Appendix J
Acoustical Assessment

Acoustical Assessment
Miro Way and Ayala Drive
Warehouse Project
City of Rialto, California

Prepared by:

Kimley-Horn and Associates, Inc.
1100 W. Town and Country Road, Suite 700
Orange, California 92868
Contact: Ms. Danielle Millar
714.939.1030

October 2024

TABLE OF CONTENTS

APPENDICES

LIST OF ABBREVIATED TERMS

ADT	average daily traffic
BNL	basic noise level
CEQA	California Environmental Quality Act
CL	centerline
CNEL	community equivalent noise level
dB	decibel
dBA	A-weighted sound level
EPA	Environmental Protection Agency
FHWA	Federal Highway Administration
Ft	foot/feet
FTA	Federal Transit Administration
HVAC	heating ventilation and air conditioning
Hz	hertz
in/sec	inches per second
$L_{\%}$	exceeded/percent noise level
L_{dn}	day-night noise level
L_{eq}	equivalent noise level
L_{max}	maximum noise level
L_{min}	minimum noise level
mph	miles per hour
PPV	peak particle velocity
RMS	root mean square
µPa	micropascals
VdB	vibration velocity level

1 INTRODUCTION

This report documents the results of an Acoustical Assessment completed for the Miro Way and Ayala Drive Warehouse Project (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. As the Project site is located within the Renaissance Specific Plan Amendment area, applicable mitigation measures from the certified *Renaissance Specific Plan Amendment Recirculated Draft Subsequent Environmental Impact Report* (September 2016) (2016 RSPA EIR) have been incorporated into this analysis.

1.1 Project Summary

The Project site is located in the City of Rialto, California (City). The City encompasses approximately 22 square miles in San Bernardino County. The Project site is in the western/central area of the City, approximately 0.65 miles south of State Route (SR) 210. Specifically, the Project site is located directly west of Ayala Drive, approximately 450 linear feet north of Baseline Road, and east of Linden Avenue within the Renaissance Specific Plan Amendment (RSPA) area; refer to **Exhibit 1: Regional Vicinity**.

The approximately 35-acre Project site is comprised of Planning Areas 123, 126, and 133. The Project would include the rezone of Planning Area 123 (north of Miro Way) from School to General Commercial with a Residential Overlay. The Project would also include the rezone of Planning Areas 126 and 133 (south of Miro Way) from Park and Employment (with a designated Park Overlay) to Business Center, to allow for the development of two industrial warehouses; refer to **Exhibit 2: Site Vicinity**. The majority of the Project site is vacant and undeveloped with ruderal vegetation. Gravel piles are located on the southern portion of the Project site. Sidewalks and street lights exist at the Project boundary along Ayala Drive and Linden Avenue. Overhead electric utilities are located along the Project boundary at Linden Avenue.

Lewis-Hillwood Rialto Company, LLC (Owner) and the City of Rialto are proposing to develop an existing vacant property that would include the construction of two industrial warehouse buildings ranging from approximately 53,640 square feet (sf) to 375,075 sf, for a total of approximately 399,715 sf of warehouse space and 29,000 sf of ancillary office space on approximately 20.76 acres; refer to **Exhibit 3: Site Plan**. The warehouse development would be located in Planning Areas 126 and 133 and would also include the reconfiguration and construction of Miro Way. Each building would be one level and would not exceed the maximum allowed building height of 75 feet or the maximum allowed Floor to Area ratio (FAR) of 0.50 of the Business Center District. Based on the uses being proposed, the Project would require 277 automobile parking spaces and the Project proposes 283 automobile parking spaces.

Construction and Off-Site Improvements

Access to the Project site would be provided via Miro Way and Ayala Drive. The Project would include the reconfiguration and construction of Miro Way and associated curb, gutter, and streetlight improvements. Sidewalks would be provided on the south side of Miro Way, along the Project frontage. The intersection at Ayala Drive and Miro Way would be signalized, and overhead utility lines along Linden Avenue, south of the existing signalized intersection at Miro Way and Linden Avenue, would be undergrounded.

Off-site utility and roadway improvements would extend slightly north of Miro Way and within the right-of-way of both Linden Avenue and Ayala Drive along the Project frontages. With off-site improvements, the total construction footprint is approximately 27.19 acres. Construction of the proposed Project is expected to commence in 2025 with a construction duration of approximately 13 months and would be completed in one phase of construction.

Hours of Operation

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

EXHIBIT 1: Regional Vicinity
Miro Way and Ayala Drive Warehouse Project
City of Rialto

Not to Scale

Kimley»Horn
Expect More. Experience Better.

EXHIBIT 2: Site Vicinity
Miro Way and Ayala Drive Warehouse Project
City of Rialto

Not to Scale

Kimley»Horn
Expect More. Experience Better.

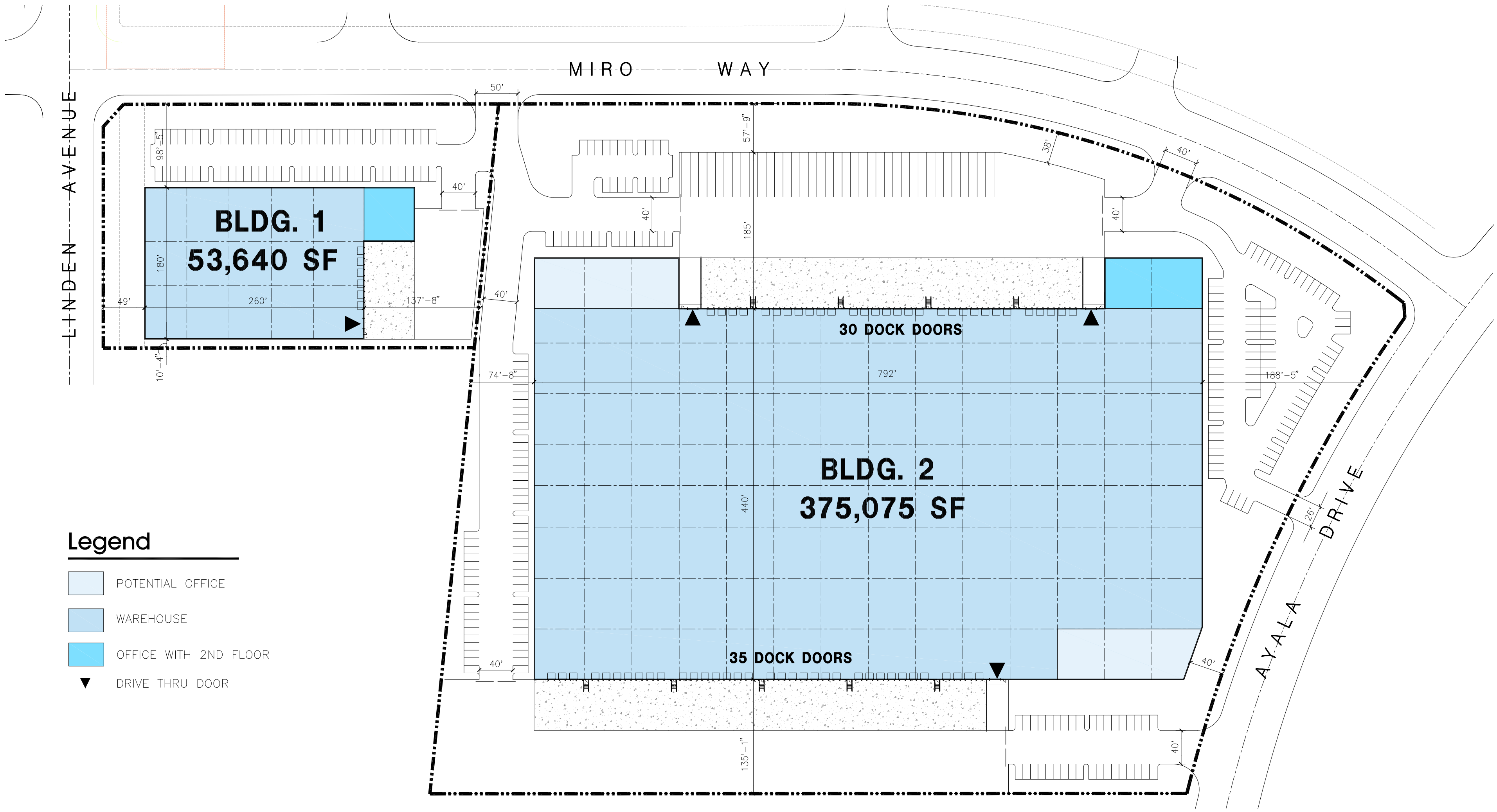

EXHIBIT 3: Site Plan

Miro Way and Ayala Drive Warehouse Project

City of Rialto

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 heard and are called sound. The number of pressure variations per second is called the frequency of sound and is expressed as cycles per second, or hertz (Hz).

Noise is defined as loud, unexpected, or annoying sound. The fundamental acoustics 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. The sound from individual local sources is superimposed on this background noise. 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 mph		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. 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. While L_{eq} represents the continuous sound pressure level over a given period, 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. 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 PM to 7:00 AM 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 AM to 10:00 PM and a 10 dBA weighting added to noise during the hours of 10:00 PM to 7:00 AM 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.

Because sound levels can vary markedly over a short period of time, a method for describing either the sound's average character (L_{eq}) or the variations' statistical behavior must be utilized. 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 predicted models' accuracy depends on various factors, such as the distance between the noise receptor and noise source, the character of the ground surface (e.g., hard or soft), and the presence or absence of structures (e.g., walls or buildings) or topography, and how well model inputs reflect these conditions.

A-Weighted Decibels

The perceived loudness of sound 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 section 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.[1] When the standard logarithmic dB is A-weighted, an increase of 10 dBA is generally perceived as a doubling in loudness.[2] 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.[3] Under the dB scale, three sources of equal loudness together would produce an increase of 5 dBA.[4]

Sound Propagation and Attenuation

Sound spreads (propagates uniformly outward in a spherical pattern, and the sound level decreases (attenuates) at a rate of approximately 6 dB for each doubling of distance from a stationary or point source.[5] 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.[6] 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 in this report.

Noise levels may also be reduced by intervening structures; generally, a single row of buildings between the noise receptor and noise source reduces the noise level by about 5 dBA, while a solid wall or berm can

1 California Department of Transportation, *Technical Noise Supplement to the Traffic Noise Analysis Protocol*, September 2013.
2 Ibid.
3 Ibid.
4 Ibid.
5 Ibid.
6 Ibid.

reduce noise levels by 5 to 15 dBA.[7] The manner in which 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.[8] 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.[9] 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[10]:

- Except in carefully controlled laboratory experiments, a change of 1 dBA cannot be perceived by humans.
- Outside of the laboratory, a 3 dBA change is considered a just-perceivable difference.
- A change in level of at least 5 dBA is required before any noticeable change in community response would be expected. An increase of 5 dBA 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

7 Federal Highway Administration, Highway Traffic and Construction Noise - Problem and Response**,** April 2006.
8 Compiled from James P. Cowan, *Handbook of Environmental Acoustics,* 1994, and Cyril M. Harris, *Handbook of Noise Control*, 1979.
9 Compiled from James P. Cowan, *Handbook of Environmental Acoustics,* 1994 and Cyril M. Harris, Handbook of Noise Control, 1979.
10 Compiled from California Department of Transportation, *Technical Noise Supplement to the Traffic Noise Analysis Protocol*, September 2013, and FHWA, *Noise Fundamentals,* 2017.

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.

Annoyance

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.[11]

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 and is expressed in terms of inches-per-second (in/sec). The RMS velocity is defined as the average of the squared amplitude of the signal and is expressed in terms of velocity decibels (VdB). 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 **Table 3** 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 individual's sensitivity. 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.

[11] Federal Interagency Committee on Noise, Federal Agency Review of Selected Airport Noise Analysis Issues, August 1992.

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

3.2 Local

City of Rialto General Plan

The City of Rialto General Plan (General Plan) is a roadmap that encompasses the hopes, aspirations, values, and dreams of the community. The General Plan specifies exterior noise guidelines for land uses in the Safety and Noise chapter. The City requires that new developments be designed to meet these guidelines.[12] Noise compatibility can be achieved by avoiding the location of conflicting land uses adjacent to one another, incorporating buffers and noise control techniques including setbacks, landscaping, building transitions, site design, and building construction techniques. Selection of the appropriate noise control technique would vary depending on the level of noise that needs to be reduced as well as the location and intended land use. General Plan policies that directly address reducing and avoiding noise or vibration impacts include the following:

[12] City of Rialto, *General Plan Chapter 5,* 2010.

Goal 2-9: Protect residential, schools, parks, and other sensitive land uses from the impacts associated with industrial and trucking-related land uses, as well as commercial and retail areas.

Policy 5-10.2: Require mitigation and utilize other techniques to protect residential development and other sensitive land uses near industrial land uses or within identified health risk areas from excessive noise, hazardous materials and waste releases, toxic air pollutant concentrations, and other impacts.

Goal 5-10: Minimize the impact of point source and ambient noise levels throughout the community.

Policy 5-10.2: Consider noise impacts as part of the development review process, particularly the location of parking, ingress/egress/loading, and refuse collection areas relative to surrounding residential development and other noise-sensitive land uses.

Policy 5-10.3: Ensure that acceptable noise levels are maintained near schools, hospitals, and other noise sensitive areas in accordance with the Rialto Municipal Code (Municipal Code) and noise standards contained in Exhibit 5-5 (**Table 4**).

Policy 5-10.4: Limit the hours of operation at all noise generation sources that are adjacent to noise-sensitive areas.

Policy 5-10.5: Require all exterior noise sources (construction operations, air compressors, pumps, fans and leaf blowers) to use available noise suppression devices and techniques to reduce exterior noise to acceptable levels that are compatible with adjacent land uses.

Goal 5-11: Minimize the impacts of transportation-related noise.

Policy 5-11.3: Require development of truck-intensive uses to minimize noise impacts on adjacent uses through appropriate site design.

Policy 5-11.4: Develop a program for monitoring noise levels and investigating complaints.

The City of Rialto is largely built out and the street system is well established, creating challenges for separating noise-sensitive land uses from primary noise sources. Thus, the Safety and Noise chapter of the General Plan establishes policies guarding against new noise or land use conflicts to minimize the impact of existing noise sources on the community. **Table 4: Rialto Noise Guidelines for Land Use Planning** presents the City’s exterior noise guidelines for land use planning. It should also be noted that the Safety and Noise chapter of the General Plan mentions sound levels exceeding 40 to 45 dBA are generally considered to cause sleep interference within a residence. The General Plan also references Title 24 of the California Health and Safety Code stipulating a maximum of 45 dBA for interior residential noise levels.

Table 4: Rialto Noise Guidelines for Land Use Planning

Land Use Category	Community Noise Exposure (L_{dn} or CNEL, dBA)			
	Normally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable
R2 - Residential 2, R6 - Residential 6	50 – 60	60 – 65	65 – 70	70 – 85
R12 - Residential 12	50 – 60	60 – 65	65 – 70	70 – 85
R21 - Residential 21, R45 - Residential 45	50 – 60	60 – 70	70 – 75	75 – 85
DMU - Downtown Mixed-Use	50 – 60	60 – 75	75 – 80	80 – 85
CC - Community Commercial	50 – 65	65 – 75	75 – 80	80 – 85
GC - General Commercial	50 – 65	65 – 75	75 – 80	80 – 85
BP - Business Park, O - Office	50 – 65	65 – 75	75 – 80	80 – 85
LI - Light Industrial	50 – 70	70 – 75	75 – 80	80 – 85
GI - General Industrial	50 – 75	75 – 85	NA	NA
P - Public Facility, P - School Facility	50 – 60	60 – 65	65 – 70	70 – 85
OSRC - Open Space - Recreation	50 – 75	NA	75 – 80	80 – 85
OSRS - Open Space - Resources	50 – 75	NA	75 – 80	80 – 85

NA: Not Applicable; dBA: Decibel

Notes:
Normally Acceptable – Specified land use is satisfactory, assuming buildings are of conventional construction.
Conditionally Acceptable – New development should be undertaken only after detailed analysis of noise reduction requirements are made.
Normally Unacceptable – New development should be discouraged, or a detailed analysis of noise reduction requirements must be made.
Clearly Unacceptable – New development should generally not be undertaken.

Source: City of Rialto, *General Plan Chapter 5*, 2010.

City of Rialto Code of Ordinances

A noise ordinance is intended to control unnecessary, excessive, and annoying sounds from stationary, non-transportation noise sources. Noise ordinance requirements are not applicable to mobile noise sources such as heavy trucks traveling on public roadways. Federal and State laws preempt control of mobile noise sources on public roads. Noise ordinance standards generally apply to industrial and commercial noise sources, as well as parks and schools affecting residential areas. The Municipal Code prohibits the production of excessive noise, and is applied to future development within the City to determine potential noise impacts.

The City has also instated permitted hours for disturbances specifically from construction activity under Municipal Code Section 9.50.070. This code states that no person shall be engaged in any type of work relating to construction, alteration, repair, addition, movement, demolition, or improvement to any building or structure except within the hours provided in **Table 5: Permitted Hours of Construction Work** below. However, Section 9.50.060 of the Municipal Code indicates exclusions from the provisions of this specific chapter of the Municipal Code. As described in Section 9.50.060(L) of the Municipal Code, noise sources associated with construction, repair, or excavation, are exempt so long as there is a valid written agreement with the City or any of its political subdivisions that provides for noise mitigation measures.

Table 5: Permitted Hours of Construction Work	
Days of Week	**Time[1,2]**
October 1st through April 30th	
Monday – Friday	7:00 a.m. to 5:30 p.m.
Saturday	8:00 a.m. to 5:00 p.m.
Sunday	No Permissible Hours
State Holidays	No Permissible Hours
May 1st through September 30th	
Monday – Friday	6:00 a.m. to 7:00 p.m.
Saturday	8:00 a.m. to 5:00 p.m.
Sunday	No Permissible Hours
State Holidays	No Permissible Hours
Notes: For purposes of this section, the following exceptions shall apply: [1] Emergency repair of existing installations, equipment, or appliances; and [2] Such work that complies with the terms and conditions of a written early work permit issued by the city manager or his or her designee upon a showing of a sufficient need and justification for the permit due to hot or inclement weather, the use of an unusually long process material, or other circumstances of an unusual and compelling nature.	
Source: City of Rialto, *Code of Ordinances*, Section 9.50.070, 2018.	

The Project would be subject to the limitations imposed by the City regarding construction noise as depicted in **Table 5**.

The following section of the Municipal Code noise ordinance is relevant for operational noise.

9.50.050: Controlled hours of operation.

It is unlawful for any person to engage in the following activities other than between the hours of 7:00 a.m. and 8:00 p.m. in all zones.

A. Operate or permit the use of powered model vehicles and planes;

B. Load or unload any vehicle, or operate or permit the use of dollies, carts, forklifts, or other wheeled equipment that causes any impulsive sound, raucous or unnecessary noise within one thousand feet of a residence;

C. Operate or permit the use of domestic power tools, or machinery or any other equipment or tool in any garage, workshop, house or any other structure;

D. Operate or permit the use of gasoline or electric powered leaf blowers, such as commonly used by gardeners and other persons for cleaning lawns, yards, driveways, gutters and other property;

E. Operate or permit the use of privately operated street/parking lot sweepers or vacuums, except that emergency work and/or work necessitated by unusual conditions may be performed with the written consent of the city manager;

F. Operate or permit the use of pile driver, steam or gasoline shovel, pneumatic hammer, steam or electric hoist or other similar devices;

G. Operate or permit the use of electrically operated compressor, fan, and other similar devices;

H. Perform ground maintenance on golf course grounds and tennis courts contiguous to golf courses that creates a noise disturbance across a residential or commercial property line;

I. Operate or permit the use of any motor vehicle with a gross vehicle weight rating in excess of ten thousand pounds, or of any auxiliary equipment attached to such a vehicle, including but not limited to refrigerated truck compressors, for a period longer than fifteen minutes in any hour while the vehicle is stationary and on a public right-of-way or public space except when movement of the vehicle is restricted by other traffic;

J. Repair, rebuild, reconstruct or dismantle any motor vehicle or other mechanical equipment or devices in a manner so as to be plainly audible across property lines.

Additionally, Section 9.50.060(O) of the Municipal Code states that sounds generated in commercial and industrial zones that are necessary and incidental to the uses permitted therein are exempt from the Controlled Hours of Operation.

4 EXISTING CONDITIONS

4.1 Existing Noise Levels

The City is impacted by various noise sources. Mobile sources of noise, especially cars, trucks, and trains are the most common and significant sources of noise. Other noise sources are the various land uses (e.g. residential, commercial, institutional, and recreational and parks activities) throughout the City that generate stationary-source noise. The existing mobile noise sources in the Project area are generated by motor vehicles traveling on Ayala Drive and Linden Avenue. The primary sources of stationary noise in the Project vicinity are those associated with the industrial uses to the north, east, and south. Industrial stationary noise sources may include mechanical equipment (use of heating, ventilation, and air conditioning [HVAC] units, etc.) and parking lot activities (cars parking, open and closing doors, etc.). The noise associated with these sources may represent a single-event noise occurrence, short-term, or long-term/continuous noise.

Mobile Traffic Noise

Existing roadway noise levels were calculated for the roadway segments in the Project vicinity. This task was accomplished using the Federal Highway Administration (FHWA) Highway Traffic Noise Prediction Model (FHWA-RD-77-108) and existing traffic volumes from the *Traffic Study for the Miro Way and Ayala Drive Warehouse Project in the City of Rialto* (Traffic Study), prepared by Kimley-Horn (May 2024). The noise prediction model calculates the average noise level at specific locations based on traffic volumes, average speeds, roadway geometry, and site environmental conditions. The average vehicle noise rates (also referred to as energy rates) used in the FHWA model have been modified to reflect average vehicle noise rates identified for California by the California Department of Transportation (Caltrans). The Caltrans data indicates that California automobile noise is 0.8 to 1.0 dBA higher than national levels and that medium and heavy truck noise is 0.3 to 3.0 dBA lower than national levels. The average daily noise levels along roadway segments in proximity to the Project site are included in **Table 6: Existing Traffic Noise Levels**.

Table 6: Existing Traffic Noise Levels

Roadway Segment	Existing Conditions	
	ADT	dBA CNEL at 100 feet from Roadway Centerline
Alder Avenue		
SR-210 WB Ramps to SR-210 EB Ramps	16,020	67.5
SR-210 EB Ramps to Renaissance Parkway	23,147	68.4
Renaissance Parkway to Baseline Road	18,946	67.9
Linden Avenue		
Miro Way to Baseline Road	9,062	60.6
Ayala Drive		
Renaissance Parkway to Fitzgerald Avenue	25,610	66.3
Miro Way to Baseline Road	21,446	65.8
Baseline Road		
Alder Avenue to Linden Avenue	12,697	64.2
Linden Avenue to Ayala Drive	13,739	65.4

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

Source: Based on traffic data within the *Traffic Study for the Miro Way and Ayala Drive Warehouse Project in the City of Rialto*, prepared by Kimley-Horn (May 2024). Refer to **Appendix B** for traffic noise modeling assumptions and results.

4.2 Sensitive Receptors

Noise exposure standards and guidelines for various types of land uses reflect the varying noise sensitivities associated with each of these uses. Residences, hospitals, schools, guest lodging, libraries, and churches are treated as the most sensitive to noise intrusion and therefore have more stringent noise exposure targets than do other uses, such as manufacturing or agricultural uses that are not subject to impacts such as sleep disturbance. The nearest sensitive receptors are the single-family residences located approximately 520 feet to the south and the Jerry Eaves Park located approximately 800 feet to the northeast of the Project site. Future residential uses would be located approximately 1,400 feet to the north of the Project site.

4.3 Noise Measurements

To quantify existing ambient noise levels in the Project area, Kimley-Horn conducted two short-term noise measurements on April 12, 2023, see **Appendix A: Existing Ambient Noise Measurements**. The noise measurement sites were representative of typical existing noise exposure within and immediately adjacent to the Project site, see **Exhibit 4: Noise Measurement Locations**. The 10-minute measurements were taken between 10:39 a.m. and 12:06 p.m. Short-term L_{eq} measurements are considered representative of the noise levels throughout the day. The average noise levels and measurement location are listed in **Table 7: Existing Noise Measurements**.

Table 7: Existing Noise Measurements

Site #	Location	L_{eq} (dBA)	Time
1	Corner of Brentwood Avenue and Mesa Drive, south of Project Site	51.7	10:39 a.m.
2	Cul-de-sac on W Mesa Drive, southwest of Project Site	51.2	11:04 a.m.
3	Along N Linden Avenue, west of Project Site	65.5	11:21 a.m.
4	End of Fitzgerald Avenue, north of Project Site	57.5	11:40 a.m.
5	Jerry Eaves Park, northeast of Project Site	55.4	11:56 a.m.

Source: Noise measurements taken by Kimley-Horn and Associates April 12, 2023. See **Appendix A** for noise measurement results.

EXHIBIT 4: Noise Measurement Locations
Miro Way and Ayala Drive Warehouse Project
City of Rialto

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 Noise

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 L_{eq}. This unit is appropriate because L_{eq} 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.

Construction noise modeling was conducted using the FHWA Roadway Construction Noise Model (RCNM). Reference noise levels are used to estimate operational noise levels at nearby sensitive receptors based on a standard noise attenuation rate of 6 dB per doubling of distance (line-of-sight method of sound attenuation for point sources of noise). Noise level estimates do not account for the presence of intervening structures or topography, which may reduce noise levels at receptor locations. Therefore, the noise levels presented herein represent a conservative, reasonable estimate of actual temporary construction noise. The City of Rialto does not establish quantitative construction noise standards. Therefore, this analysis conservatively uses the FTA's threshold of 80 dBA (8-hour L_{eq}) for residential uses and 90 dBA (8-hour L_{eq}) for non-residential uses to evaluate construction noise impacts.

Operational Noise

Reference noise level data are used to estimate the Project operational noise impacts from stationary sources. Noise levels are collected from field noise measurements and other published sources from similar types of activities are used to estimate noise levels expected with the Project's stationary sources. The reference noise levels are used to represent a conservative noise environment as noise levels from stationary sources can vary throughout the day. Operational noise is evaluated based on the standards within the Municipal Code and General Plan.

An analysis was conducted of the Project's effect on traffic noise conditions at offsite land uses. Without Project traffic noise levels were compared to With Project traffic noise levels. The environmental baseline is the Without Project condition. The Without Project and With Project traffic noise levels in the Project vicinity were calculated using the FHWA Highway Noise Prediction Model (FHWA-RD-77-108). The actual sound level at any receptor location is dependent upon such factors as the source-to-receptor distance and the presence of intervening structures (walls and buildings), barriers, and topography. The noise attenuating effects of changes in elevation, topography, and intervening structures were not included in the model. Therefore, the modeling effort is considered a conservative representation of the roadway noise. In general, a 3-dBA increase in traffic noise is barely perceptible to people, while a 5-dBA increase is readily noticeable.

Vibration

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

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?

PROPOSED WAREHOUSE DEVELOPMENT

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 near the construction site. The nearest sensitive receptors to the Project site are the single-family residences located approximately 520 feet to the south. As construction would occur up to the Project boundary line, construction activities may occur as close as 520 feet from the nearest sensitive receptors. However, it is acknowledged that construction activities would occur throughout the Project site and would not be concentrated at the point closest to the sensitive receptors.

Construction activities would include site preparation, grading/infrastructure improvements, building construction, paving, and architectural coating applications. Such activities would require dozers and tractors during site preparation; excavators, graders, dozers, scrapers, and tractors during grading/infrastructure improvements; cranes, forklifts, generators, tractors, and welders during building construction; pavers, rollers, and paving equipment during paving; and air compressors during architectural coating applications. Typical operating cycles for these types of construction equipment may involve 1 or 2 minutes of full power operation followed by 3 to 4 minutes at lower power settings. Construction noise was calculated accounting for each piece of equipment's usage factor, or fraction of time that the equipment would be in use at full power over a specific period of time.[13] 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 when operating at full power are listed in **Table 8: Typical Construction Noise Levels**.

Table 8: Typical Construction Noise Levels

Equipment	Typical Noise Level (dBA L_{max}) at 50 feet from Source
Air Compressor	80
Backhoe	80
Compactor	82
Concrete Mixer	85
Concrete Pump	82
Concrete Vibrator	76

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

Table 8: Typical Construction Noise Levels	
Equipment	**Typical Noise Level (dBA L_{max}) at 50 feet from Source**
Crane, Derrick	88
Crane, Mobile	83
Dozer	85
Generator	82
Grader	85
Impact Wrench	85
Jack Hammer	88
Loader	80
Paver	85
Pneumatic Tool	85
Pump	77
Roller	85
Saw	76
Scraper	85
Shovel	82
Truck	84
Source: Federal Transit Administration, *Transit Noise and Vibration Impact Assessment Manual*, September 2018.	

The FHWA RCNM was used to calculate conservative construction noise levels at nearby sensitive receptors surrounding the Project site during construction. The modeled receptor locations represent the closest existing receiving land uses to Project construction activities. Noise levels at other sensitive receptors surrounding the Project site would be located further away and would experience lower construction noise levels than the closest receptors modeled.

The Municipal Code does not establish quantitative exterior construction noise standards. While the Municipal Code does not establish quantitative construction noise standards, this analysis conservatively uses the FTA's threshold of 80 dBA (8-hour L_{eq}) for residential uses and 90 dBA (8-hour L_{eq}) for non-residential uses to evaluate construction noise impacts.[14]

The noise levels calculated in **Table 9: Project Construction Noise Levels** show estimated exterior noise levels for the conservative construction noise scenario without accounting for attenuation from intervening barriers, structures, or topography. The nearest noise sensitive receptors to the Project site are the residences located approximately 520 feet to the south and the nearest non-residential receptors are the commercial/industrial uses located adjacent to the south of the Project site. Noise levels at other receptors in the Project vicinity would be located further away and would experience lower construction noise levels than the closest receptors modeled. Because infrastructure improvements/building construction and building construction/paving/architectural coating activities are anticipated to overlap, the equipment from these phases have been combined. All construction equipment for each individual phase was assumed to operate simultaneously to represent a conservative noise scenario as construction activities would routinely be spread throughout the construction site and would operate at different intervals.

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

Table 9: Project Construction Noise Levels

Construction Phase	Land Use	Receptor Location			Noise Threshold (dBA L_{eq})[2]	Exceeded?
		Direction	Distance to Center of Site (feet)[1]	Modeled Exterior Noise Level (dBA L_{eq})		
Site Preparation	Residential	South	975	56.2	80	**No**
	Park	Northeast	1,400	53.1	90	**No**
	Commercial/ Industrial	South	400	64.0	90	**No**
Grading	Residential	South	975	60.5	80	**No**
	Park	Northeast	1,400	57.3	90	**No**
	Commercial/ Industrial	South	400	68.2	90	**No**
Infrastructure Improvements	Residential	South	975	56.2	80	**No**
	Park	Northeast	1,400	53.1	90	**No**
	Commercial/ Industrial	South	400	64.0	90	**No**
Building Construction	Residential	South	975	57.1	80	**No**
	Park	Northeast	1,400	54.0	90	**No**
	Commercial/ Industrial	South	400	64.9	90	**No**
Paving	Residential	South	975	52.8	80	**No**
	Park	Northeast	1,400	49.7	90	**No**
	Commercial/ Industrial	South	400	60.5	90	**No**
Architectural Coating	Residential	South	975	47.9	80	**No**
	Park	Northeast	1,400	44.8	90	**No**
	Commercial/ Industrial	South	400	55.7	90	**No**
Infrastructure Improvements/Building Construction	Residential	South	975	59.7	80	**No**
	Park	Northeast	1,400	56.6	90	**No**
	Commercial/ Industrial	South	400	67.5	90	**No**
Building Construction/ Paving/Architectural Coating	Residential	South	975	58.9	80	**No**
	Park	Northeast	1,400	55.7	90	**No**
	Commercial/ Industrial	South	400	66.6	90	**No**

1. Per the methodology described in the FTA *Transit Noise and Vibration Impact Assessment Manual* (September 2018), distances are measured from the nearby buildings to the center of the Project construction site.
2. The City does not have a quantitative noise threshold for construction and only limits the hours of the construction activities. Therefore, FTA's construction noise threshold are conservatively used for this analysis (FTA, *Transit Noise and Vibration Impact Assessment Manual*, September 2018).

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

As shown in **Table 9**, the conservative construction scenario noise levels would not exceed the applicable FTA construction thresholds. The highest exterior noise level at residential receptors would occur during the grading phase and would be 60.5 dBA which is below the FTA's 80 dBA threshold. Additionally, the highest exterior noise level at non-residential (industrial/commercial and park) receptors would also occur during the grading phase and would be 68.2 dBA which is below the FTA's 90 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 dispersed throughout the Project site and not concentrated in one area near surrounding sensitive uses. Therefore, per the methodology described in the FTA Transit Noise and Vibration Impact Assessment Manual (September 2018), distances are measured from the nearby buildings to the center of the Project construction site.

The City has set restrictions on construction hours to control noise impacts from construction activities. Municipal Code Section 9.50.070 states that construction activities may only take place between the hours of 7:00 a.m. and 5:30 p.m. on weekdays and between the hours of 8:00 a.m. and 5:00 p.m. on Saturdays from October 1 through April 30 and shall only occur between 6:00 a.m. and 7:00 p.m. on weekdays and between the hours of 8:00 a.m. and 5:00 p.m. on Saturdays from May 1 through September 30. Although the Municipal Code limits the hours of construction, it does not provide specific noise level performance standards for construction. By following the City's standards, construction noise impacts would be less than significant.

Operations

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

- Mechanical equipment;
- 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.

<u>Mechanical Equipment</u>

Mechanical equipment (e.g., heating, ventilation, and air conditioning [HVAC] equipment) typically generates noise levels of approximately 52 dBA at 50 feet.[15] HVAC units would be installed on the roof of the proposed structures. Sound levels decrease by 6 dBA for each doubling of distance from the source.[16] The nearest residential sensitive receptors (residential uses to the south) would be located as close as 690 feet from the HVAC equipment installed on the roof of Building 2; refer to **Exhibit 3**. At this distance, mechanical equipment noise levels would be approximately 29.2 dBA, which is well below the City's normally acceptable residential exterior noise standard (60 dBA). Additionally, the Jerry Eaves Park would be located as close as 1,052 feet from the HVAC equipment at the Project site. At this distance, mechanical equipment noise levels would be approximately 25.5 dBA, which is well below the City's normally acceptable exterior noise standard (75 dBA) for parks. Operation of mechanical equipment would not increase ambient noise levels beyond the acceptable compatible land use noise levels. Therefore, the

[15] Elliott H. Berger, Rick Neitzel, and Cynthia A. Kladden, *Noise Navigator Sound Level Database with Over 1700 Measurement Values*, June 26, 2015.
[16] Cyril M. Harris, *Noise Control in Buildings*, 1994.

proposed Project would result in a less than significant impact related to mechanical equipment 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/unloading activities would occur throughout the Project site; refer to **Exhibit 3**.

Typically, heavy truck and loading dock operations generate a noise level of 68 dBA at a distance of 30 feet.[17] The closest residential sensitive receptors would be the single-family residences located approximately 660 feet south of the closest loading dock areas on the south side of Building 2; refer to **Exhibit 3**. At this distance, heavy truck and loading dock noise levels would be 45.6 dBA, which would not exceed the City's normally acceptable residential exterior noise standard (60 dBA). Additionally, the Jerry Eaves Park would located approximately 1,225 feet northeast of the closest loading dock areas on the north side of Building 2. At this distance, heavy truck and loading dock noise levels would be approximately 40.2 dBA, which is well below the City's normally acceptable exterior noise standard (75 dBA) for parks. Further, loading dock doors would 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. As described above, noise levels associated with trucks and loading/unloading activities would not exceed the City's standards and impacts would be less than significant.

Back-Up Alarms

Medium and heavy-duty trucks reversing into loading docks would produce noise from back-up alarms (also known as back-up beepers). Back-up beepers produce a typical volume of 97 dBA at one meter (3.28 feet) from the source. The property line of the nearest residential sensitive receptor would be located approximately 660 feet south of the loading dock areas where trucks could be reversing and maneuvering. At this distance, exterior noise levels from back-up beepers would be approximately 50.9 dBA, which is below the City's normally acceptable residential exterior noise standard (60 dBA). Additionally, the Jerry Eaves Park would be located approximately 1,225 feet northeast of the closest loading dock areas where trucks could be reversing and maneuvering. At this distance, exterior noise levels from back-up beepers would be approximately 45.6 dBA, which is well below the City's normally acceptable exterior noise standard (75 dBA) for parks. Therefore, back-up alarm noise impacts would be less than significant.

Parking Noise

The proposed Project would provide 283 surface parking spaces. 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 60 to 63 dBA and may be an annoyance to adjacent noise-sensitive receptors.[18] Conversations in parking areas may also be an annoyance to adjacent

[17] Loading dock reference noise level measurements conducted by Kimley-Horn on December 18, 2018.
[18] Kariel, H. G., Noise in Rural Recreational Environments, Canadian Acoustics 19(5), 3-10, 1991.

sensitive receptors. Sound levels of speech typically range from 33 dBA at 50 feet for normal speech to 50 dBA at 50 feet for very loud speech. It should be noted that parking lot noises are instantaneous noise levels compared to noise standards in the hourly L_{eq} metric, which are averaged over the entire duration of a time period.

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 Project site and surrounding commercial/industrial uses under existing conditions. Parking lot noise would be consistent with the existing noise in the vicinity and would be partially masked by background noise from traffic along surrounding roadways. The nearest surface parking lot would be located approximately 550 feet from the residential sensitive receptors to the south. Noise attenuation based strictly on distance and not taking into account intervening barriers or structures would reduce parking lot noise to 42.2 dBA. Additionally, the Jerry Eaves Park would located approximately 860 feet northeast of the closest parking lot. At this distance, parking lot exterior noise levels would be approximately 38.3 dBA, which is well below the City's normally acceptable exterior noise standard (75 dBA) for parks. 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

The proposed Project would result in additional traffic on adjacent roadways from daily activities, thereby increasing vehicular noise in the vicinity of existing and proposed land uses. Based on the *Traffic Study for the Miro Way and Ayala Drive Warehouse Project in the City of Rialto* (Traffic Study), prepared by Kimley-Horn (May 2024), typical daily activities are forecast to generate 733 daily trips. In general, traffic noise level increases of less than 3 dBA is barely perceptible to people, while a 5-dBA increase is readily noticeable.[19] Generally, traffic volumes on Project area roadways would have to approximately double for the resulting traffic noise levels to increase by 3 dBA. Therefore, permanent increases in ambient noise levels of less than 3 dBA are considered to be less than significant.

Traffic noise levels for roadways primarily affected by the Project were calculated using the FHWA's Highway Noise Prediction Model (FHWA-RD-77-108). Traffic noise modeling was conducted for conditions with and without the Project, based on traffic volumes obtained from the Traffic Study. The calculated traffic noise levels for the "Opening Year Without Project" and "Opening Year With Project" scenarios are compared in **Table 10: Opening Year Traffic Noise Levels**. As depicted in **Table 10**, under the "Opening Year Without Project" scenario, noise levels would range from approximately 60.6 dBA to 68.4 dBA, with the highest noise levels occurring along Alder Avenue from SR-210 eastbound ramps to Renaissance Parkway. The "Opening Year With Project" scenario noise levels would range from approximately 60.9 dBA to 68.5 dBA, with the highest noise levels also occurring along Alder Avenue from SR-210 eastbound ramps to Renaissance Parkway.

[19] California Department of Transportation, *Technical Noise Supplemental to the Traffic Noise Analysis Protocol*, 2013.

Table 10: Opening Year Traffic Noise Levels

Roadway Segment	Opening Year Without Project		Opening Year With Project		Change	Significant Impacts
	ADT	dBA CNEL at 100 feet from Roadway Centerline	ADT	dBA CNEL at 100 feet from Roadway Centerline		
Alder Avenue						
SR-210 WB Ramps to SR-210 EB Ramps	16,340	67.5	16,486	67.6	0.1	No
SR-210 EB Ramps to Renaissance Parkway	23,610	68.4	23,903	68.5	0.1	No
Renaissance Parkway to Baseline Road	19,325	68.0	19,618	68.1	0.1	No
Linden Avenue						
Miro Way to Baseline Road	9,243	60.6	9,500	60.9	0.3	No
Ayala Drive						
Renaissance Parkway to Fitzgerald Avenue	26,122	66.4	26,386	66.5	0.1	No
Miro Way to Baseline Road	21,875	65.9	22,065	66.0	0.1	No
Baseline Road						
Alder Avenue to Linden Avenue	12,951	64.2	13,288	64.4	0.2	No
Linden Avenue to Ayala Drive	14,014	65.5	14,226	65.6	0.1	No

ADT = average daily trips; dBA = A-weighted decibels; CNEL = community noise equivalent level.

Source: Based on traffic data within the *Traffic Study for the Miro Way and Ayala Drive Warehouse Project in the City of Rialto*, prepared by Kimley-Horn (May 2024).Refer to **Appendix B** for traffic noise modeling assumptions and results.

As depicted in **Table 10**, the "Opening Year With Project" scenario traffic noise levels would not exceed the 3.0 dBA increase significance threshold along any of the surrounding roadways. As a result, the Project would not result in a perceptible increase in traffic noise levels and impacts would be less than significant.

Conclusion

As discussed above, construction and operational noise impacts would be less than significant. However, the Project would be subject to 2016 RSPA EIR Mitigation Measures **N-1** and **N-2** to reduce construction noise impacts.

PROPOSED PA 123 REZONE

Development of PA 123 is not proposed as part of the Project. Future development projects related to PA 123 would be evaluated on a project-specific level in compliance with CEQA, as applicable.

Mitigation Measures:

2016 RSPA EIR Mitigation Measures

N-1: Construction activities shall be limited to the City's allowable hours of construction activities as shown in Table 4.11-2 of the 2010 DEIR, in accordance with the City's Noise Ordinance.

N-2: All construction equipment shall use noise-reduction features (e.g., mufflers and engine shrouds) that are no less effective than those originally installed by the manufacturer.

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?

PROPOSED WAREHOUSE DEVELOPMENT

Once operational, the Project would not be a source of groundborne vibration. Increases in groundborne 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 groundborne vibration, depending on the specific construction equipment used and the operations involved.

The types of construction vibration impacts include human annoyance and building damage. Human annoyance occurs when construction vibration rises significantly above the threshold of human perception for extended periods of time. Building damage can be cosmetic or structural. Ordinary buildings that are not particularly fragile would not experience any cosmetic damage (e.g., plaster cracks) at distances beyond 30 feet. This distance can vary substantially depending on the soil composition and underground geological layer between vibration source and receiver. In addition, not all buildings respond similarly to vibration generated by construction equipment. The City does not provide numerical vibration standards for construction activities. As the nearest structure is a commercial building (i.e., 1348 W. Baseline Road) located adjacent to portions of the Project's southern and southwestern property lines, this impact discussion uses the FTA and Caltrans structural damage criterion of 0.50 in/sec PPV for commercial buildings and the human annoyance criterion of 0.4 in/sec PPV.

The FTA has published standard vibration velocities for construction equipment operations. **Table 11: Typical Construction Equipment Vibration Levels**, lists vibration levels for typical construction equipment. It should be noted that the Project would not require the use of pile drivers. Groundborne vibration generated by construction equipment spreads through the ground and diminishes in magnitude with increases in distance.

Table 11: Typical Construction Equipment Vibration Levels

Equipment	Peak Particle Velocity at 5 Feet (in/sec)	Peak Particle Velocity at 10 Feet (in/sec)	Peak Particle Velocity at 15 Feet (in/sec)	Peak Particle Velocity at 17 Feet (in/sec)[1]
Vibratory Roller	2.348	0.830	0.452	0.375
Large Bulldozer	0.995	0.352	0.191	0.159
Loaded Trucks	0.850	0.300	0.164	0.136
Jackhammer	0.391	0.138	0.075	0.062
Small Bulldozer/Tractors	0.034	0.012	0.006	0.005

Notes:
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.
D = the distance from the equipment to the receiver

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

Construction activities are anticipated to occur up to the Project boundary line. Therefore, the nearest structure (i.e. commercial building) would be located approximately 5 feet to the south of the Project site boundary. As indicated in Table 11, vibration velocities from typical heavy construction equipment operations that would be used during Project construction range from 0.034 to 2.348 in/sec PPV at 5 feet from the source of activity. Therefore, construction groundborne vibration would exceed the structural damage criterion (0.5 in/sec PPV) and human annoyance criterion (0.4 in/sec PPV). Mitigation Measure **NOI-1** would be required to reduce vibration impacts to a less than significant level. Mitigation Measure **NOI-1** would require a buffer distance for heavy equipment operation adjacent to the existing commercial building to ensure vibration groundborne vibration generated by Project construction would not exceed the structural damage criterion (0.5 in/sec PPV) and human annoyance criterion (0.4 in/sec PPV). With implementation of Mitigation Measure **NOI-1**, impacts would be less than significant.

PROPOSED PA 123 REZONE

Development of PA 123 is not proposed as part of the Project. Future development projects related to PA 123 would be evaluated on a project-specific level in compliance with CEQA, as applicable.

Mitigation Measures:

NOI-1 The following measures shall be incorporated on all grading and building plans and specifications subject to approval of the City's Building and Safety Division prior to issuance of a grading permit:

- The developer shall ensure construction equipment will not approach the construction buffer zone adjacent to the commercial building (i.e., 1348 W. Baseline Road) along portions of the Project's southern and southwestern project boundary. The buffer zone shall be tiered based on distances established in Table 11: Typical Construction Equipment Vibration Levels. As shown in Table 11, vibratory rollers shall not operate within 17 feet of the commercial building; large bulldozers and loaded trucks shall not operate within 10 feet of the commercial building; and jackhammers and small bulldozers/tractors shall not operate within 5 feet of the commercial building.

Level of Significance: Less than significant impact with implementation of Mitigation Measure **NOI-1**.

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?

PROPOSED WAREHOUSE DEVELOPMENT

The public airport nearest to the Project site is the San Bernardino International Airport, located approximately 8.23 miles to the southeast. As such, the Project would not be located within two miles of a public airport or within an airport land use plan. Additionally, there are no private airstrips located within the Project vicinity. Therefore, the Project would not expose people residing or working in the Project area to excessive airport- or airstrip-related noise levels and no impact would occur.

PROPOSED PA 123 REZONE

Development of PA 123 is not proposed as part of the Project. Future development projects related to PA 123 would be evaluated on a project-specific level in compliance with CEQA, as applicable.

Mitigation Measures: No mitigation is required.

Level of Significance: No impact.

CUMULATIVE NOISE IMPACTS

PROPOSED WAREHOUSE DEVELOPMENT

Noise by definition is a localized phenomenon, and drastically reduces as distance from the source increases. Cumulative noise impacts involve development of the proposed Project in combination with ambient growth and other related development projects. As noise levels decrease as distance from the source increases, only projects in the nearby area could combine with the proposed Project to potentially result in cumulative noise impacts. According to the Traffic Study, the nearest cumulative projects include two projects located east of the Project site, along Baseline Road; refer to **Appendix B** for the specific location of cumulative projects.[20]

Cumulative Construction Noise

The Project's construction activities 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. Assuming the Project and the nearest two cumulative projects (along Baseline Road) construction activities would occur concurrently, the combined cumulative noise level would be 68.5 dBA at the nearest residential sensitive receptor to the south of the Project site; refer to **Appendix B** for cumulative construction noise calculations. Therefore, cumulative construction noise levels would not exceed the FTA's 80 dBA threshold for residential uses.

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.

[20] Kimley-Horn and Associates, Inc., *Traffic Study for the Miro Way and Ayala Drive Warehouse Project in the City of Rialto*, *Figure 11: Location of Cumulative Projects*, May 2024.

Cumulative Operational Noise

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

<u>Cumulative Stationary Noise</u>

As discussed above, impacts from the Project's operational stationary noise would be less than significant. The nearest cumulative projects (along Baseline Road) would include similar stationary sources as the proposed Project (i.e., HVAC, truck and loading dock activity, back-up alarms, and parking); refer to **Appendix B** for the specific location of cumulative projects. The Project, in combination with cumulative stationary noise levels, would result in 57.6 dBA at the nearest residential sensitive receptors to the south; refer to **Appendix B** for cumulative stationary noise calculations. As such, cumulative stationary noise levels would not exceed the City's normally acceptable residential exterior noise standard (60 dBA). It should be noted that cumulative stationary noise levels conservatively do not account for attenuation from intervening barriers, structures, or topography. Therefore, cumulative operational noise impacts from related projects, in conjunction with Project-specific noise impacts, would not be cumulatively significant.

<u>Cumulative Traffic Noise</u>

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

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

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

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

- Incremental Effects. The "Cumulative With Project" causes a 1.0 dBA increase in noise over the "Cumulative Without Project" noise level; refer to **Appendix B** for the specific location of cumulative projects.

A significant impact would result only if both the combined and incremental effects criteria have been exceeded. Noise by definition is a localized phenomenon and reduces as distance from the source increases. Consequently, only the proposed Project and growth due to occur in the general area would contribute to cumulative noise impacts. **Table 12: Cumulative Plus Project Buildout Conditions Traffic Noise Levels** identifies the traffic noise effects along roadway segments in the vicinity of the Project site for "Existing," "Cumulative Without Project," and "Cumulative With Project," conditions, and net cumulative impacts.

Table 12: Cumulative Plus Project Buildout Conditions Traffic Noise Levels

Roadway Segment	CNEL @ 100 feet from Centerline			Combined Effects	Incremental Effects	Cumulatively Significant Impact?
	Existing	Cumulative Without Project	Cumulative With Project	dBA Difference: Existing and Cumulative With Project	dBA Difference: Cumulative Without and With Project	
Alder Avenue						
SR-210 WB Ramps to SR-210 EB Ramps	67.5	68.7	68.8	1.3	0.1	No
SR-210 EB Ramps to Renaissance Parkway	68.4	69.7	69.8	1.4	0.1	No
Renaissance Parkway to Baseline Road	67.9	68.9	69.0	1.1	0.1	No
Linden Avenue						
Miro Way to Baseline Road	60.6	60.8	61.1	0.5	0.3	No
Ayala Drive						
Renaissance Parkway to Fitzgerald Avenue	66.3	66.9	67.0	0.7	0.1	No
Miro Way to Baseline Road	65.8	66.3	66.4	0.6	0.1	No
Baseline Road						
Alder Avenue to Linden Avenue	64.2	64.7	65.0	0.8	0.2	No
Linden Avenue to Ayala Drive	65.4	66.1	66.3	0.9	0.2	No

ADT = average daily trips; dBA = A-weighted decibels; CNEL = day-night noise level
1. Traffic noise levels are at 100 feet from the roadway centerline.

Source: Based on traffic data within the *Traffic Study for the Miro Way and Ayala Drive Warehouse Project in the City of Rialto*, prepared by Kimley-Horn (May 2024). Refer to **Appendix B** for traffic noise modeling assumptions and results.

First, it must be determined whether the "Cumulative With Project" 3.0 dB increase above existing conditions (*Combined Effects*) is exceeded. Next, under the *Incremental Effects* criteria, cumulative noise impacts are defined by determining if the forecast ambient ("Cumulative Without Project") noise level is increased by 1.0 dB or more. As shown in **Table 12**, the Incremental Effects criterion (1.0 dB) and Combined Effects criterion (3.0 dB) are not exceeded along any of the roadway segments analyzed. Therefore, the Project would not exceed both the combined and incremental effects criteria along any of the surrounding roadways. Thus, the Project, in combination with cumulative background traffic noise levels, would result in a less than significant cumulative impact. The Project's contribution to traffic noise would not be cumulatively considerable.

PROPOSED PA 123 REZONE

Development of PA 123 is not proposed as part of the Project. Future development projects related to PA 123 would be evaluated on a project-specific level in compliance with CEQA, as applicable.

Mitigation Measures: No mitigation is required.

Level of Significance: Less than significant impact.

7 REFERENCES

1. California Department of Transportation, *Transportation and Construction Vibration Guidance Manual*, 2020.
2. California Department of Transportation, *Technical Noise Supplement to the Traffic Noise Analysis Protocol*, September 2013.
3. City of Rialto, *City of Rialto General Plan*, 2010.
4. City of Rialto, *A Codification of the General Ordinances of Rialto, California*, codified through Ordinance No. 1687, passed September 12, 2023.
5. Cyril M. Harris, *Noise Control in Buildings*, 1994.
6. Cyril M. Harris, *Handbook of Noise Control*, 1979.
7. Elliott H. Berger, Rick Neitzel, and Cynthia A. Kladden, *Noise Navigator Sound Level Database with Over 1700 Measurement Values*, June 26, 2015.
8. Federal Highway Administration, *Highway Traffic and Construction Noise - Problem and Response*, April 2006.
9. Federal Highway Administration, *Noise Fundamentals*, 2017.
10. Federal Highway Administration, *Roadway Construction Noise Model*, 2006.
11. Federal Highway Administration, *Roadway Construction Noise Model User's Guide Final Report*, 2006.
12. Federal Interagency Committee on Noise, *Federal Agency Review of Selected Airport Noise Analysis Issues*, August 1992.
13. Federal Transit Administration, *Transit Noise and Vibration Assessment Manual*, 2018.
14. HPA Architecture, *Conceptual Site Plan – Miro Way and Ayala Dr.*, January 8, 2024.
15. James P. Cowan, *Handbook of Environmental Acoustics,* 1994.
16. Kariel, H. G., *Noise in Rural Recreational Environments*, Canadian Acoustics 19(5), 3-10, 1991.

Appendix A

Existing Ambient Noise Measurements

Noise Measurement Field Data

Project:	Rialto Renaissance Miro Way	**Job Number:**	095996121
Site No.:	ST-1	**Date:**	4/12/2023
Analyst:	Kiana Graham and Sarah Miller	**Time:**	10:39-10:49
Location:	Corner of Brentwood Ave and Mesa Drive		
Noise Sources:	Cars/trucks on W. Baseline Rd and N Alaya Dr		
Comments:	Car started next to noise meter at 10:47		

Results (dBA):

	Leq:	Lmin:	Lmax:	Peak:
Measurement 1:	51.7	42.6	68.7	79.9

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

Weather	
Temp. (degrees F):	61
Wind (mph):	3
Sky:	Partly Cloudy
Bar. Pressure:	29.86
Humidity:	69%

Photo:

Kimley»Horn

Summary

File Name on Meter	ST-.082.s
File Name on PC	LxTse_0007061-20230412 103941-ST-.082.ldbin
Serial Number	0007061
Model	SoundExpert® LxT
Firmware Version	2.404
User	
Location	
Job Description	
Note	

Measurement

Description	
Start	2023-04-12 10:39:41
Stop	2023-04-12 10:49:41
Duration	00:10:00.0
Run Time	00:10:00.0
Pause	00:00:00.0
Pre-Calibration	2023-04-12 10:35:35
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	121.4 dB			
	A	**C**	**Z**	
Under Range Peak	**77.9**	74.9	79.9	dB
Under Range Limit	**23.9**	24.7	30.4	dB
Noise Floor	14.8	15.5	21.3	dB
	First	**Second**	**Third**	
Instrument Identification		1100 W. Town&Country Rd, #700	Orange, CA 92868	

Results

LAeq	51.7 dB	
LAE	79.5 dB	
EA	9.861 µPa²h	
LApeak (max)	2023-04-12 10:40:40	79.9 dB
LASmax	2023-04-12 10:40:41	68.7 dB
LASmin	2023-04-12 10:41:47	42.6 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**
	51.7	51.7	-99.9	51.7	51.7	-99.9

LCeq	66.1 dB
LAeq	51.7 dB
LCeq - LAeq	14.4 dB
LAIeq	54.1 dB
LAeq	51.7 dB
LAIeq - LAeq	2.4 dB

	A		C		Z	
	dB	Time Stamp	dB	Time Stamp	dB	Time Stamp
Leq	51.7		66.1			
Ls(max)	68.7	2023/04/12 10:40:41				
Ls(min)	42.6	2023/04/12 10:41:47				
LPeak(max)	79.9	2023/04/12 10:40:40				

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

Statistics

LA 5.00	56.6 dB
LA 10.00	53.4 dB
LA 33.30	49.5 dB
LA 50.00	48.3 dB
LA 66.60	47.3 dB
LA 90.00	45.4 dB

Calibration History					
Preamp	**Date**	**dB re. 1V/Pa**	**6.3**	**8.0**	**10.0**
PRMLxT1L	2023-04-12 10:35:35	-27.58	50.63	47.29	56.55
PRMLxT1L	2023-03-23 11:12:03	-28.64	85.31	79.29	90.61
PRMLxT1L	2023-03-23 09:47:22	-29.16	2.44	1.41	32.70
PRMLxT1L	2023-03-19 06:43:46	-28.55	45.86	53.64	50.36
PRMLxT1L	2023-03-17 08:13:23	-28.49	67.24	63.76	62.84
PRMLxT1L	2023-03-08 09:41:26	-28.48	63.94	68.89	69.29
PRMLxT1L	2023-03-08 09:31:17	-28.63	65.51	57.73	60.78
PRMLxT1L	2023-03-07 15:44:29	-28.57	61.89	59.62	59.69
PRMLxT1L	2023-03-07 10:07:14	-29.03	65.35	66.48	63.00
PRMLxT1L	2023-03-06 17:33:30	-28.67	62.71	63.59	55.23
PRMLxT1L	2023-02-08 07:36:29	-28.67	61.37	51.98	65.16

Noise Measurement Field Data

Project:	Rialto Renaissance Miro Way	**Job Number:**	095996121
Site No.:	ST-2	**Date:**	4/12/2023
Analyst:	Kiana Graham and Sarah Miller	**Time:**	11:04-11:14
Location:	Culdesac on W Mesa Drive		
Noise Sources:	Cars/trucks on W. Baseline Road		
Comments:			

Results (dBA):

	Leq:	Lmin:	Lmax:	Peak:
Measurement 1:	51.2	43.1	64.8	86.0

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

Weather	
Temp. (degrees F):	62
Wind (mph):	4
Sky:	Partly Cloudy
Bar. Pressure:	29.85
Humidity:	66%

Photo:

Kimley»Horn

Summary

File Name on Meter	ST-.083.s
File Name on PC	LxTse_0007061-20230412 110450-ST-.083.ldbin
Serial Number	0007061
Model	SoundExpert® LxT
Firmware Version	2.404
User	
Location	
Job Description	
Note	

Measurement

Description	
Start	2023-04-12 11:04:50
Stop	2023-04-12 11:14:50
Duration	00:10:00.0
Run Time	00:10:00.0
Pause	00:00:00.0
Pre-Calibration	2023-04-12 10:35:35
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	121.4 dB		
	A	**C**	**Z**
Under Range Peak	**77.9**	74.9	79.9 dB
Under Range Limit	**23.9**	24.7	30.4 dB
Noise Floor	14.8	15.5	21.3 dB
	First	**Second**	**Third**
Instrument Identification		1100 W. Town&Country Rd, #700	Orange, CA 92868

Results

LAeq	51.2 dB	
LAE	79.0 dB	
EA	8.788 µPa²h	
LApeak (max)	2023-04-12 11:04:50	86.0 dB
LASmax	2023-04-12 11:06:22	64.8 dB
LASmin	2023-04-12 11:08:53	43.1 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**
	51.2	51.2	-99.9	51.2	51.2	-99.9

LCeq	65.4 dB
LAeq	51.2 dB
LCeq - LAeq	14.2 dB
LAIeq	55.3 dB
LAeq	51.2 dB
LAIeq - LAeq	4.1 dB

	A		**C**		**Z**	
	dB	**Time Stamp**	**dB**	**Time Stamp**	**dB**	**Time Stamp**
Leq	51.2		65.4			
Ls(max)	64.8	2023/04/12 11:06:22				
Ls(min)	43.1	2023/04/12 11:08:53				
LPeak(max)	86.0	2023/04/12 11:04:50				

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

Statistics

LA 5.00	55.9 dB
LA 10.00	53.1 dB
LA 33.30	50.2 dB
LA 50.00	49.3 dB
LA 66.60	48.4 dB
LA 90.00	46.8 dB

Calibration History

Preamp	**Date**	**dB re. 1V/Pa**	**6.3**	**8.0**	**10.0**
PRMLxT1L	2023-04-12 10:35:35	-27.58	50.63	47.29	56.55
PRMLxT1L	2023-03-23 11:12:03	-28.64	85.31	79.29	90.61
PRMLxT1L	2023-03-23 09:47:22	-29.16	2.44	1.41	32.70
PRMLxT1L	2023-03-19 06:43:46	-28.55	45.86	53.64	50.36
PRMLxT1L	2023-03-17 08:13:23	-28.49	67.24	63.76	62.84
PRMLxT1L	2023-03-08 09:41:26	-28.48	63.94	68.89	69.29
PRMLxT1L	2023-03-08 09:31:17	-28.63	65.51	57.73	60.78
PRMLxT1L	2023-03-07 15:44:29	-28.57	61.89	59.62	59.69
PRMLxT1L	2023-03-07 10:07:14	-29.03	65.35	66.48	63.00
PRMLxT1L	2023-03-06 17:33:30	-28.67	62.71	63.59	55.23
PRMLxT1L	2023-02-08 07:36:29	-28.67	61.37	51.98	65.16

Noise Measurement Field Data

Project:	Rialto Renaissance Miro Way	**Job Number:**	095996121
Site No.:	ST-3	**Date:**	4/12/2023
Analyst:	Kiana Graham and Sarah Miller	**Time:**	11:21-11:31
Location:	Along N Linden Ave		
Noise Sources:	Cars/trucks along N. Linden Ave and Miro Way		
Comments:			

Results (dBA):

	Leq:	Lmin:	Lmax:	Peak:
Measurement 1:	65.5	45.4	78.1	92.9

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

Weather	
Temp. (degrees F):	62
Wind (mph):	4
Sky:	Partly Cloudy
Bar. Pressure:	29.85
Humidity:	64%

Photo:

Kimley»Horn

Summary

File Name on Meter	ST-.084.s
File Name on PC	LxTse_0007061-20230412 112143-ST-.084.ldbin
Serial Number	0007061
Model	SoundExpert® LxT
Firmware Version	2.404
User	
Location	
Job Description	
Note	

Measurement

Description	
Start	2023-04-12 11:21:43
Stop	2023-04-12 11:31:43
Duration	00:10:00.0
Run Time	00:10:00.0
Pause	00:00:00.0
Pre-Calibration	2023-04-12 10:35:35
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	121.4 dB

	A	C	Z	
Under Range Peak	**77.9**	74.9	79.9	dB
Under Range Limit	**23.9**	24.7	30.4	dB
Noise Floor	14.8	15.5	21.3	dB

	First	Second	Third
Instrument Identification		1100 W. Town&Country Rd, #700	Orange, CA 92868

Results

LAeq	65.5 dB	
LAE	93.3 dB	
EA	236.542 µPa²h	
LApeak (max)	2023-04-12 11:25:50	92.9 dB
LASmax	2023-04-12 11:25:50	78.1 dB
LASmin	2023-04-12 11:22:25	45.4 dB
SEA	-99.9 dB	

	Exceedance Counts	Duration
LAS > 85.0 dB	0	0.0 s
LAS > 115.0 dB	0	0.0 s
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
	65.5	65.5	-99.9	65.5	65.5	-99.9

LCeq	73.9 dB
LAeq	65.5 dB
LCeq - LAeq	8.4 dB
LAIeq	66.9 dB
LAeq	65.5 dB
LAIeq - LAeq	1.4 dB

	A		C		Z	
	dB	Time Stamp	dB	Time Stamp	dB	Time Stamp
Leq	65.5		73.9			
Ls(max)	78.1	2023/04/12 11:25:50				
Ls(min)	45.4	2023/04/12 11:22:25				
LPeak(max)	92.9	2023/04/12 11:25:50				

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

Statistics

LA 5.00	71.6	dB
LA 10.00	69.4	dB
LA 33.30	64.5	dB
LA 50.00	61.0	dB
LA 66.60	57.3	dB
LA 90.00	51.9	dB

Calibration History

Preamp	**Date**	**dB re. 1V/Pa**	**6.3**	**8.0**	**10.0**
PRMLxT1L	2023-04-12 10:35:35	-27.58	50.63	47.29	56.55
PRMLxT1L	2023-03-23 11:12:03	-28.64	85.31	79.29	90.61
PRMLxT1L	2023-03-23 09:47:22	-29.16	2.44	1.41	32.70
PRMLxT1L	2023-03-19 06:43:46	-28.55	45.86	53.64	50.36
PRMLxT1L	2023-03-17 08:13:23	-28.49	67.24	63.76	62.84
PRMLxT1L	2023-03-08 09:41:26	-28.48	63.94	68.89	69.29
PRMLxT1L	2023-03-08 09:31:17	-28.63	65.51	57.73	60.78
PRMLxT1L	2023-03-07 15:44:29	-28.57	61.89	59.62	59.69
PRMLxT1L	2023-03-07 10:07:14	-29.03	65.35	66.48	63.00
PRMLxT1L	2023-03-06 17:33:30	-28.67	62.71	63.59	55.23
PRMLxT1L	2023-02-08 07:36:29	-28.67	61.37	51.98	65.16

Noise Measurement Field Data

Project:	Rialto Renaissance Miro Way	**Job Number:**	095996121
Site No.:	ST-4	**Date:**	4/12/2023
Analyst:	Kiana Graham and Sarah Miller	**Time:**	11:40-11:50
Location:	Corner of Fitzgerald Ave		
Noise Sources:	Cars/trucks along Fitzgerald Ave leaving a project site		
Comments:			

Results (dBA):

	Leq:	Lmin:	Lmax:	Peak:
Measurement 1:	57.5	42.6	73.8	91.1

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

Weather	
Temp. (degrees F):	63
Wind (mph):	4
Sky:	Partly Cloudy
Bar. Pressure:	29.84
Humidity:	63%

Photo:

Kimley»Horn

Summary

File Name on Meter	ST-.085.s
File Name on PC	LxTse_0007061-20230412 114021-ST-.085.ldbin
Serial Number	0007061
Model	SoundExpert® LxT
Firmware Version	2.404
User	
Location	
Job Description	
Note	

Measurement

Description	
Start	2023-04-12 11:40:21
Stop	2023-04-12 11:50:21
Duration	00:10:00.0
Run Time	00:10:00.0
Pause	00:00:00.0
Pre-Calibration	2023-04-12 10:35:35
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	121.4 dB

	A	**C**	**Z**
Under Range Peak	**77.9**	74.9	79.9 dB
Under Range Limit	**23.9**	24.7	30.4 dB
Noise Floor	14.8	15.5	21.3 dB

	First	**Second**	**Third**
Instrument Identification		1100 W. Town&Country Rd, #700	Orange, CA 92868

Results

LAeq	57.5 dB	
LAE	85.3 dB	
EA	37.489 µPa²h	
LApeak (max)	2023-04-12 11:44:58	91.1 dB
LASmax	2023-04-12 11:44:58	73.8 dB
LASmin	2023-04-12 11:49:23	42.6 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**
	57.5	57.5	-99.9	57.5	57.5	-99.9

LCeq	67.9 dB
LAeq	57.5 dB
LCeq - LAeq	10.4 dB
LAIeq	61.5 dB
LAeq	57.5 dB
LAIeq - LAeq	4.0 dB

	A		**C**		**Z**	
	dB	**Time Stamp**	**dB**	**Time Stamp**	**dB**	**Time Stamp**
Leq	57.5		67.9			
Ls(max)	73.8	2023/04/12 11:44:58				
Ls(min)	42.6	2023/04/12 11:49:23				
LPeak(max)	91.1	2023/04/12 11:44:58				

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

Statistics

LA 5.00	65.4 dB
LA 10.00	60.0 dB
LA 33.30	53.3 dB
LA 50.00	51.0 dB
LA 66.60	48.8 dB
LA 90.00	45.7 dB

Calibration History					
Preamp	**Date**	**dB re. 1V/Pa**	**6.3**	**8.0**	**10.0**
PRMLxT1L	2023-04-12 10:35:35	-27.58	50.63	47.29	56.55
PRMLxT1L	2023-03-23 11:12:03	-28.64	85.31	79.29	90.61
PRMLxT1L	2023-03-23 09:47:22	-29.16	2.44	1.41	32.70
PRMLxT1L	2023-03-19 06:43:46	-28.55	45.86	53.64	50.36
PRMLxT1L	2023-03-17 08:13:23	-28.49	67.24	63.76	62.84
PRMLxT1L	2023-03-08 09:41:26	-28.48	63.94	68.89	69.29
PRMLxT1L	2023-03-08 09:31:17	-28.63	65.51	57.73	60.78
PRMLxT1L	2023-03-07 15:44:29	-28.57	61.89	59.62	59.69
PRMLxT1L	2023-03-07 10:07:14	-29.03	65.35	66.48	63.00
PRMLxT1L	2023-03-06 17:33:30	-28.67	62.71	63.59	55.23
PRMLxT1L	2023-02-08 07:36:29	-28.67	61.37	51.98	65.16

Noise Measurement Field Data

Project:	Rialto Renaissance Miro Way	**Job Number:**	095996121
Site No.:	ST-5	**Date:**	4/12/2023
Analyst:	Kiana Graham and Sarah Miller	**Time:**	11:56-12:06
Location:	Jerry Eaves Park		
Noise Sources:			
Comments:	Lawn mower and construction equipment being used in the park		

Results (dBA):

	Leq:	Lmin:	Lmax:	Peak:
Measurement 1:	55.4	44.8	64.4	82.7

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

Weather	
Temp. (degrees F):	64
Wind (mph):	4
Sky:	Partly Cloudy
Bar. Pressure:	29.83
Humidity:	61%

Photo:

Kimley»Horn

Summary

File Name on Meter	ST-.086.s
File Name on PC	LxTse_0007061-20230412 115637-ST-.086.ldbin
Serial Number	0007061
Model	SoundExpert® LxT
Firmware Version	2.404
User	
Location	
Job Description	
Note	

Measurement

Description	
Start	2023-04-12 11:56:37
Stop	2023-04-12 12:06:37
Duration	00:10:00.0
Run Time	00:10:00.0
Pause	00:00:00.0
Pre-Calibration	2023-04-12 10:35:35
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	121.4 dB

	A	**C**	**Z**
Under Range Peak	**77.9**	74.9	79.9 dB
Under Range Limit	**23.9**	24.7	30.4 dB
Noise Floor	14.8	15.5	21.3 dB

	First	**Second**	**Third**
Instrument Identification		1100 W. Town&Country Rd, #700	Orange, CA 92868

Results

LAeq	55.4 dB	
LAE	83.2 dB	
EA	23.116 µPa²h	
LApeak (max)	2023-04-12 11:59:37	82.7 dB
LASmax	2023-04-12 11:58:09	64.4 dB
LASmin	2023-04-12 12:01:02	44.8 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**
	55.4	55.4	-99.9	55.4	55.4	-99.9

LCeq	69.9 dB
LAeq	55.4 dB
LCeq - LAeq	14.5 dB
LAIeq	56.4 dB
LAeq	55.4 dB
LAIeq - LAeq	1.0 dB

	A		**C**		**Z**	
	dB	**Time Stamp**	**dB**	**Time Stamp**	**dB**	**Time Stamp**
Leq	55.4		69.9			
Ls(max)	64.4	2023/04/12 11:58:09				
Ls(min)	44.8	2023/04/12 12:01:02				
LPeak(max)	82.7	2023/04/12 11:59:37				

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

Statistics

LA 5.00	59.8	dB
LA 10.00	58.4	dB
LA 33.30	55.5	dB
LA 50.00	54.0	dB
LA 66.60	52.4	dB
LA 90.00	48.9	dB

Calibration History

Preamp	Date	dB re. 1V/Pa	6.3	8.0	10.0
PRMLxT1L	2023-04-12 10:35:35	-27.58	50.63	47.29	56.55
PRMLxT1L	2023-03-23 11:12:03	-28.64	85.31	79.29	90.61
PRMLxT1L	2023-03-23 09:47:22	-29.16	2.44	1.41	32.70
PRMLxT1L	2023-03-19 06:43:46	-28.55	45.86	53.64	50.36
PRMLxT1L	2023-03-17 08:13:23	-28.49	67.24	63.76	62.84
PRMLxT1L	2023-03-08 09:41:26	-28.48	63.94	68.89	69.29
PRMLxT1L	2023-03-08 09:31:17	-28.63	65.51	57.73	60.78
PRMLxT1L	2023-03-07 15:44:29	-28.57	61.89	59.62	59.69
PRMLxT1L	2023-03-07 10:07:14	-29.03	65.35	66.48	63.00
PRMLxT1L	2023-03-06 17:33:30	-28.67	62.71	63.59	55.23
PRMLxT1L	2023-02-08 07:36:29	-28.67	61.37	51.98	65.16

Appendix B

Noise Model Output Files

Project: **Miro Way and Ayala Drive Warehouse Project**
Construction Noise Impact on Sensitive Receptors

Parameters

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

	Receptor (Land Use)	Distance (feet)	Shielding	Direction
1	Single-family Residential	975	0	S
2	Commercial/Industrial	400	0	S
3	Park	1,400	0	NE
4	-	-	-	-
5	-	-	-	-
6	-	-	-	-
7	-	-	-	-

Construction Phase	Equipment Type	No. of Equip.	Acoustical Usage Factor	Reference Noise Level at 50ft per Unit, Lmax	RECEPTOR 1 Noise Level at Receptor 1, Lmax	RECEPTOR 1 Noise Level at Receptor 1, Leq	RECEPTOR 2 Noise Level at Receptor 2, Lmax	RECEPTOR 2 Noise Level at Receptor 2, Leq	RECEPTOR 3 Noise Level at Receptor 3, Lmax	RECEPTOR 3 Noise Level at Receptor 3, Leq
Site Preparation										
	Dozer	1	40%	82	55.9	51.9	63.6	59.7	52.8	48.8
	Tractor	1	40%	84	58.2	54.2	65.9	62.0	55.1	51.1
Combined LEQ						**56.2**		**64.0**		**53.1**
Grading										
	Excavator	1	40%	81	54.9	50.9	62.6	58.7	51.8	47.8
	Grader	1	40%	85	59.2	55.2	66.9	63.0	56.1	52.1
	Dozer	1	40%	82	55.9	51.9	63.6	59.7	52.8	48.8
	Scraper	1	40%	84	57.8	53.8	65.5	61.6	54.7	50.7
	Tractor	1	40%	84	58.2	54.2	65.9	62.0	55.1	51.1
Combined LEQ						**60.5**		**68.2**		**57.3**
Building Construction										
	Crane	1	16%	81	54.8	46.8	62.5	54.6	51.7	43.7
	Forklift	1	40%	74	48.5	44.5	56.2	52.3	45.4	41.4
	Generator	1	50%	81	54.8	51.8	62.5	59.5	51.7	48.6
	Tractor	1	40%	84	58.2	54.2	65.9	62.0	55.1	51.1
	Welder/Torch	1	40%	74	48.2	44.2	55.9	52.0	45.1	41.1
Combined LEQ						**57.1**		**64.9**		**54.0**
Paving										
	Pavers	1	50%	77	51.4	48.4	59.1	56.1	48.3	45.2
	Paving Equipment	1	50%	77	51.4	48.4	59.1	56.1	48.3	45.2
	Rollers	1	20%	80	54.2	47.2	61.9	54.9	51.1	44.1
Combined LEQ						**52.8**		**60.5**		**49.7**
Architectural Coating										
	Compressor (air)	1	40%	78	51.9	47.9	59.6	55.7	48.8	44.8
Combined LEQ						**47.9**		**55.7**		**44.8**
Infrastructure Improvements										
	Tractors	1	40%	84	58.2	54.2	65.9	62.0	55.1	51.1
	Dozer	1	40%	82	55.9	51.9	63.6	59.7	52.8	48.8
Combined LEQ						**56.2**		**64.0**		**53.1**
Infrastructure Improvements/ Building Construction										
	Dozer	1	40%	82	55.9	51.9	63.6	59.7	52.8	48.8
	Welder/Torch	1	40%	74	48.2	44.2	55.9	52.0	45.1	41.1
	Tractor	2	40%	84	61.2	57.2	68.9	65.0	58.1	54.1
	Crane	1	16%	81	54.8	46.8	62.5	54.6	51.7	43.7
	Forklift	1	40%	74	48.5	44.5	56.2	52.3	45.4	41.4
	Generator	1	50%	81	54.8	51.8	62.5	59.5	51.7	48.6
			#N/A	#N/A	0.0	0.0	0.0	0.0	0.0	0.0
Combined LEQ						**59.7**		**67.5**		**56.6**
Building Construction/ Paving/ Architectural Coating										
	Crane	1	16%	81	54.8	46.8	62.5	54.6	51.7	43.7
	Forklift	1	40%	74	48.5	44.5	56.2	52.3	45.4	41.4
	Generator	1	50%	81	54.8	51.8	62.5	59.5	51.7	48.6
	Tractor	1	40%	84	58.2	54.2	65.9	62.0	55.1	51.1
	Welder/Torch	1	40%	74	48.2	44.2	55.9	52.0	45.1	41.1
	Pavers	1	50%	77	51.4	48.4	59.1	56.1	48.3	45.2
	Paving Equipment	1	50%	77	51.4	48.4	59.1	56.1	48.3	45.2
	Rollers	1	20%	80	54.2	47.2	61.9	54.9	51.1	44.1
	Compressor (air)	1	40%	78	51.9	47.9	59.6	55.7	48.8	44.8
Combined LEQ						**58.9**		**66.6**		**55.7**

Source for Ref. Noise Levels: RCNM, 2005

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

Project Name: Miro Way and Ayala Drive Warehouse Project
Project Number: 095996121
Scenario: Existing
Ldn/CNEL: CNEL

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

								Vehicle Mix		Distance from Centerline of Roadway				
				Median	ADT	Speed	Alpha	Medium	Heavy	CNEL at	Distance to Contour			
#	Roadway	Segment	Lanes	Width	Volume	(mph)	Factor	Trucks	Trucks	100 Feet	70 CNEL	65 CNEL	60 CNEL	55 CNEL
1	Alder Avenue	SR-210 WB Ramps to SR-210 EB Ramps	4	15	16,020	50	0	1.6%	3.2%	67.5	56	177	561	1,774
2	Alder Avenue	SR-210 EB Ramps to Renaissance Parkway	4	15	23,147	50	0	1.1%	2.2%	68.4	69	217	685	2,167
3	Alder Avenue	Renaissance Parkway to Baseline Road	4	22	18,946	50	0	1.4%	2.7%	67.9	62	196	618	1,956
4	Linden Avenue	Miro Way to Baseline Road	4	0	9,062	35	0	1.5%	1.5%	60.6	-	-	114	360
5	Ayala Drive	Renaissance Parkway to Fitzgerald Avenue	4	15	25,610	45	0	0.8%	0.6%	66.3	-	136	430	1,361
6	Ayala Drive	Miro Way to Baseline Road	4	20	21,446	45	0	0.9%	0.7%	65.8	-	120	379	1,200
7	Baseline Road	Alder Avenue to Linden Avenue	4	12	12,697	45	0	1.6%	1.2%	64.2	-	83	263	831
8	Baseline Road	Linden Avenue to Ayala Drive	4	12	13,739	50	0	1.4%	1.1%	65.4	-	112	354	1,119

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

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

Project Name: Miro Way and Ayala Drive Warehouse Project
Project Number: 095996121
Scenario: Opening Year
Ldn/CNEL: CNEL

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

								Vehicle Mix		Distance from Centerline of Roadway				
				Median	ADT	Speed	Alpha	Medium	Heavy	CNEL at	Distance to Contour			
#	Roadway	Segment	Lanes	Width	Volume	(mph)	Factor	Trucks	Trucks	100 Feet	70 CNEL	65 CNEL	60 CNEL	55 CNEL
1	Alder Avenue	SR-210 WB Ramps to SR-210 EB Rar	4	15	16,340	50	0	1.6%	3.1%	67.5	57	179	567	1,792
2	Alder Avenue	SR-210 EB Ramps to Renaissance Pa	4	15	23,610	50	0	1.1%	2.2%	68.4	69	219	693	2,193
3	Alder Avenue	Renaissance Parkway to Baseline Roa	4	22	19,325	50	0	1.4%	2.6%	68.0	63	198	625	1,977
4	Linden Avenue	Miro Way to Baseline Road	4	0	9,243	35	0	1.5%	1.4%	60.6	-	-	115	363
5	Ayala Drive	Renaissance Parkway to Fitzgerald Av	4	15	26,122	45	0	0.8%	0.6%	66.4	-	138	437	1,382
6	Ayala Drive	Miro Way to Baseline Road	4	20	21,875	45	0	0.9%	0.7%	65.9	-	122	385	1,217
7	Baseline Road	Alder Avenue to Linden Avenue	4	12	12,951	45	0	1.5%	1.2%	64.2	-	84	266	841
8	Baseline Road	Linden Avenue to Ayala Drive	4	12	14,014	50	0	1.4%	1.1%	65.5	-	113	359	1,135

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

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

Project Name: Miro Way and Ayala Drive Warehouse Project
Project Number: 095996121
Scenario: Opening Year Plus Project
Ldn/CNEL: CNEL

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

								Vehicle Mix		Distance from Centerline of Roadway				
				Median	ADT	Speed	Alpha	Medium	Heavy	CNEL at	Distance to Contour			
#	Roadway	Segment	Lanes	Width	Volume	(mph)	Factor	Trucks	Trucks	100 Feet	70 CNEL	65 CNEL	60 CNEL	55 CNEL
1	Alder Avenue	SR-210 WB Ramps to SR-210 EB Rar	4	15	16,486	50	0	1.6%	3.2%	67.6	58	184	580	1,835
2	Alder Avenue	SR-210 EB Ramps to Renaissance Pa	4	15	23,903	50	0	1.1%	2.2%	68.5	71	224	710	2,244
3	Alder Avenue	Renaissance Parkway to Baseline Roa	4	22	19,618	50	0	1.4%	2.7%	68.1	64	203	642	2,029
4	Linden Avenue	Miro Way to Baseline Road	4	0	9,500	35	0	1.5%	1.6%	60.9	-	-	124	392
5	Ayala Drive	Renaissance Parkway to Fitzgerald Av	4	15	26,386	45	0	0.8%	0.6%	66.5	-	142	450	1,424
6	Ayala Drive	Miro Way to Baseline Road	4	20	22,065	45	0	0.9%	0.8%	66.0	-	126	397	1,257
7	Baseline Road	Alder Avenue to Linden Avenue	4	12	13,288	45	0	1.6%	1.3%	64.4	-	89	280	886
8	Baseline Road	Linden Avenue to Ayala Drive	4	12	14,226	50	0	1.5%	1.2%	65.6	-	118	374	1,181

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

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

Project Name: Miro Way and Ayala Drive Warehouse Project
Project Number: 095996121
Scenario: Horizon Year
Ldn/CNEL: CNEL

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

								Vehicle Mix		Distance from Centerline of Roadway				
				Median	ADT	Speed	Alpha	Medium	Heavy	CNEL at	Distance to Contour			
#	Roadway	Segment	Lanes	Width	Volume	(mph)	Factor	Trucks	Trucks	100 Feet	70 CNEL	65 CNEL	60 CNEL	55 CNEL
1	Alder Avenue	SR-210 WB Ramps to SR-210 EB Rai	4	15	26,650	50	0	1.0%	1.9%	68.7	75	236	747	2,361
2	Alder Avenue	SR-210 EB Ramps to Renaissance Pa	4	15	37,340	50	0	0.7%	1.4%	69.7	93	295	933	2,951
3	Alder Avenue	Renaissance Parkway to Baseline Roa	4	22	27,675	50	0	0.9%	1.8%	68.9	77	244	772	2,442
4	Linden Avenue	Miro Way to Baseline Road	4	0	9,963	35	0	1.4%	1.3%	60.8	-	-	119	377
5	Ayala Drive	Renaissance Parkway to Fitzgerald Av	4	15	30,282	45	0	0.7%	0.5%	66.9	-	155	490	1,551
6	Ayala Drive	Miro Way to Baseline Road	4	20	24,805	45	0	0.8%	0.6%	66.3	-	134	423	1,338
7	Baseline Road	Alder Avenue to Linden Avenue	4	12	15,561	45	0	1.3%	1.0%	64.7	-	95	299	947
8	Baseline Road	Linden Avenue to Ayala Drive	4	12	17,324	50	0	1.1%	0.9%	66.1	-	132	416	1,316

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

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

Project Name: Miro Way and Ayala Drive Warehouse Project
Project Number: 095996121
Scenario: Horizon Year Plus Project
Ldn/CNEL: CNEL

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

								Vehicle Mix		Distance from Centerline of Roadway				
				Median	ADT	Speed	Alpha	Medium	Heavy	CNEL at	Distance to Contour			
#	Roadway	Segment	Lanes	Width	Volume	(mph)	Factor	Trucks	Trucks	100 Feet	70 CNEL	65 CNEL	60 CNEL	55 CNEL
1	Alder Avenue	SR-210 WB Ramps to SR-210 EB Rar	4	15	26,796	50	0	1.0%	2.0%	68.8	76	240	760	2,404
2	Alder Avenue	SR-210 EB Ramps to Renaissance Pa	4	15	37,633	50	0	0.7%	1.4%	69.8	95	300	949	3,002
3	Alder Avenue	Renaissance Parkway to Baseline Roa	4	22	27,968	50	0	1.0%	1.9%	69.0	79	249	789	2,494
4	Linden Avenue	Miro Way to Baseline Road	4	0	10,220	35	0	1.4%	1.5%	61.1	-	-	128	406
5	Ayala Drive	Renaissance Parkway to Fitzgerald Av	4	15	30,546	45	0	0.7%	0.6%	67.0	-	159	504	1,593
6	Ayala Drive	Miro Way to Baseline Road	4	20	24,995	45	0	0.8%	0.7%	66.4	-	138	435	1,377
7	Baseline Road	Alder Avenue to Linden Avenue	4	12	15,898	45	0	1.3%	1.1%	65.0	-	99	314	993
8	Baseline Road	Linden Avenue to Ayala Drive	4	12	17,536	50	0	1.2%	1.0%	66.3	-	136	431	1,364

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

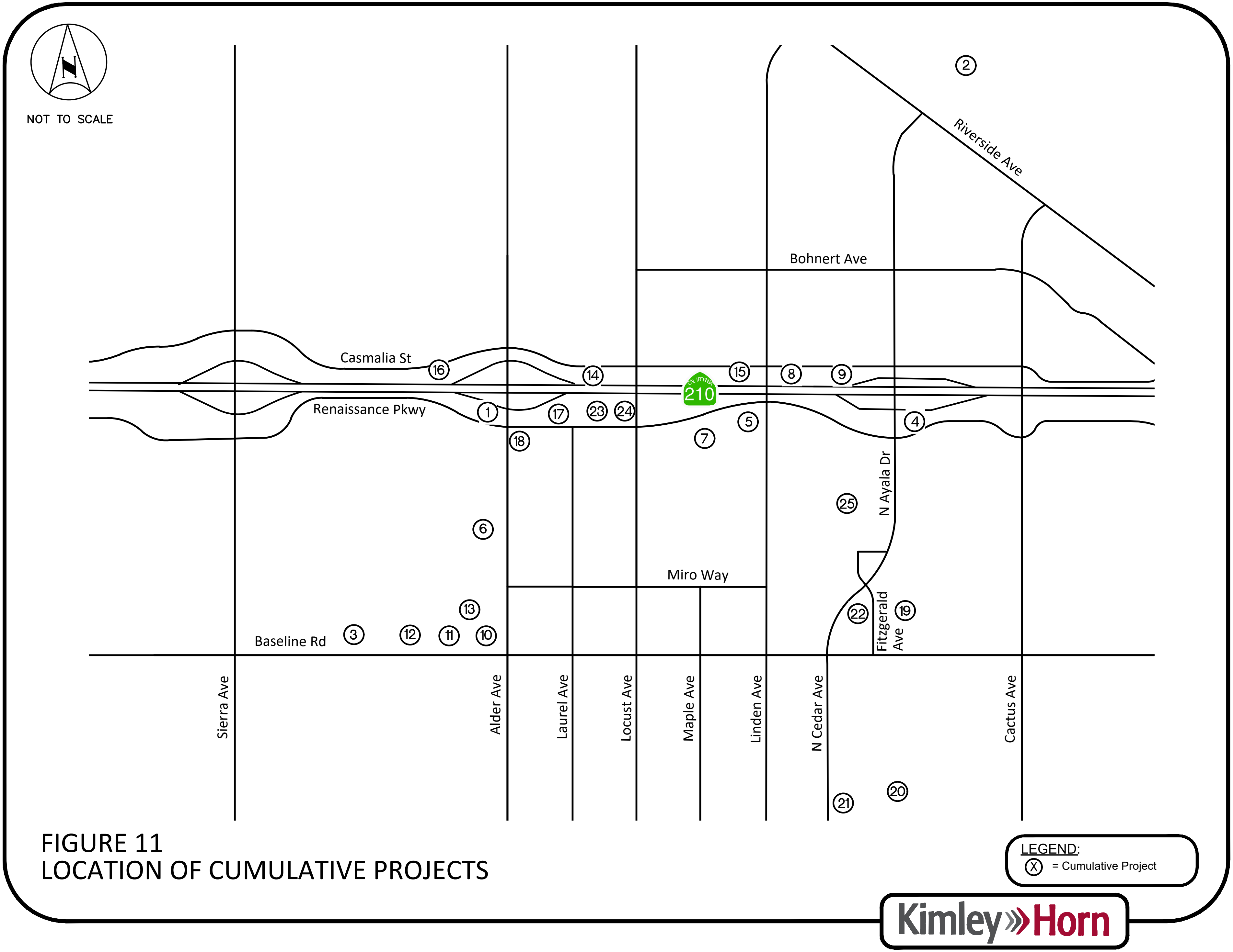

FIGURE 11
LOCATION OF CUMULATIVE PROJECTS

Source: Kimley-Horn and Associates, Inc., *Traffic Study for the Miro Way and Ayala Drive Warehouse Project in the City of Rialto, Figure 11: Location of Cumulative Projects*, May 2024.

Cumulative Construction Noise Calculations

Distance Attenuation - Point Source

$$dBA_2 = dBA_1 + 20\ Log_{10}\left(\frac{d_1}{d_2}\right)$$

where:

dBA_1 = Reference Noise Level

dBA_2 = Estimated Noise Level

d_1 = Reference Distance

d_2 = Approximate Receptor Location Distance (Residential Uses to South)

Cumulative Projects	**dBA_1**	**d_1**	**d_2**	**dBA_2**
(#19) Olive Avenue Development Project	66.6	605	1,487	58.8
(#22) Crow Holdings Warehouse Project	66.6	605	567	67.2
Proposed Project	60.5	975	975	60.5

Decibel Addition:

$$L = 10\ Log_{10}\left(\sum_{i=1}^{n} 10^{\frac{Li}{10}}\right)$$

	dBA
	58.8
Residential to South	67.2
	60.5
Cumulative Projects Total	***68.5***

Cumulative Operational Stationary Source Noise Calculations

Distance Attenuation - Point Source

$$dBA_2 = dBA_1 + 20\ Log_{10}\left(\frac{d_1}{d_2}\right)$$

where:

dBA_1 = Reference Noise Level

dBA_2 = Estimated Noise Level

d_1 = Reference Distance

d_2 = Approximate Receptor Location Distance (Residential Uses to South)

Cumulative Projects	**dBA_1**	**d_1**	**d_2**	**dBA_2**	**Stationary Sources**
(#22) Crow Holdings Warehouse Project	52	50	400	33.9	HVAC
	68	30	400	45.5	Truck and Loading Dock Noise
	97	3.28	400	55.3	Back-Up Alarms
	63	50	400	44.9	Parking
(#19) Olive Avenue Development Project	52	50	1524	22.3	HVAC
	68	30	1858	32.2	Truck and Loading Dock Noise
	97	3.28	1858	41.9	Back-Up Alarms
	63	50	1453	33.7	Parking
Proposed Project	52	50	690	29.2	HVAC
	68	30	660	41.2	Truck and Loading Dock Noise
	97	3.28	660	50.9	Back-Up Alarms
	63	50	550	42.2	Parking

Decibel Addition:

$$L = 10\ Log_{10}\left(\sum_{i=1}^{n} 10^{\frac{Li}{10}}\right)$$

Cumulative Projects	**dBA**
(#22) Crow Holdings Warehouse Project	33.9
	45.5
	55.3
	44.9
(#19) Olive Avenue Development Project	22.3
	32.2
	41.9
	33.7
Proposed Project	29.2
	41.2
	50.9
	42.2
Cumulative Projects Total	***57.6***