Appendix I

Noise Report

Acoustical Assessment
JD Fields Pipe Facility Project
City of Hemet, California

Prepared by:

Expect More. Experience Better.

Kimley-Horn and Associates, Inc.
1100 W. Town and Country Road, Suite 700
Orange, California 92868
Contact: Mr. Ace Malisos
Ms. Elena Ajdari
714.939.1030

August 2022

TABLE OF CONTENTS

LIST OF ABBREVIATED TERMS

ADT	average daily traffic
dBA	A-weighted sound level
CEQA	California Environmental Quality Act
CNEL	community equivalent noise level
L_{dn}	day-night noise level
dB	decibel
du/ac	dwelling units per acre
L_{eq}	equivalent noise level
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
HVAC	heating ventilation and air conditioning
Hz	hertz
I-10	Interstate 10
I-215	Interstate 215
in/sec	inches per second
L_{max}	maximum noise level
µPa	micropascals
L_{min}	minimum noise level
MC	Municipal Code
PPV	peak particle velocity
PVC	Polyvinyl chloride
RMS	root mean square
sq. ft.	Square foot
SR-74	State Route 74
SR-79	State Route 79
USGS	United States Geological Survey
VdB	vibration velocity level

1 INTRODUCTION

This report documents the results of an Acoustical Assessment completed for the Hemet Foxgate Warehouse (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 proposed JD Fields Pipe Facility Project (Project) encompasses approximately 9.2 acres. The Project site is located in the City of Hemet, on the east side of S. Gilmore Street and approximately 700 feet south of W. Acacia Avenue; refer to Exhibit 1: Local Vicinity Map. Local access to the Project site is provided S. Gilmore Street. Regional access is provided by State Route 74 (SR-74), which connects to Interstate 215 (I-215) to the west and State Route 79 (SR-79), which connects to the Interstate 10 (I-10) to the north; refer to Exhibit 2: Regional Vicinity Map. Additionally, the property is located on the United States Geological Survey (USGS) 7.5-Minute Series Topographic Map, Hemet, California-Riverside County Quadrangle.

1.2 Project Description

The existing 9.2-acre site is currently vacant and unimproved. The Project proposes the development of a 25,000 square foot (sq. ft.) metal/prefab modular warehouse building consisting of 22,000 sq. ft. warehouse space and 3,300 sq. ft. office, an approximately 11,961 sq. ft. detention basin, 60 parking stalls, truck trailer parking, loading and off-loading docks, interior drives, a 7.0 acres laydown or outdoor storage facility, perimeter fencing, and landscaping; refer to Exhibit 3: Conceptual Site Plan. The proposed warehouse facility is anticipated to be utilized by the owner/operator, JD Fields & Company, for receipt/delivery, storage, fabrication, and distribution of steel/Polyvinyl chloride (PVC) pipe, steel piling, plumping equipment, valves, and flanges. However, the facility would exclude retail sale of any products fabricated and/or stored on site. This project intends to employ approximately 50 on-site office/warehouse workers of various construction trades (skilled labor), including a professional sales staff, and may operate twenty-four (24) hours a day, seven (7) days a week.

The proposed Project is consistent with the General Plan land use designation of Industrial (I) which allows for a range of manufacturing, business office, assembly, fabrication, construction, transportation, logistics, and auto repair uses. The proposed Project is also consistent with existing Zoning of General Manufacturing (M-2), which permits a range of manufacturing and processing uses, including the proposed pipe fabrication and storage use.

Site Access

Regional access is provided by SR-74, which connects to I-215 to the west and SR-79, which connects to I-10 to the north. Truck, passenger, and emergency vehicle access would be provided via three (3) gated access driveways along S. Gilmore Street.

Fencing

The Project would incorporate three (3) entry gates and 6' high perimeter security fencing.

Parking

Pursuant to §90-1423 of the Hemet Zoning Code, the number of parking spaces required for manufacturing or industrial establishments, including offices is 1 space for each 500 square feet of gross floor area. The total square footage of the proposed warehouse building is 25,000 square feet; therefore, the Project would be required to provide at least 50 parking spaces. The Project proposes 60 parking spaces, which would exceed the minimum required number by ten (10) spaces.

Hours of Operation

The Project is anticipated to employ approximately 50 on-site office/warehouse workers of various construction trades (skilled labor), including a professional sales staff, and may operate twenty-four (24) hours a day, seven (7) days a week.

Construction and Operation

The Project would be constructed in one phase. For the purposes of this analysis, construction is anticipated to commence construction in early 2022 and would begin operation by mid to late 2022.

Existing General Plan Land Use and Zoning Designations

The City's 2030 General Plan was adopted on January 24, 2012 and the Zoning Code (Chapter 90 of the Hemet Municipal Code [MC]) was adopted in 1984 via Ordinance No. 621). Both documents have been periodically amended and/or revised since the time of adoption. Zoning is the primary mechanism for implementing the General Plan. It provides detailed regulations pertaining to permitted and conditional uses, site development standards, and performance criteria to implement the goals and policies of the General Plan. In particular, the Land Use Element of the City's GP establishes the primary basis for consistency with the City's Zoning Code. The City's Zoning Map corresponds with the General Plan designations. The Project is located within the Industrial (I) General Plan Land Use Designation and the General Manufacturing (M-2) Zone.[1, 2]

---

[1] City of Hemet, *2030 General Plan,* Chapter 2: Land Use, Figure 2.1 Land Use Plan, January 24, 2012, Retrieved from City of Hemet's Website: https://www.hemetca.gov/DocumentCenter/View/5329/2_Land_Use_web5142019?bidId=, Accessed June 21, 2021.

[2] City of Hemet. *Zoning Map.* Available at https://www.hemetca.gov/DocumentCenter/View/5289/official-zoning-map1222019?bidId=, accessed on June 21,2021.

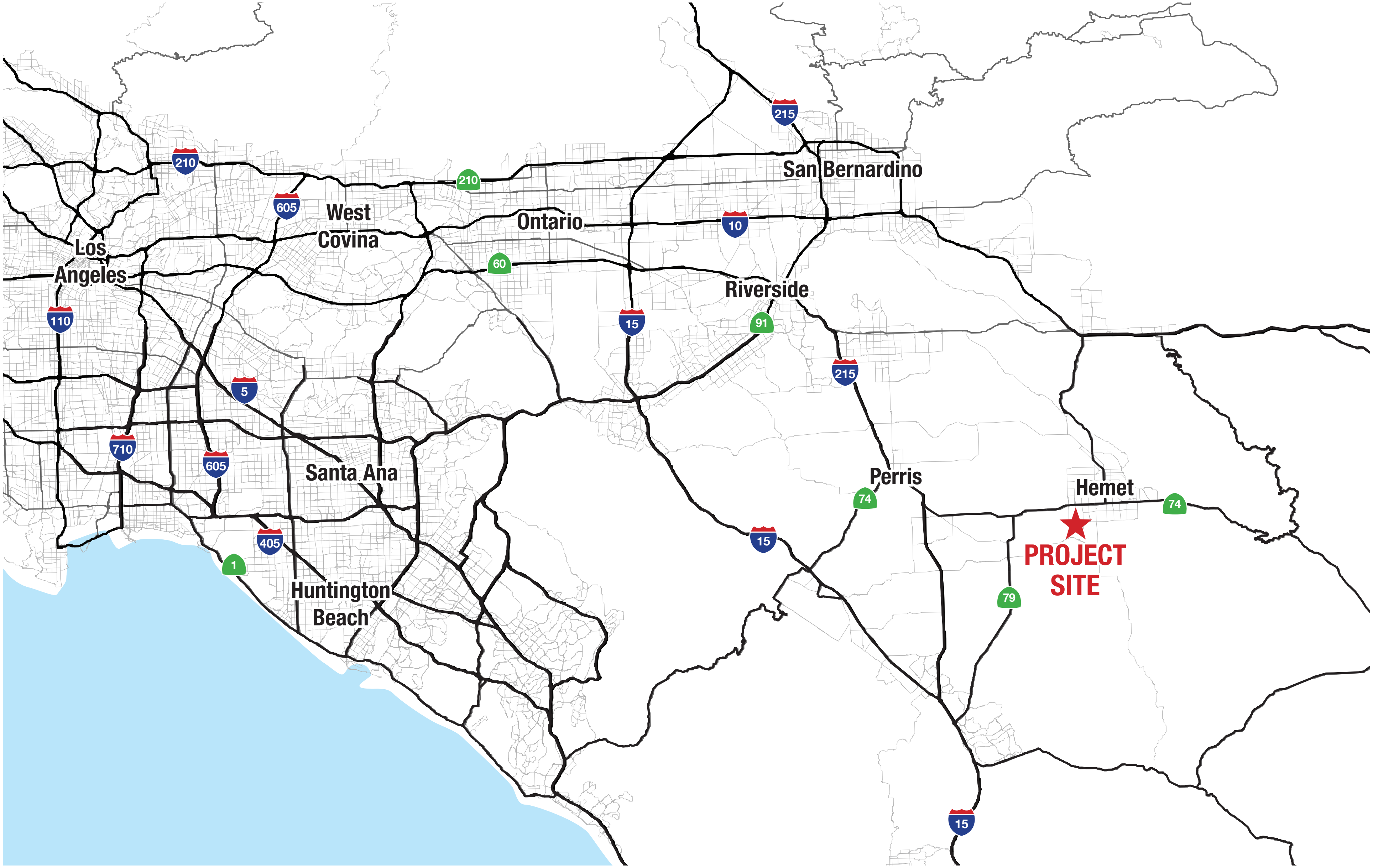

EXHIBIT 1: Regional Location Map
Hemet Warehouse Project
City of Hemet

Not to Scale

Kimley»Horn
Expect More. Experience Better.

EXHIBIT 2: Project Vicinity Map
Hemet Warehouse Project
City of Hemet

N Not to Scale

Kimley»Horn
Expect More. Experience Better.

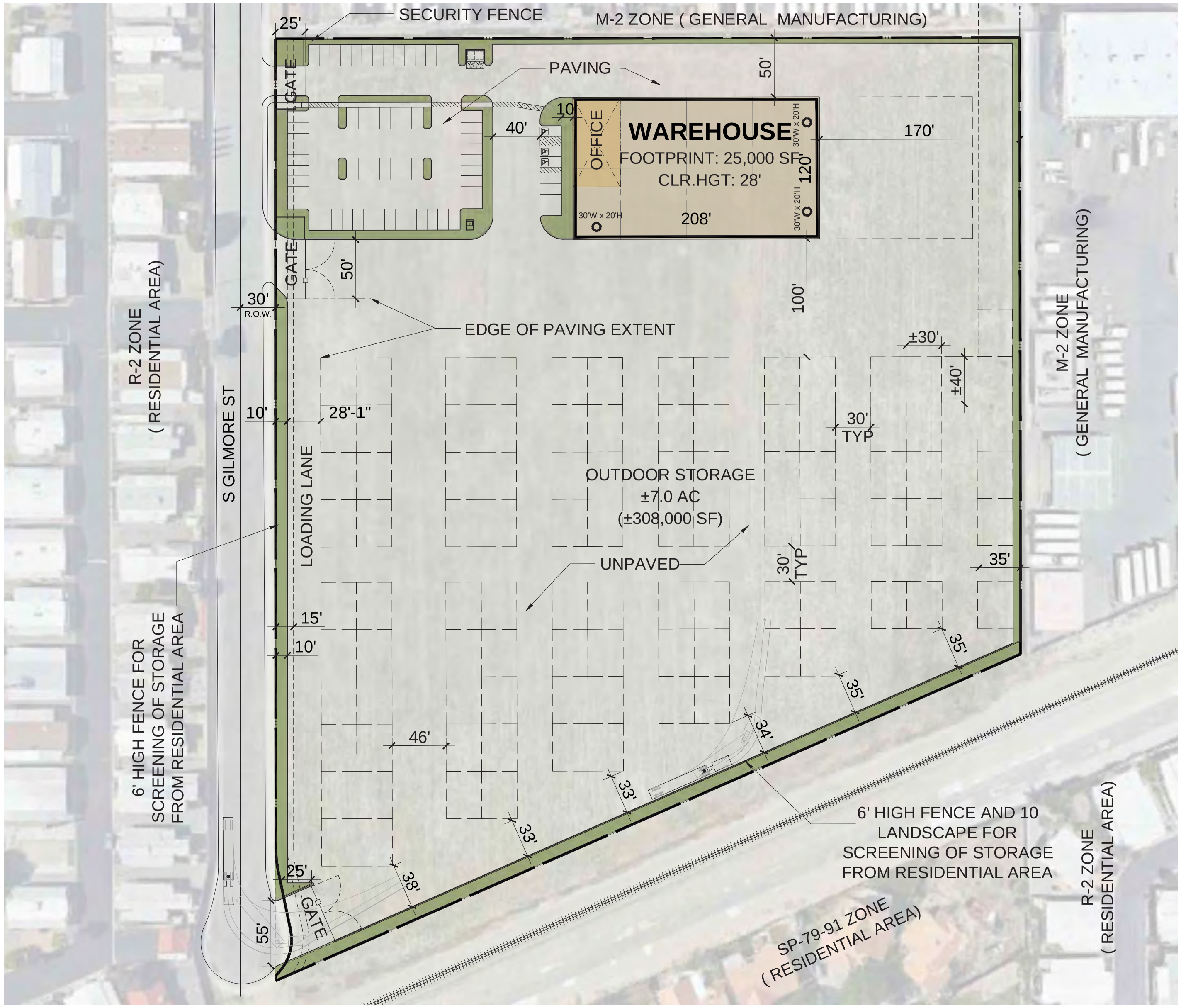

EXHIBIT 3: Conceptual Site Plan
Hemet Warehouse Project
City of Hemet

Not to Scale

Kimley»Horn
Expect More. Experience Better.

2 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 perceived by the human ear 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).

Noise is defined as loud, unexpected, or annoying sound. In acoustics, the fundamental model consists of a noise source, a receptor, and the propagation path between the two. 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. A typical noise environment consists of a base of steady background noise that is the sum of many distant and indistinguishable noise sources. Superimposed on this background 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 micropascals (μPa) as a point of reference, defined as 0 dB. 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 1: Typical Noise Levels provides typical noise levels.

Table 1: 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
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 Descriptors

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. The equivalent noise level (L_{eq}) represents the 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 energy average 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 2: Definitions of Acoustical Terms.

Table 2: 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 pascals 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 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 p.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.

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. 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.

A-Weighted Decibels

The perceived loudness of sounds is dependent on many factors, including sound pressure level and frequency content. 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. 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. 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. Under the dB scale, three sources of equal loudness together would produce an increase of 5 dBA.

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 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. 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. For line sources, an overall attenuation rate of 3 dB per doubling of distance is assumed.

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 reduces noise levels by 5 to 10 dBA. 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.

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. 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. 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:

- 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

<u>Hearing Loss</u>. 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.

<u>Annoyance</u>. Attitude surveys are used for measuring the annoyance felt in a community for noises 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[3].

---

3 Federal Interagency Committee on Noise, *Federal Agency Review of Selected Airport Noise Analysis Issues*, August 1992.

2.2 Groundborne Vibration

Sources of groundborne 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). Ground vibration consists of rapidly fluctuating motions or waves with an average motion of zero. Several different methods are typically used to quantify vibration amplitude. One is the peak particle velocity (PPV); another is the root mean square (RMS) velocity. The PPV is defined as the maximum instantaneous positive or negative peak of the vibration wave. The RMS velocity is defined as the average of the squared amplitude of the signal. The PPV and RMS vibration velocity amplitudes are used to evaluate human response to vibration.

Table 3: 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 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 groundborne vibration approaches perceptible levels, this rattling phenomenon may also be produced by loud airborne environmental noise causing induced vibration in exterior doors and windows.

Table 3: Human Reaction and Damage to Buildings for Continuous or Frequent Intermittent Vibrations

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

PPV = peak particle velocity; in/sec = inches per second; FTA = Federal Transit Administration

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

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. Common sources for groundborne vibration are planes, trains, and construction activities such as earth-moving which requires the use of heavy-duty earth moving equipment. For the purposes of this analysis, a PPV descriptor with units of inches per second (in/sec) is used to evaluate construction-generated vibration for building damage and human complaints.

3 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 Federal Transit Administration (FTA) has published the Transit Noise and Vibration Impact Assessment Manual to provide guidance on procedures for assessing impacts at different stages of transit project development. 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 damage from construction. The guidance document establishes criteria for evaluating the potential for damage for 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. 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. Single-family homes are “normally acceptable” in exterior noise environments up to 60 CNEL and “conditionally acceptable” up to 70 CNEL. Multiple-family residential uses are “normally acceptable” up to 65 CNEL and “conditionally acceptable” up to 70 CNEL. Schools, libraries, and churches are “normally acceptable” up to 70 CNEL, as are office buildings and business, commercial, and professional uses.

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, 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 and non-residential buildings, the acceptable interior noise limit for new construction is 45 dBA CNEL.

3.3 Local

City of Hemet General Plan

Applicable policies and standards governing environmental noise in the City are set forth in the General Plan 2030 Public Safety Element. Table 6.5 from the City's General Plan 2030 outlines the acceptable daytime/nighttime noise performance standards for non-transportation noise sources and is detailed in Table 4.

Table 4: City of Hemet Noise Thresholds

Noise Level Descriptor	Daytime 7:00 am to 10:00 pm	Nighttime 10:00 pm to 7:00 am
Hourly Average Level (Leq)	60 dBA	45 dBA
Maximum Equivalent Levels (Lmax)	75 dBA	65 dBA

Source: City of Hemet General Plan 2030, Public Safety Element, Table 6.5
Notes: Each of the noise levels specified shall be lowered by 5 decibels for simple tone noises, noises consisting primarily of speech or music, or for recurring impulsive noises. These noise level standards do not apply to residential units established in conjunction with industrial or commercial uses (e.g., caretaker dwellings). The noise standard is to be applied at the property lines of the affected land use

Per the City of Hemet General Plan Noise Element (Table II-F-4), the maximum allowable exterior noise level at residences and school classrooms is 65 dBA (CNEL). The maximum interior noise level is 45 dBA (CNEL). As referenced, CNEL is a 24-hour average with penalties added for noise occurring during the evening and at night. In addition to the noise standards, the City has outlined goals, policies and implementation measures to reduce potential noise impacts and are presented below (City of Hemet 2012):

Goal PS-11 Manage noise levels through land use planning and development review.

PS-11.1 **Noise Standards**. Enforce noise standards to maintain acceptable noise limits and protect existing areas with acceptable noise environments.

PS-11.2 **Design to Minimize Noise.** Encourage the use of siting and building design techniques as a means to minimize noise.

PS-11.3 **Evaluate Noise.** Evaluate potential noise conflicts for individual sites and projects, and require mitigation of all significant noise impacts (including construction and short- term noise impacts) as a condition of project approval.

PS-11.4 **Protect Noise-Sensitive Uses.** Protect noise-sensitive uses from new noise sources

Goal PS-12 Minimize noise conflicts from transportation sources and airports

PS-12.1 **Traffic Noise.** Minimize noise conflicts between current and proposed land uses and the circulation network by encouraging compatible land uses around critical roadway segments with higher noise potential.

PS-12.3 **Airport Noise.** Ensure that future development in the vicinity of Hemet-Ryan Airport is compatible with current and projected airport noise levels in accordance with the noise standards presented in Table 6.4

Goal PS-13 Minimize noise conflicts with stationary noise generators.

PS-13.1 **Protect Valuable Noise Sources**. Protect the continued viability of economically valuable noise sources such as commercial and industrial facilities and the Hemet-Ryan Airport.

PS-13.2 **New Sensitive Uses.** Restrict the location of sensitive land uses near major noise sources to achieve the standards present in Table 6.4.

PS-13.3 **Prevent Encroachment.** Prevent the encroachment of noise sensitive land uses into areas designated for use by existing or future noise generators.

City of Hemet Noise Ordinance

Chapter 30, Article II, Section 30-32(33) of the Hemet Municipal Code allows construction activities between the hours of 6:00 a.m. and 6:00 p.m. during the months of June through September and between the hours of 7:00 a.m. and 6:00 p.m. during the months of October through May. Construction occurring consistent with these provisions is exempt from regulation.

4 EXISTING CONDITIONS

4.1 Existing Noise Sources

The City of Hemet is impacted by various noise sources. Mobile sources of noise, especially cars and trucks, are the most common and significant sources of noise in most communities. Other sources of noise are the various land uses (i.e., residential, commercial, industrial, and recreational and parks activities) throughout the County that generate stationary-source noise.

Mobile Sources

The predominant mobile noise source in the Project area is the traffic noise along West Acacia Avenue to the north, South Lyon Avenue to the east, and Kirby Street to the west. State Route (SR-74) is approximately 0.4 miles to the north of the Project site.

Stationary Sources

The primary sources of stationary noise in the Project vicinity are those associated with the operations and maintenance of a warehouse and the Hemet Unified School District Office located to the north of the project site. The noise associated with these sources may represent a single-event noise occurrence or short-term noise typically associated with the parking lot noise. Furthermore, The Project site and surrounding areas are dominated by constant roadway and freeway noise.

4.2 Noise Measurements

The Project site is currently vacant. To quantify existing ambient noise levels in the Project area, Kimley-Horn conducted three short-term (10-minute) measurements on July 27th, 2022, and one long-term noise measurement (24 hours in duration) starting on July 27th, 2022 and ending July 28th, 2022; see **Appendix A: Noise Data.** The noise measurement sites were representative of typical existing noise exposure within and immediately adjacent to the Project site. The 10-minute daytime measurements were taken between 9:20 a.m. and 9:56 a.m. near potential sensitive receptors. Short-term L_{eq} measurements are considered representative of the noise levels throughout the day. The average noise levels and sources of noise measured at each location are listed in **Table 4: Existing Noise Measurements** and the measurement locations are depicted in **Exhibit 4: Noise Measurement Locations**.

Table 4: Existing Noise Measurements

Site	Location	Measurement Period	Duration	Daytime Average L_{eq} (dBA) [1]	Nighttime Average L_{eq} (dBA) [1]
Short-Term Noise Measurements (10-minute measurements)					
ST-1	End of Rosemary Court near residential properties, south of the project site.	9:20 a.m., Wednesday, July 27, 2022	10 min.	59.8	-
ST-2	End of South Gilmore Street near residential properties, southwest of the project site.	10:35 a.m., Wednesday, July 27, 2022	10 min.	56.6	-
ST-3	Along South Gilmore Street near residential properties, northwest of the project site	9:46 a.m., Wednesday, July 27, 2022	10 min.	51.5	-
Long-Term Noise Measurements (continuous 72-hour measurements)					
LT-1	At the southeast corner of the project site.	Wednesday, July 27, 2022 to Thursday, July 28, 2022	24 hr.	46.3	40.2

1. Daytime hours are from 7:00 a.m. to 10:00 p.m., and nighttime hours are from 10:00 p.m. to 7:00 a.m. The 15-hour daytime average (15-hour L_{eq}) and 9-hour nighttime average were calculated from 24-hour measurements take at LT-1. The 10-minute L_{eq} is listed from short-term measurement data.

Source: Noise measurements taken by Kimley-Horn and Associates, July 27-28, 2022. See Appendix A for noise measurement results.

4.3 Sensitive Receptors

Noise exposure goals for various types of land uses reflect the varying noise sensitivities associated with those uses. Noise sensitive uses typically include residences, hospitals, schools, childcare facilities, and places of assembly. Vibration sensitive receivers are generally similar to noise sensitive receivers but may also include businesses, such as research facilities and laboratories that use vibration-sensitive equipment. Sensitive receptors near the Project site consist mostly of mobile-home community, single-family residences, and a retirement community. The nearest sensitive receptors are the existing mobile homes located approximately 70 feet to the west of the Project construction boundary.

Table 5: Sensitive Receptors

Receptor Description	Distance and Direction from the Project
Villa Del Sol Mobile Estates	70 feet to the west
Single-Family Residences	130 feet to the south

Source: Google Earth

EXHIBIT 4: Noise Measurement Locations
Hemet Warehouse Project
City of Hemet

N Not to Scale

Kimley»Horn
Expect More. Experience Better.

5 SIGNIFICANCE CRITERIA AND METHODOLOGY

5.1 CEQA Thresholds

Appendix G of the California Environmental Quality Act (CEQA) Guidelines contains analysis guidelines related to noise impacts. These guidelines have been used by the City to develop 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 groundborne vibration or groundborne 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.

5.2 Methodology

Construction

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

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 operational noise environment is based on noise attenuation calculations (inverse square law) 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. Operational noise is evaluated based on the standards within the City's noise standards.

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.

6 POTENTIAL IMPACTS AND MITIGATION

6.1 Acoustical 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

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 residential neighborhoods surrounding the construction site. Project construction would occur approximately 70 feet to the east of the mobile-home community and 130 feet to the north of the single-family residences. However, it is acknowledged that construction activities would occur throughout the Project site and would not be concentrated at a single point near sensitive receptors.

Construction activities would include site preparation, grading, building construction, paving, and architectural coating. Such activities would require graders, scrapers, and tractors during site preparation; graders, dozers, and tractors during grading; cranes, forklifts, generators, tractors, and welders during building construction; pavers, rollers, mixers, tractors, and paving equipment during paving; and air compressors during architectural coating. 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 generated by construction equipment, including earth movers, material handlers, and portable generators, can reach high levels. Typical noise levels associated with individual construction equipment are listed in Table 6: Typical Construction Noise Levels.

Table 6: Typical Construction Noise Levels

Equipment	Maximum Noise Level (dBA) at 50 feet from Source	Maximum Noise Level (dBA) at 70 feet from Source[1]
Air Compressor	80	77.1
Backhoe	80	77.1
Compactor	82	79.1
Concrete Mixer	85	82.1
Crane, Mobile	83	79.1
Dozer	85	73.1
Generator	82	85.1
Grader	85	80.1
Loader	80	82.1
Paver	85	79.1
Pump	77	82.1
Roller	85	82.1
Saw	76	73.1
Truck	84	81.1

[1] Calculated using the inverse square law formula for sound attenuation: $dBA_2 = dBA_1 + 20Log(d_1/d_2)$
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.

Chapter 30, Article II, Section 30-32(33) of the Hemet Municipal Code allows construction activities between the hours of 6:00 a.m. and 6:00 p.m. during the months of June through September and between the hours of 7:00 a.m. and 6:00 p.m. during the months of October through May. Construction occurring consistent with these provisions is exempt from regulation. Neither the City's General Plan nor Municipal Code establish numeric maximum acceptable construction source noise levels at potentially affected receivers. However, this analysis conservatively uses the FTA's threshold of 80 dBA (8-hour Leq) for residential uses[4].

Following FTA's methodology for quantitative construction noise assessments, FHWA's Roadway Construction Noise Model (RCNM) was used to predict construction noise. The noise levels calculated in Table 7: Project Construction Noise Levels, show estimated exterior construction noise. In accordance with FTA methodology, when calculating construction noise, all construction equipment is assumed to operate simultaneously at the approximate center of the construction area, since equipment would operate throughout the Project site and not at a fixed location for extended periods of time. Therefore, assuming the distance from the center of the construction area to sensitive receptors is representative of equipment moving throughout the Project site (i.e., closer and further away from sensitive receptors). Accordingly, the distance used in RCNM is approximately 370 feet from the residences .

Table 7: Project Construction Noise Levels

Construction Phase	Receptor Location			Worst Case Modeled Exterior Noise Level (dBA L_{eq})	Noise Threshold (dBA L_{eq})[2]	Exceeded?
	Land Use	Direction	Distance (feet) [1]			
Site Preparation	Residential	West	370	70.2	80	No
		South	490	67.8	80	No
Grading	Residential	West	370	70.8	80	No
		South	490	68.4	80	No
Construction	Residential	West	370	72.0	80	No
		South	490	69.5	80	No
Paving	Residential	West	370	69.1	80	No
		South	490	66.7	80	No
Architectural Coating	Residential	West	370	56.3	80	No
		South	490	53.9	80	No

1. Per FTA Guidance (Federal Transit Administration, Transit Noise and Vibration Impact Assessment Manual, 2018) the equipment distance is assumed at the center of the project.
2. Threshold from the Federal Transit Administration, Transit Noise and Vibration Impact Assessment Manual, 2018.

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

As shown in Table 7, construction noise levels would not exceed the applicable 80 dBA FTA construction thresholds at the nearest sensitive receptors. The highest exterior noise level at sensitive receptors would occur during the building construction stage and would be 72.0 dBA which is below the FTA's 80 dBA threshold. 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. Although sensitive uses may be exposed to elevated noise levels during project construction, these noise levels would be acoustically

4 Federal Transit Administration, *Transit Noise and Vibration Impact Assessment Manual*, Table 7-2, Page 179, September 2018.

dispersed throughout the Project site, masked by roadway and freeway noise, and not concentrated in one area near surrounding sensitive uses.

The City of Hemet Municipal Code does not establish quantitative construction noise standards, but only allows construction activities between the hours of 6:00 a.m. and 6:00 p.m. during the months of June through September and between the hours of 7:00 a.m. and 6:00 p.m. during the months of October through May. Therefore, FTA's 80 dBA threshold has been utilized in this analysis. Therefore, the impact from construction noise would be less than significant level.

Operations

Implementation of the proposed Project would create new sources of noise in the project vicinity. The major noise sources associated with the project would include the following:

- Mechanical equipment (i.e. trash compactors, air conditioners, etc.);
- 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 areas (i.e. car door slamming, car radios, engine start-up, and car pass-by); and
- Off-Site Traffic Noise.

Mechanical Equipment

The nearest sensitive receptors are mobile-home residences on the west side of South Gilmore Street. Potential stationary noise sources related to long-term operation of the project site would include mechanical equipment. Mechanical equipment (e.g. heating ventilation and air conditioning [HVAC] equipment) typically generates noise levels of approximately 52 dBA at 50 feet.[5] HVAC would be roof mounted. As the closest residential unit would be approximately 280 feet from the warehouse building, the worst-case HVAC equipment noise would be 37.0 dBA based on distance attenuation alone (using the inverse square law of sound propagation)[6] and would not exceed the City's 60 dBA daytime and 45 dBA nighttime standards at the residential uses to the west and south. Operation of mechanical equipment would not increase ambient noise levels beyond the acceptable compatible land use noise levels. Therefore, the proposed Project would result in a less than significant impact related to stationary noise levels.

Truck and Loading Dock Noise

During loading and unloading activities, noise would be generated by the trucks' diesel engines, exhaust systems, and brakes during low gear shifting braking activities; backing up toward the docks; dropping down the dock ramps; and maneuvering away from the docks. Loading or unloading activities would occur on the north/center of the Project site. Vehicular access to the proposed Project site would consist of three project driveways along South Gilmore Street.

Typically, heavy truck operations generate a noise level of 68 dBA at a distance of 30 feet.[7] The closest residences are located approximately 320 feet west of the nearest proposed loading areas. At this

[5] Elliott H. Berger, Rick Neitzel, and Cynthia A. Kladden, *Noise Navigator Sound Level Database with Over 1700 Measurement Values*, July 6, 2010.
[6] Sound level reduces by 6 dB for every doubling of distance.
[7] Loading dock reference noise level measurements conducted by Kimley-Horn on December 18, 2018.

distance, these truck noise levels would be approximately 47.4 dBA (based on distance attenuation alone). Additionally, there is a concrete block wall along the sensitive receptors' property line that would partially break the line of sight to the Project loading areas. Based on the FHWA RCNM User's Guide (2006), a barrier that partially blocks the line of sight attenuates noise by 3 dBA. Therefore, truck and loading noise would attenuate to 44.4 dBA, which is below the City's 60 dBA daytime and 45 dBA nighttime exterior residential noise standard. Loading dock doors would also be surrounded with 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 activities, and as such, interior loading and associated activities would be permissible during all hours of the day. Noise levels associated with trucks and loading or unloading activities would not exceed the City's standards and impacts would be less than significant.

Outdoor Storage Area Noise

The Project site would include a warehouse building and a 7-acre outdoor storage area for receipt/delivery, fabrication, and distribution of steel/ Polyvinyl chloride (PVC) pipe, steel piling, plumping equipment, valves, and flanges. During delivery and storage activities, noise would be generated by the forklifts and trucks for storage and movement of the materials within outdoor storage area.

Storage area activities would occur on the south and center of the Project site. Typically, forklift operations generate a noise level of 61 dBA at a distance of 50 feet.[8] The closest residences are located approximately 70 feet west of the nearest proposed storage areas. At this distance, these forklifts noise levels would be approximately 58.1 dBA (based on distance attenuation alone). Additionally, there is a concrete block wall along the sensitive receptors' property line that would partially break the line of sight to the Project outdoor storage areas. Based on the FHWA RCNM User's Guide (2006), a barrier that partially blocks the line of sight attenuates noise by 3 dBA. Therefore, forklifts noise would attenuate to 55.1 dBA. Additionally, when combined with the truck noise level of 44.4 dBA described above, the combined noise level of trucks and forklifts would be 58.3 dBA, which is below the City's 60 dBA daytime residential noise standard. Outdoor storage operation would only occur during daytime hours. Noise levels associated with forklifts and outdoor storage activities would not exceed the City's standards and impacts would be less than significant.

Parking Noise

The proposed Project would accommodate the need for parking. 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.[9] Conversations in parking areas may also be an annoyance to adjacent 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.[10] It should be noted that parking lot noises are instantaneous noise levels compared to noise standards in the hourly Leq metric, which are averaged over the entire duration of a time period.

---

8 Warehouse & Forklift Workplace Noise Levels, *The Main Noise Exposed SEG – Forklift Drivers*, https://www.noisetesting.info/blog/warehouse-forklift-workplace-noise-levels/, Accessed July 26, 2022.

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

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

Actual noise levels over time resulting from parking lot activities would be far lower than the reference levels identified above. Parking lot noise would occur within the surface parking lot on-site. It is also noted that parking lot noise occurs at the adjacent properties 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 West Acacia Avenue and Kirby Street. Noise associated with parking lot activities is not anticipated to exceed the City's noise standards during operation. Therefore, noise impacts from parking lots would be less than significant.

Off-Site Traffic Noise

Implementation of the Project would generate increased traffic volumes along nearby roadway segments. In general, a traffic noise increase of less than 3 dBA is barely perceptible to people, while a 5-dBA increase is readily noticeable.[11] Traffic volumes on Project area roadways would have to approximately double for the resulting traffic noise levels to increase by 3 dBA.[12] Therefore, permanent increases in ambient noise levels of less than 3 dBA would be less than significant. Project related trips would occur along West Acacia Avenue.

The primary role of collector roadways is to provide access between the arterial network and the neighborhoods and commercial development. These roadways are typically two lanes wide with limited access to driveways and cross streets. They are usually undivided and do not have turn lanes at intersections. According to this definition, Lomitas Avenue and South 5th Avenue would be categorized as Collector roads. The typical capacity of a collector street is approximately 15,000 vehicles per day.[13] The proposed Project would generate only 44 net daily vehicle trips (32 passenger cars and 12 Trucks), which would not double the existing traffic volumes and would not result in a perceivable noise increase. Therefore, operational noise impacts would be less than significant.

Mitigation Measures: No mitigation is required.

Level of Significance: Less than significant impact.

Threshold 6.2 Would the Project expose persons to or generate excessive ground borne vibration or ground borne noise levels?

Once operational, the Project would not be a source of ground-borne vibration. Increases in ground-borne vibration levels attributable to the proposed Project would be primarily associated with short-term construction-related activities. Construction on the Project site 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 Federal Transit Administration (FTA) has published standard vibration velocities for construction equipment operations. In general, the FTA architectural damage criterion for continuous vibrations (i.e., 0.2 in/sec) appears to be conservative. The types of construction vibration impacts include human annoyance and building damage. Human annoyance occurs when construction vibration rises significantly

---

[11] Federal Highway Administration, *Highway Traffic Noise Analysis and Abatement Policy and Guidance, Noise Fundamentals*, https://www.fhwa.dot.gov/environMent/noise/regulations_and_guidance/polguide/polguide02.cfm, accessed July 12, 2021.
[12] California Department of Transportation, *Technical Noise Supplement to the Traffic Noise Analysis Protocol*, 2013.
[13] County of Los Angeles, *County of Los Angeles General Plan Update Transportation and Circulation Analysis*, 2014.

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. For example, for a building that is constructed with reinforced concrete with no plaster, the FTA guidelines show that a vibration level of up to 0.20 in/sec is considered safe and would not result in any construction vibration damage.

Table 8: Typical Construction Equipment Vibration Levels, lists vibration levels at 25 feet for typical construction equipment. Ground-borne vibration generated by construction equipment spreads through the ground and diminishes in magnitude with increases in distance. As indicated in Table 8, based on FTA data, vibration velocities from typical heavy construction equipment operations that would be used during Project construction range from 0.003 to 0.089 in/sec PPV at 25 feet from the source of activity.

Table 8: Typical Construction Equipment Vibration Levels

Equipment	Peak Particle Velocity at 25 Feet (in/sec)	Peak Particle Velocity at 35 Feet (in/sec)	Peak Particle Velocity at 70 Feet (in/sec)[1]
Large Bulldozer	0.089	0.0537	0.0190
Caisson Drilling	0.089	0.0537	0.0190
Loaded Trucks	0.076	0.0459	0.0162
Jackhammer	0.035	0.0211	0.0075
Small Bulldozer/Tractors	0.003	0.0018	0.0006

[1] Calculated using the following formula: $PPV_{equip} = PPV_{ref} \times (25/D)^{1.5}$ 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; and D = the distance from the equipment to the receiver.

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

The nearest sensitive receptors are mobile-home residences approximately 70 feet to the west and the nearest structure (a commercial building to the east) is approximately 35 feet or more from the active construction zone. Using the calculation shown in Table 9, at 35 and 70 feet the vibration velocities from construction equipment would not exceed 0.0537 in/sec PPV, which is below the FTA's 0.20 PPV threshold. It is also acknowledged that construction activities would occur throughout the Project site and would not be concentrated at the point closest to the nearest residential structure. Therefore, vibration impacts associated with the proposed Project would be less than significant.

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 or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

The Hemet-Ryan Airport, located approximately 1.9 miles southwest of the Project site, is the nearest airport. However, according to the Hemet-Ryan Airport Land Use Compatibility Plan (Adopted February 9, 2017), the Project site is outside of the airport's 55 dBA noise contour. Therefore, the Project would not expose people to excessive noise levels. There are no other airports within two miles of the project site. Therefore, there is no impact surrounding the proposed Project concerning airport noise, including from a private airstrip.

Mitigation Measures: No mitigation is required.

Level of Significance: Less than significant impact.

6.2 Cumulative Noise Impacts

Cumulative Construction Noise

The Project's construction activities would not exceed the FTA's noise standards and would not result in a substantial temporary increase in ambient noise levels. Construction noise would be periodic and temporary noise impacts that would cease upon completion of construction activities. The Project would contribute to other proximate construction project noise impacts if construction activities were conducted concurrently. However, based on the noise analysis above, the Project's construction-related noise impacts would be less than significant following the City of Hemet Municipal Code.

Construction activities at other planned and approved projects near the Project site would be required to comply with applicable City rules related to noise and would take place during daytime hours on the days permitted by the applicable Municipal Code, and projects requiring discretionary City approvals would be required 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 vicinity. Therefore, Project construction would not result in a cumulatively considerable contribution to significant cumulative impacts, assuming such a cumulative impact existed, and impacts in this regard are not cumulatively considerable.

Cumulative Operational Noise

Stationary noise sources of the proposed Project would result in an incremental increase in non-transportation noise sources in the Project vicinity. However, as discussed above, operational noise caused by the proposed Project would be less than significant. Additionally, due to site distance to sensitive receptors cumulative stationary noise impacts would not occur. 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. As stationary noise sources are generally localized, there is a limited potential for other projects to contribute to cumulative noise impacts.

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 County/City regulations that limit operational noise. Therefore, the Project, together with other projects, would not create a significant cumulative impact, and even if there was such a significant cumulative impact, the Project would not make a cumulatively considerable contribution to significant cumulative operational noises.

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 vicinity. Thus, cumulative operational noise impacts from related projects, in conjunction with Project specific noise impacts, would not be cumulatively significant.

Mitigation Measures: No mitigation is required.

Level of Significance: Less than significant impact.

7 REFERENCES

1. California Department of Transportation, *California Vehicle Noise Emission Levels*, 1987.
2. California Department of Transportation, *Traffic Noise Analysis Protocol*, 2020.
3. California Department of Transportation, *Technical Noise Supplement to the Traffic Noise Analysis Protocol*, 2013.
4. California Department of Transportation, *Transportation and Construction Vibration Guidance Manual*, 2020.
5. City of Hemet, *General Plan*, 2030.
6. City of Hemet, *Code of Ordinances*, 2021.
7. Federal Highway Administration, *Roadway Construction Noise Model*, 2006.
8. Federal Highway Administration, *Roadway Construction Noise Model User's Guide Final Report*, 2006.
9. Federal Interagency Committee on Noise, *Federal Agency Review of Selected Airport Noise Analysis Issues*, 1992.
10. Federal Transit Administration, *Transit Noise and Vibration Impact Assessment Manual*, 2018.
11. Kimley-Horn, *Trip Generation and VMT Screening Memorandum for the Proposed Foxgate Warehouse Project in the City of Hemet*, July 2021.
12. Riverside County, *Hemet-Ryan Airport Land Use Compatibility Plan*, Adopted February 9, 2017.
13. United States Environmental Protection Agency, *Protective Noise Levels (EPA 550/9-79-100)*, 1979.

Appendix A

Noise Data

Noise Measurement Field Data

Project:	Hemet Foxgate	**Job Number:**	195335001
Site No.:	1	**Date:**	7/27/2022
Analyst:	Daisy Pineda and Steven Yu	**Time:**	9:20 - 9:30 AM
Location:	End of Rosemary Court, south of Project site		
Noise Sources:	Dogs barking, crows, birds chirping		
Comments:	Loud dog		

Results (dBA):

Leq:	Lmin:	Lmax:	Peak:
59.8	31.6	78.6	95.1

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

Weather	
Temp. (degrees F):	76
Wind (mph):	< 5
Sky:	Clear
Bar. Pressure:	29.94 inHg
Humidity:	48%

Photo:

Kimley»Horn

Summary			
File Name on Meter	HEM_.001.s		
File Name on PC	LxTse_0007061-20220727 092042-HEM_.001.ldbin		
Serial Number	0007061		
Model	SoundExpert® LxT		
Firmware Version	2.404		
User			
Location			
Job Description			
Note			

Measurement			
Description			
Start	2022-07-27 09:20:42		
Stop	2022-07-27 09:30:42		
Duration	00:10:00.0		
Run Time	00:10:00.0		
Pause	00:00:00.0		
Pre-Calibration	2022-07-26 16:22:40		
Post-Calibration	None		
Calibration Deviation	---		

Overall Settings			
RMS Weight	A Weighting		
Peak Weight	A Weighting		
Detector	Slow		
Preamplifier	PRMLxT1L		
Microphone Correction	FF:90 2116		
Integration Method	Linear		
OBA Range	Normal		
OBA Bandwidth	1/1 and 1/3		
OBA Frequency Weighting	A Weighting		
OBA Max Spectrum	At LMax		
Overload	122.6 dB		
	A	**C**	**Z**
Under Range Peak	**79.2**	76.2	81.2 dB
Under Range Limit	**24.3**	25.3	31.5 dB
Noise Floor	15.1	16.2	22.4 dB
	First	**Second**	**Third**
Instrument Identification	ıley-Horn and Associates	Town&Country Rd, #700	Orange, CA 92868

Results		
LAeq	59.8 dB	
LAE	87.6 dB	
EA	63.666 µPa²h	
LApeak (max)	2022-07-27 09:21:06	95.1 dB
LASmax	2022-07-27 09:20:47	78.6 dB
LASmin	2022-07-27 09:25:21	31.6 dB
SEA	-99.9 dB	

	Exceedance Counts	**Duration**
LAS > 85.0 dB	0	0.0 s
LAS > 115.0 dB	0	0.0 s
LApeak > 135.0 dB	0	0.0 s
LApeak > 137.0 dB	0	0.0 s
LApeak > 140.0 dB	0	0.0 s

Community Noise	**Ldn**	**LDay 07:00-22:00**	**LNight 22:00-07:00**	**Lden**	**LDay 07:00-19:00**	**LEvening 19:00-22:00**	**LNight 22:00-07:00**
	59.8	59.8	-99.9	59.8	59.8	-99.9	-99.9

LCeq	63.3 dB
LAeq	59.8 dB
LCeq - LAeq	3.5 dB
LAIeq	68.2 dB
LAeq	59.8 dB
LAIeq - LAeq	8.4 dB

	A		**C**		**Z**	
	dB	**Time Stamp**	**dB**	**Time Stamp**	**dB**	**Time Stamp**
Leq	59.8		63.3			
Ls(max)	78.6	2022/07/27 9:20:47				
Ls(min)	31.6	2022/07/27 9:25:21				
LPeak(max)	95.1	2022/07/27 9:21:06				

Overload Count	0
Overload Duration	0.0 s
OBA Overload Count	0
OBA Overload Duration	0.0 s

Statistics	
LA 5.00	66.3 dB
LA 10.00	49.6 dB
LA 33.30	41.8 dB
LA 50.00	39.5 dB
LA 66.60	37.1 dB
LA 90.00	34.6 dB

Calibration History

Preamp	**Date**	**dB re. 1V/Pa**	**6.3**	**8.0**	**10.0**	**12.5**
PRMLxT1L	2022-07-26 16:22:40	-28.86	56.89	60.40	57.01	55.19
PRMLxT1L	2022-07-26 15:57:58	-28.79	50.34	59.71	53.18	52.19
PRMLxT1L	2022-07-13 14:24:01	-28.77	53.68	50.25	47.40	52.29
PRMLxT1L	2022-06-29 07:27:55	-28.80	46.55	59.38	50.34	51.46
PRMLxT1L	2022-06-28 08:39:41	-28.80	95.39	89.08	90.47	97.06
PRMLxT1L	2022-06-15 14:25:38	-28.72	60.53	66.22	57.72	61.31
PRMLxT1L	2022-06-14 10:43:32	-28.82	63.53	57.91	51.35	51.41
PRMLxT1L	2022-05-09 13:38:12	-28.63	43.09	53.16	51.71	45.65
PRMLxT1L	2022-05-09 12:21:37	-28.62	44.85	41.27	53.84	41.84
PRMLxT1L	2022-05-09 10:43:25	-28.57	26.29	21.32	36.94	45.19
PRMLxT1L	2022-05-09 10:28:43	-26.38	13.95	27.42	113.18	48.03

Noise Measurement Field Data

Project:	Hemet Foxgate	**Job Number:**	195335001
Site No.:	2	**Date:**	7/27/2022
Analyst:	Daisy Pineda and Steven Yu	**Time:**	10:35 - 10:45 AM
Location:	End of South Gilmore Street, southwest of Project site		
Noise Sources:	Birds chirping, dog barking		
Comments:			

Results (dBA):

Leq:	Lmin:	Lmax:	Peak:
56.6	33.4	60.5	86.4

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

Weather	
Temp. (degrees F):	82
Wind (mph):	< 5
Sky:	Clear
Bar. Pressure:	30.01 inHg
Humidity:	38%

Photo:

Kimley»Horn

Summary

File Name on Meter	HEM_.004.s
File Name on PC	LxTse_0007061-20220727 103508-HEM_.004.ldbin
Serial Number	0007061
Model	SoundExpert® LxT
Firmware Version	2.404
User	
Location	
Job Description	
Note	

Measurement

Description	
Start	2022-07-27 10:35:08
Stop	2022-07-27 10:45:08
Duration	00:10:00.0
Run Time	00:10:00.0
Pause	00:00:00.0
Pre-Calibration	2022-07-26 16:22:40
Post-Calibration	None
Calibration Deviation	---

Overall Settings

RMS Weight	A Weighting			
Peak Weight	A Weighting			
Detector	Slow			
Preamplifier	PRMLxT1L			
Microphone Correction	FF:90 2116			
Integration Method	Linear			
OBA Range	Normal			
OBA Bandwidth	1/1 and 1/3			
OBA Frequency Weighting	A Weighting			
OBA Max Spectrum	At LMax			
Overload	122.6 dB			
	A	**C**	**Z**	
Under Range Peak	**79.2**	76.2	81.2	dB
Under Range Limit	**24.3**	25.3	31.5	dB
Noise Floor	15.1	16.2	22.4	dB
	First	**Second**	**Third**	
Instrument Identification	nley-Horn and Associates	Town&Country Rd, #700	Orange, CA 92868	

Results

LA_{eq}	56.6 dB	
LAE	84.4 dB	
EA	30.473 μPa^2h	
$LA_{peak\ (max)}$	2022-07-27 10:44:20	86.4 dB
LAS_{max}	2022-07-27 10:44:20	60.5 dB
LAS_{min}	2022-07-27 10:35:08	33.4 dB
SEA	-99.9 dB	

	Exceedance Counts	Duration
LAS > 85.0 dB	0	0.0 s
LAS > 115.0 dB	0	0.0 s
LA_{peak} > 135.0 dB	0	0.0 s
LA_{peak} > 137.0 dB	0	0.0 s
LA_{peak} > 140.0 dB	0	0.0 s

Community Noise	**Ldn**	**LDay 07:00-22:00**	**LNight 22:00-07:00**	**Lden**	**LDay 07:00-19:00**	**LEvening 19:00-22:00**	**LNight 22:00-07:00**	
	56.6	56.6	-99.9	56.6	56.6	-99.9	-99.9	dB

LC_{eq}	63.4 dB
LA_{eq}	56.6 dB
LC_{eq} - LA_{eq}	6.8 dB
LAI_{eq}	57.7 dB
LA_{eq}	56.6 dB
LAI_{eq} - LA_{eq}	1.1 dB

	A		**C**		**Z**	
	dB	**Time Stamp**	**dB**	**Time Stamp**	**dB**	**Time Stamp**
L_{eq}	56.6		63.4			
$LS_{(max)}$	60.5	2022/07/27 10:44:20				
$LS_{(min)}$	33.4	2022/07/27 10:35:08				
$L_{Peak(max)}$	86.4	2022/07/27 10:44:20				

Overload Count	0
Overload Duration	0.0 s
OBA Overload Count	0
OBA Overload Duration	0.0 s

Statistics

LA 5.00	57.3 dB
LA 10.00	57.1 dB
LA 33.30	56.9 dB
LA 50.00	56.7 dB
LA 66.60	56.6 dB
LA 90.00	56.4 dB

Calibration History

Preamp	**Date**	**dB re. 1V/Pa**	**6.3**	**8.0**	**10.0**	**12.5**	**16.0**
PRMLxT1L	2022-07-26 16:22:40	-28.86	56.89	60.40	57.01	55.19	53.75
PRMLxT1L	2022-07-26 15:57:58	-28.79	50.34	59.71	53.18	52.19	42.52
PRMLxT1L	2022-07-13 14:24:01	-28.77	53.68	50.25	47.40	52.29	46.27
PRMLxT1L	2022-06-29 07:27:55	-28.80	46.55	59.38	50.34	51.46	51.66
PRMLxT1L	2022-06-28 08:39:41	-28.80	95.39	89.08	90.47	97.06	85.23
PRMLxT1L	2022-06-15 14:25:38	-28.72	60.53	66.22	57.72	61.31	57.08
PRMLxT1L	2022-06-14 10:43:32	-28.82	63.53	57.91	51.35	51.41	46.56
PRMLxT1L	2022-05-09 13:38:12	-28.63	43.09	53.16	51.71	45.65	41.72
PRMLxT1L	2022-05-09 12:21:37	-28.62	44.85	41.27	53.84	41.84	46.14
PRMLxT1L	2022-05-09 10:43:25	-28.57	26.29	21.32	36.94	45.19	34.99
PRMLxT1L	2022-05-09 10:28:43	-26.38	13.95	27.42	113.18	48.03	-0.79

Noise Measurement Field Data

Project:	Hemet Foxgate	**Job Number:**	195335001
Site No.:	3	**Date:**	7/27/2022
Analyst:	Daisy Pineda and Steven Yu	**Time:**	9:46 - 9:56 AM
Location:	Along South Gilmore Street, northwest of Project site		
Noise Sources:	Distant traffic, airplanes, birds chirping		
Comments:			

Results (dBA):

Leq:	Lmin:	Lmax:	Peak:
51.5	39.7	69.2	83.6

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

Weather	
Temp. (degrees F):	78
Wind (mph):	< 5
Sky:	Clear
Bar. Pressure:	29.94 inHg
Humidity:	44%

Photo:

Kimley»Horn

Summary

File Name on Meter	HEM_.002.s
File Name on PC	LxTse_0007061-20220727 094659-HEM_.002.ldbin
Serial Number	0007061
Model	SoundExpert® LxT
Firmware Version	2.404
User	
Location	
Job Description	
Note	

Measurement

Description	
Start	2022-07-27 09:46:59
Stop	2022-07-27 09:56:59
Duration	00:10:00.0
Run Time	00:10:00.0
Pause	00:00:00.0
Pre-Calibration	2022-07-26 16:22:40
Post-Calibration	None
Calibration Deviation	---

Overall Settings

RMS Weight	A Weighting		
Peak Weight	A Weighting		
Detector	Slow		
Preamplifier	PRMLxT1L		
Microphone Correction	FF:90 2116		
Integration Method	Linear		
OBA Range	Normal		
OBA Bandwidth	1/1 and 1/3		
OBA Frequency Weighting	A Weighting		
OBA Max Spectrum	At LMax		
Overload	122.6 dB		
	A	**C**	**Z**
Under Range Peak	**79.2**	76.2	81.2 dB
Under Range Limit	**24.3**	25.3	31.5 dB
Noise Floor	15.1	16.2	22.4 dB
	First	**Second**	**Third**
Instrument Identification	ıley-Horn and Associates	Town&Country Rd, #700	Orange, CA 92868

Results

LAeq	51.5 dB	
LAE	79.3 dB	
EA	9.417 µPa²h	
LApeak (max)	2022-07-27 09:53:43	83.6 dB
LASmax	2022-07-27 09:53:44	69.2 dB
LASmin	2022-07-27 09:47:34	39.7 dB
SEA	-99.9 dB	

	Exceedance Counts	**Duration**
LAS > 85.0 dB	0	0.0 s
LAS > 115.0 dB	0	0.0 s
LApeak > 135.0 dB	0	0.0 s
LApeak > 137.0 dB	0	0.0 s
LApeak > 140.0 dB	0	0.0 s

Community Noise	**Ldn**	**LDay 07:00-22:00**	**LNight 22:00-07:00**	**Lden**	**LDay 07:00-19:00**	**LEvening 19:00-22:00**	**LNight 22:00-07:00**
	51.5	51.5	-99.9	51.5	51.5	-99.9	-99.9

LCeq	60.3 dB
LAeq	51.5 dB
LCeq - LAeq	8.8 dB
LAIeq	52.6 dB
LAeq	51.5 dB
LAIeq - LAeq	1.1 dB

	A		**C**		**Z**	
	dB	**Time Stamp**	**dB**	**Time Stamp**	**dB**	**Time Stamp**
Leq	51.5		60.3			
Ls(max)	69.2	2022/07/27 9:53:44				
Ls(min)	39.7	2022/07/27 9:47:34				
LPeak(max)	83.6	2022/07/27 9:53:43				

Overload Count	0
Overload Duration	0.0 s
OBA Overload Count	0
OBA Overload Duration	0.0 s

Statistics

LA 5.00	52.2 dB
LA 10.00	50.8 dB
LA 33.30	50.2 dB
LA 50.00	50.0 dB
LA 66.60	49.8 dB
LA 90.00	46.7 dB

Calibration History

Preamp	**Date**	**dB re. 1V/Pa**	**6.3**	**8.0**	**10.0**	**12.5**
PRMLxT1L	2022-07-26 16:22:40	-28.86	56.89	60.40	57.01	55.19
PRMLxT1L	2022-07-26 15:57:58	-28.79	50.34	59.71	53.18	52.19
PRMLxT1L	2022-07-13 14:24:01	-28.77	53.68	50.25	47.40	52.29
PRMLxT1L	2022-06-29 07:27:55	-28.80	46.55	59.38	50.34	51.46
PRMLxT1L	2022-06-28 08:39:41	-28.80	95.39	89.08	90.47	97.06
PRMLxT1L	2022-06-15 14:25:38	-28.72	60.53	66.22	57.72	61.31
PRMLxT1L	2022-06-14 10:43:32	-28.82	63.53	57.91	51.35	51.41
PRMLxT1L	2022-05-09 13:38:12	-28.63	43.09	53.16	51.71	45.65
PRMLxT1L	2022-05-09 12:21:37	-28.62	44.85	41.27	53.84	41.84
PRMLxT1L	2022-05-09 10:43:25	-28.57	26.29	21.32	36.94	45.19
PRMLxT1L	2022-05-09 10:28:43	-26.38	13.95	27.42	113.18	48.03

Noise Measurement Field Data

Project:	Hemet Foxgate	**Job Number:**	195335001
Site No.:	LT-1	**Date:**	7/27/2022
Analyst:	Daisy Pineda and Steven Yu	**Time:**	7/27/2022, 11:37 AM - 7/28/2022 10:27 AM
Location:	Southeast corner of Project site		
Noise Sources:	Distant traffic, birds chirping		
Comments:			

Results (dBA):

Leq:	Lmin:	Lmax:	Peak:
44.7	29.2	71.7	101.4

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

Weather	
Temp. (degrees F):	86
Wind (mph):	< 5
Sky:	Clear
Bar. Pressure:	30.02 inHg
Humidity:	34%

Photo:

Kimley»Horn

Summary

File Name on Meter	LT_.004.s
File Name on PC	LxTse_0007061-20220727 113747-LT_.004.ldbin
Serial Number	0007061
Model	SoundExpert® LxT
Firmware Version	2.404
User	
Location	
Job Description	
Note	

Measurement

Description	
Start	2022-07-27 11:37:47
Stop	2022-07-28 10:27:24
Duration	22:49:36.9
Run Time	22:49:36.9
Pause	00:00:00.0
Pre-Calibration	2022-07-27 11:30:00
Post-Calibration	None
Calibration Deviation	---

Overall Settings

RMS Weight	A Weighting		
Peak Weight	A Weighting		
Detector	Slow		
Preamplifier	PRMLxT1L		
Microphone Correction	FF:90 2116		
Integration Method	Linear		
OBA Range	Normal		
OBA Bandwidth	1/1 and 1/3		
OBA Frequency Weighting	A Weighting		
OBA Max Spectrum	At LMax		
Overload	122.4 dB		
	A	**C**	**Z**
Under Range Peak	**79.0**	76.0	81.0 dB
Under Range Limit	**24.2**	25.2	31.3 dB
Noise Floor	15.1	16.1	22.2 dB
	First	**Second**	**Third**
Instrument Identification	Kimley-Horn and Associates	1100 W. Town&Country Rd, #700	Orange, CA 92868

Results

LA_{eq}	44.7 dB	
LAE	93.8 dB	
EA	269.468 µPa²h	
$LA_{peak\ (max)}$	2022-07-27 11:38:05	101.4 dB
LAS_{max}	2022-07-27 13:21:48	71.7 dB
LAS_{min}	2022-07-28 03:31:27	29.2 dB
SEA	-99.9 dB	

	Exceedance Counts	**Duration**
LAS > 85.0 dB	0	0.0 s
LAS > 115.0 dB	0	0.0 s
LA_{peak} > 135.0 dB	0	0.0 s
LA_{peak} > 137.0 dB	0	0.0 s
LA_{peak} > 140.0 dB	0	0.0 s

Community Noise	**Ldn**	**LDay 07:00-22:00**	**LNight 22:00-07:00**	**Lden**	**LDay 07:00-19:00**	**LEvening 19:00-22:00**	**LNight 22:00-07:00**
	48.2	46.3	40.2	48.6	46.7	44.3	40.2

LC_{eq}	62.6 dB
LA_{eq}	44.7 dB
LC_{eq} - LA_{eq}	17.9 dB
LAI_{eq}	48.1 dB
LA_{eq}	44.7 dB
LAI_{eq} - LA_{eq}	3.4 dB

	A		**C**		**Z**	
	dB	**Time Stamp**	**dB**	**Time Stamp**	**dB**	**Time Stamp**
L_{eq}	44.7		62.6			
$L_{S(max)}$	71.7	2022/07/27 13:21:48				
$L_{S(min)}$	29.2	2022/07/28 3:31:27				
$L_{Peak(max)}$	101.4	2022/07/27 11:38:05				

Overload Count	0
Overload Duration	0.0 s
OBA Overload Count	0
OBA Overload Duration	0.0 s

Statistics

LA 5.00	49.4 dB
LA 10.00	46.4 dB
LA 33.30	41.4 dB
LA 50.00	39.6 dB
LA 66.60	37.8 dB
LA 90.00	34.4 dB

Calibration History

Preamp	**Date**	**dB re. 1V/Pa**	**6.3**	**8.0**	**10.0**	**12.5**
PRMLxT1L	2022-07-27 11:29:48	-28.66	66.62	59.22	92.15	79.04
PRMLxT1L	2022-07-27 11:13:44	-28.62	27.52	36.01	53.09	46.54
PRMLxT1L	2022-07-26 16:22:40	-28.86	56.89	60.40	57.01	55.19
PRMLxT1L	2022-07-26 15:57:58	-28.79	50.34	59.71	53.18	52.19
PRMLxT1L	2022-07-13 14:24:01	-28.77	53.68	50.25	47.40	52.29
PRMLxT1L	2022-06-29 07:27:55	-28.80	46.55	59.38	50.34	51.46
PRMLxT1L	2022-06-28 08:39:41	-28.80	95.39	89.08	90.47	97.06
PRMLxT1L	2022-06-15 14:25:38	-28.72	60.53	66.22	57.72	61.31
PRMLxT1L	2022-06-14 10:43:32	-28.82	63.53	57.91	51.35	51.41
PRMLxT1L	2022-05-09 13:38:12	-28.63	43.09	53.16	51.71	45.65
PRMLxT1L	2022-05-09 12:21:37	-28.62	44.85	41.27	53.84	41.84

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 11/4/2021
Case Descrip 01 Site Prep

---- Receptor #1 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
West	Residential	55	50	45

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Tractor	No	40	84		370	0
Tractor	No	40	84		370	0
Tractor	No	40	84		370	0
Tractor	No	40	84		370	0
Dozer	No	40		81.7	370	0
Dozer	No	40		81.7	370	0
Dozer	No	40		81.7	370	0

Results

		Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
				Day		Evening		Night		Day		Evening		Night	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Tractor		66.6	62.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor		66.6	62.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor		66.6	62.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor		66.6	62.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer		64.3	60.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer		64.3	60.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer		64.3	60.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	66.6	70.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
South	Residential	55	50	45

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Tractor	No	40	84		490	0
Tractor	No	40	84		490	0
Tractor	No	40	84		490	0
Tractor	No	40	84		490	0
Dozer	No	40		81.7	490	0
Dozer	No	40		81.7	490	0
Dozer	No	40		81.7	490	0

Results

		Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
				Day		Evening		Night		Day		Evening		Night	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Tractor		64.2	60.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor		64.2	60.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor		64.2	60.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor		64.2	60.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer		61.8	57.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer		61.8	57.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer		61.8	57.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	64.2	67.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
	Residential	55	50	45

			Equipment Spec	Actual	Receptor	Estimated

Description	Impact Device	Usage(%)	Lmax (dBA)	Lmax (dBA)	Distance (feet)	Shielding (dBA)
Tractor	No	40	84		470	0
Tractor	No	40	84		470	0
Tractor	No	40	84		470	0
Tractor	No	40	84		470	0
Dozer	No	40		81.7	470	0
Dozer	No	40		81.7	470	0
Dozer	No	40		81.7	470	0

			Results											
	Calculated (dBA)			Noise Limits (dBA)						Noise Limit Exceedance (dBA)				
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Tractor	64.5	60.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	64.5	60.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	64.5	60.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	64.5	60.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	62.2	58.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	62.2	58.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	62.2	58.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	64.5	68.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report dat 11/4/2021
Case Desc 02 Grading

---- Receptor #1 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
West	Residential	55	50	45

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	370	0
Excavator	No	40		80.7	370	0
Grader	No	40	85		370	0
Scraper	No	40		83.6	370	0
Scraper	No	40		83.6	370	0
Dozer	No	40		81.7	370	0
Tractor	No	40	84		370	0
Tractor	No	40	84		370	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Excavator	63.3	59.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Excavator	63.3	59.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Grader	67.6	63.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Scraper	66.2	62.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Scraper	66.2	62.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	64.3	60.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	66.6	62.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	66.6	62.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	67.6	70.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
South	Residential	55	50	45

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	490	0
Excavator	No	40		80.7	490	0
Grader	No	40	85		490	0
Scraper	No	40		83.6	490	0
Scraper	No	40		83.6	490	0
Dozer	No	40		81.7	490	0
Tractor	No	40	84		490	0
Tractor	No	40	84		490	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Excavator	60.9	56.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Excavator	60.9	56.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Grader	65.2	61.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Scraper	63.8	59.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Scraper	63.8	59.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	61.8	57.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	64.2	60.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	64.2	60.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	65.2	68.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

Baselines (dBA)

Descriptio	Land Use	Daytime	Evening	Night
	Residential	55	50	45

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	470	0
Excavator	No	40		80.7	470	0
Grader	No	40	85		470	0
Scraper	No	40		83.6	470	0
Scraper	No	40		83.6	470	0
Dozer	No	40		81.7	470	0
Tractor	No	40	84		470	0
Tractor	No	40	84		0	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Excavator	64.5	60.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Excavator	64.5	60.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Grader	64.5	60.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Scraper	64.5	60.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Scraper	62.2	58.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	62.2	58.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	62.2	58.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor		0		0		0		0		0		0		0
Total	64.5	68.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report dat 11/4/2021
Case Desci 03 Building Construction

---- Receptor #1 ----

		Baselines (dBA)		
Descriptio	Land Use	Daytime	Evening	Night
West	Residential	55	50	45

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Crane	No	16		80.6	370	0
All Other Equipment >	No	50	85		370	0
All Other Equipment >	No	50	85		370	0
All Other Equipment >	No	50	85		370	0
Generator	No	50		80.6	370	0
Tractor	No	40	84		370	0
Tractor	No	40	84		370	0
Tractor	No	40	84		370	0
Welder / Torch	No	40		74	370	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Crane	63.2	55.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
All Other Equipment >	67.6	64.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
All Other Equipment >	67.6	64.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
All Other Equipment >	67.6	64.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Generator	63.2	60.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	66.6	62.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	66.6	62.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	66.6	62.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch	56.6	52.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	67.6	72	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

		Baselines (dBA)		
Descriptio	Land Use	Daytime	Evening	Night
South	Residential	55	50	45

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Crane	No	16		80.6	490	0
All Other Equipment >	No	50	85		490	0
All Other Equipment >	No	50	85		490	0
All Other Equipment >	No	50	85		490	0
Generator	No	50		80.6	490	0
Tractor	No	40	84		490	0
Tractor	No	40	84		490	0
Tractor	No	40	84		490	0
Welder / Torch	No	40		74	490	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Crane	60.7	52.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
All Other Equipment >	65.2	62.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
All Other Equipment >	65.2	62.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
All Other Equipment >	65.2	62.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Generator	60.8	57.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	64.2	60.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	64.2	60.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	64.2	60.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch	54.2	50.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	65.2	69.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

Descriptio	Land Use	Baselines (dBA) Daytime	Evening	Night
	Residential	55	50	45

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Crane	No	16		80.6	470	0
All Other Equipment >	No	50	85		470	0
All Other Equipment >	No	50	85		470	0
All Other Equipment >	No	50	85		470	0
Generator	No	50		80.6	470	0
Tractor	No	40	84		470	0
Tractor	No	40	84		470	0
Tractor	No	40	84		0	0
Welder / Torch	No	40		74	0	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Crane	64.5	60.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
All Other Equipment >	64.5	60.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
All Other Equipment >	64.5	60.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
All Other Equipment >	64.5	60.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Generator	62.2	58.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	62.2	58.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	62.2	58.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor		0		0		0		0		0		0		0
Welder / Torch		0		0		0		0		0		0		0
Total	64.5	68.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report dat 11/4/2021
Case Desci 04 Paving

---- Receptor #1 ----

Descriptio	Land Use	Baselines (dBA) Daytime	Evening	Night
West	Residential	55	50	45

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Paver	No	50		77.2	370	0
Paver	No	50		77.2	370	0
Pavement Scarafier	No	20		89.5	370	0
Pavement Scarafier	No	20		89.5	370	0
Roller	No	20		80	370	0
Roller	No	20		80	370	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Paver	59.8	56.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Paver	59.8	56.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Pavement Scarafier	72.1	65.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Pavement Scarafier	72.1	65.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Roller	62.6	55.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Roller	62.6	55.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	72.1	69.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

Descriptio	Land Use	Baselines (dBA) Daytime	Evening	Night
South	Residential	55	50	45

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Paver	No	50		77.2	490	0
Paver	No	50		77.2	490	0
Pavement Scarafier	No	20		89.5	490	0
Pavement Scarafier	No	20		89.5	490	0
Roller	No	20		80	490	0
Roller	No	20		80	490	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Paver	57.4	54.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Paver	57.4	54.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Pavement Scarafier	69.7	62.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Pavement Scarafier	69.7	62.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Roller	60.2	53.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Roller	60.2	53.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	69.7	66.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

Descriptio	Land Use	Baselines (dBA) Daytime	Evening	Night
	Residential	55	50	45

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Paver	No	50		77.2	470	0

Paver	No	50	77.2	470	0
Pavement Scarafier	No	20	89.5	470	0
Pavement Scarafier	No	20	89.5	470	0
Roller	No	20	80	470	0
Roller	No	20	80	470	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Paver	64.5	60.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Paver	64.5	60.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Pavement Scarafier	64.5	60.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Pavement Scarafier	64.5	60.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Roller	62.2	58.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Roller	62.2	58.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	64.5	68.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report dat 11/4/2021
Case Desc 05 AC

---- Receptor #1 ----

		Baselines (dBA)		
Descriptio	Land Use	Daytime	Evening	Night
West	Residential	55	50	45

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Compressor (air)	No	40		77.7	370	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Compressor (air)	60.3	56.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	60.3	56.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

		Baselines (dBA)		
Descriptio	Land Use	Daytime	Evening	Night
South	Residential	55	50	45

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Compressor (air)	No	40		77.7	490	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Compressor (air)	57.8	53.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	57.8	53.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

		Baselines (dBA)		
Descriptio	Land Use	Daytime	Evening	Night
	Residential	55	50	45

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Compressor (air)	No	40		77.7	470	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Compressor (air)	64.5	60.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	64.5	68.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.