: Existing
Ldn/CNEL: CNEL

Assumed 24-Hour Traffic Distribution:	Day	Evening	Night
Total ADT Volumes	77.70%	12.70%	9.60%
Medium-Duty Trucks	87.43%	5.05%	7.52%
Heavy-Duty Trucks	89.10%	2.84%	8.06%

										Vehicle Mix		Distance from Centerline of Roadway			
				Median	ADT	Speed	Alpha	Medium	Heavy	CNEL at	Distance to Contour				
#	Roadway	Segment	Lanes	Width	Volume	(mph)	Factor	Trucks	Trucks	100 Feet	70 CNEL	65 CNEL	60 CNEL	55 CNEL
1	Durfee Ave	between Rosemead Blvd to Santa Anita Ave	2	0	18,745	40	0	2.0%	1.0%	64.7	-	92	292	924
2	Durfee Ave	between Santa Anita Ave to Peck Rd	4	12	16,587	40	0	2.0%	1.0%	64.2	-	84	266	841
3	Santa Anita Ave	between SR-60 to Lexington-Gallatin Rd	4	12	10,823	35	0	2.0%	1.0%	61.1	-	-	129	409
4	Santa Anita Ave	between Lexington-Gallatin Road to Durfee Ave	4	12	8,852	35	0	2.0%	1.0%	60.2	-	-	106	334
5	Lexington-Gallatin Rd	East of Santa Anita Ave	2	0	1,079	25	0	2.0%	1.0%	48.7	-	-	-	-

[1] Distance is from the centerline of the roadway segment to the receptor location.
"-" = contour is located within the roadway right-of-way.

FHWA Highway Noise Prediction Model (FHWA-RD-77-108) with California Vehicle Noise (CALVENO) Emission Levels

Project Name: South El Monte Athletic Fields and Business Park
Project Number: 194550001
Scenario: Opening Year
Ldn/CNEL: CNEL

Assumed 24-Hour Traffic Distribution:	Day	Evening	Night
Total ADT Volumes	77.70%	12.70%	9.60%
Medium-Duty Trucks	87.43%	5.05%	7.52%
Heavy-Duty Trucks	89.10%	2.84%	8.06%

								Vehicle Mix		Distance from Centerline of Roadway			
				Median	ADT	Speed	Alpha	Medium	Heavy	CNEL at	Distance to Contour			
#	Roadway	Segment	Lanes	Width	Volume	(mph)	Factor	Trucks	Trucks	100 Feet	70 CNEL	65 CNEL	60 CNEL	55 CNEL
1	Durfee Ave	between Rosemead Blvd to Santa Anita Ave	2	0	19,129	40	0	2.0%	1.0%	64.7	-	94	298	943
2	Durfee Ave	between Santa Anita Ave to Peck Rd	4	12	16,935	40	0	2.0%	1.0%	64.3	-	86	272	859
3	Santa Anita Ave	between SR-60 to Lexington-Gallatin Rd	4	12	11,071	35	0	2.0%	1.0%	61.2	-	-	132	418
4	Santa Anita Ave	between Lexington-Gallatin Road to Durfee Ave	4	12	9,038	35	0	2.0%	1.0%	60.3	-	-	108	341
5	Lexington-Gallatin	East of Santa Anita Ave	2	0	1,103	25	0	2.0%	1.0%	48.8	-	-	-	-

[1] Distance is from the centerline of the roadway segment to the receptor location.
"-" = contour is located within the roadway right-of-way.

FHWA Highway Noise Prediction Model (FHWA-RD-77-108) with California Vehicle Noise (CALVENO) Emission Levels

Project Name: South El Monte Athletic Fields and Business Park
Project Number: 194550001
Scenario: Opening Year Plus Project
Ldn/CNEL: CNEL

Assumed 24-Hour Traffic Distribution:	Day	Evening	Night
Total ADT Volumes	77.70%	12.70%	9.60%
Medium-Duty Trucks	87.43%	5.05%	7.52%
Heavy-Duty Trucks	89.10%	2.84%	8.06%

								Vehicle Mix		Distance from Centerline of Roadway			
				Median	ADT	Speed	Alpha	Medium	Heavy	CNEL at	Distance to Contour			
#	Roadway	Segment	Lanes	Width	Volume	(mph)	Factor	Trucks	Trucks	100 Feet	70 CNEL	65 CNEL	60 CNEL	55 CNEL
1	Durfee Ave	between Rosemead Blvd to Santa Anita Ave	2	0	19,426	40	0	2.0%	1.0%	64.8	-	96	303	958
2	Durfee Ave	between Santa Anita Ave to Peck Rd	4	12	17,307	40	0	2.0%	1.0%	64.4	-	88	277	878
3	Santa Anita Ave	between SR-60 to Lexington-Gallatin Rd	4	12	13,996	35	0	2.0%	1.0%	62.2	-	53	167	529
4	Santa Anita Ave	between Lexington-Gallatin Road to Durfee Ave	4	12	9,707	35	0	2.0%	1.0%	60.6	-	-	116	367
5	Lexington-Gallatin	East of Santa Anita Ave	2	0	3,769	25	0	2.0%	1.0%	54.1	-	-	-	81

[1] Distance is from the centerline of the roadway segment to the receptor location.
"-" = contour is located within the roadway right-of-way.

FHWA Highway Noise Prediction Model (FHWA-RD-77-108) with California Vehicle Noise (CALVENO) Emission Levels

Project Name: South El Monte Athletic Fields and Business Park
Project Number: 194550001
Scenario: Horizon Year
Ldn/CNEL: CNEL

Assumed 24-Hour Traffic Distribution:	Day	Evening	Night
Total ADT Volumes	77.70%	12.70%	9.60%
Medium-Duty Trucks	87.43%	5.05%	7.52%
Heavy-Duty Trucks	89.10%	2.84%	8.06%

								Vehicle Mix		Distance from Centerline of Roadway			
				Median	ADT	Speed	Alpha	Medium	Heavy	CNEL at	Distance to Contour			
#	Roadway	Segment	Lanes	Width	Volume	(mph)	Factor	Trucks	Trucks	100 Feet	70 CNEL	65 CNEL	60 CNEL	55 CNEL
1	Durfee Ave	between Rosemead Blvd to Santa Anita Ave	2	0	21,001	40	0	2.0%	1.0%	65.2	33	104	327	1,036
2	Durfee Ave	between Santa Anita Ave to Peck Rd	4	12	18,583	40	0	2.0%	1.0%	64.7	-	94	298	942
3	Santa Anita Ave	between SR-60 to Lexington-Gallatin Rd	4	12	12,149	35	0	2.0%	1.0%	61.6	-	-	145	459
4	Santa Anita Ave	between Lexington-Gallatin Road to Durfee Ave	4	12	9,905	35	0	2.0%	1.0%	60.7	-	-	118	374
5	Lexington-Gallatin	East of Santa Anita Ave	2	0	1,203	25	0	2.0%	1.0%	49.1	-	-	-	-

[1] Distance is from the centerline of the roadway segment to the receptor location.
"-" = contour is located within the roadway right-of-way.

FHWA Highway Noise Prediction Model (FHWA-RD-77-108) with California Vehicle Noise (CALVENO) Emission Levels

Project Name: South El Monte Athletic Fields and Business Park
Project Number: 194550001
Scenario: Horizon Year Plus Project
Ldn/CNEL: CNEL

Assumed 24-Hour Traffic Distribution:	Day	Evening	Night
Total ADT Volumes	77.70%	12.70%	9.60%
Medium-Duty Trucks	87.43%	5.05%	7.52%
Heavy-Duty Trucks	89.10%	2.84%	8.06%

								Vehicle Mix			Distance from Centerline of Roadway			
				Median	ADT	Speed	Alpha	Medium	Heavy	CNEL at	Distance to Contour			
#	Roadway	Segment	Lanes	Width	Volume	(mph)	Factor	Trucks	Trucks	100 Feet	70 CNEL	65 CNEL	60 CNEL	55 CNEL
1	Durfee Ave	between Rosemead Blvd to Santa Anita Ave	2	0	21,298	40	0	2.0%	1.0%	65.2	33	105	332	1,050
2	Durfee Ave	between Santa Anita Ave to Peck Rd	4	12	18,955	40	0	2.0%	1.0%	64.8	-	96	304	961
3	Santa Anita Ave	between SR-60 to Lexington-Gallatin Rd	4	12	15,075	35	0	2.0%	1.0%	62.6	-	57	180	569
4	Santa Anita Ave	between Lexington-Gallatin Road to Durfee Ave	4	12	10,575	35	0	2.0%	1.0%	61.0	-	-	126	399
5	Lexington-Gallatin	East of Santa Anita Ave	2	0	3,868	25	0	2.0%	1.0%	54.2	-	-	-	83

[1] Distance is from the centerline of the roadway segment to the receptor location.
"-" = contour is located within the roadway right-of-way.