TECHNICAL MEMORANDUM

To:	James Thomas, Kimley-Horn and Associates, Inc.
From:	Dharma Truong and Ryan Chiene, Kimley-Horn and Associates, Inc.
Date:	August 12, 2025
Subject:	Circle K Fuel Station and Convenience Store Project, Yucca Valley, CA – Noise and Vibration Analysis

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Purpose

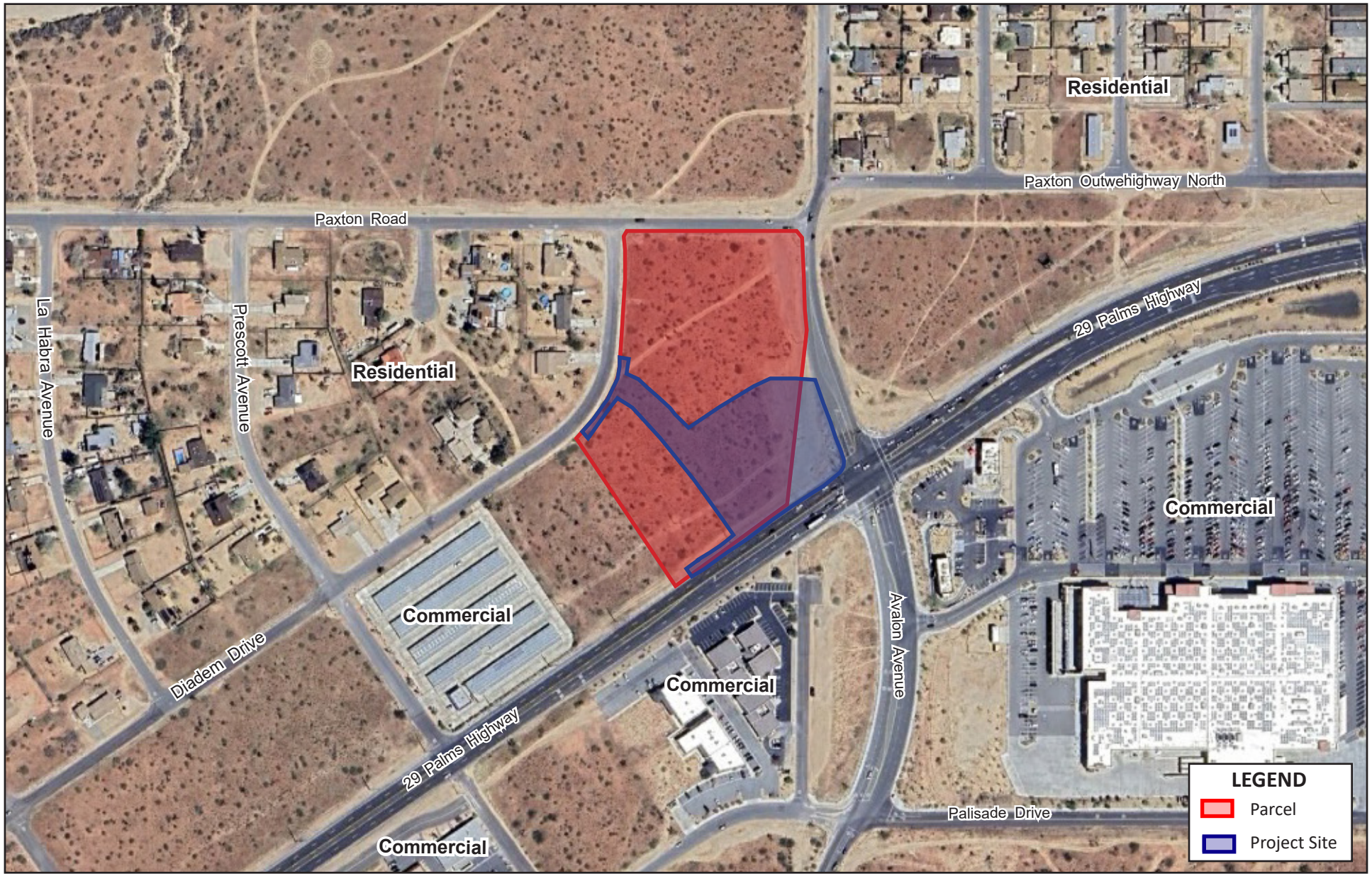
The purpose of this technical memorandum is to evaluate the potential noise and vibration impacts associated with the construction and operation of the proposed Circle K Fuel Station and Convenience Store Project (project or proposed project).

Project Location

The project site is comprised of a 6.32-acre parcel (Assessor's Parcel Number [APN] 060-154-301-000) generally located northwest of the Avalon Road and 29 Palms Highway intersection in the Town of Yucca Valley (Town), San Bernardino County (County), California. Primary regional access to the parcel is provided via 29 Palms Highway located to the south and State Route 247 located approximately 1.35 miles to the west. The parcel is bounded by Paxton Road to the north, Avalon Avenue to the east, 29 Palms Highway to the south, an undeveloped parcel to the southwest, and Diadem Drive to the west, see **Figure 1: Local Vicinity Map**. Land uses adjacent to the parcel include single-family residential uses to the northeast and west and commercial uses to the south, southeast, and southwest. The parcel is designated Commercial (C) within the Corridor Residential Overlay and zoned General Commercial (C-G).

Project Description

The proposed project would subdivide the parcel into a northern and southern portion. The project would develop 2.79-acres (project site) located on the southern parcel portion, Avalon Avenue right-of-way (ROW), and proposed 29 Palms Highway ROW. The project site is currently undeveloped with moderate vegetation and Joshua Trees. The proposed project would remove some of the Joshua Trees and develop a fuel station with seven fuel pumps (14 gasoline fueling stations), a 5,200 square feet convenience store, and 28 surface parking stalls; see **Figure 2: Preliminary Site Plan**. Project implementation would require a ROW vacation and water main relocation along Avalon Avenue and ROW dedication for highway improvements along 29 Palms Highway. Vehicular access to the project site would be provided via driveways along Avalon Avenue, 29 Palms Highway, and Diadem Drive.



SOURCE: Google Earth, 2025

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FIGURE 1: LOCAL VICINITY MAP

CIRCLE K FUEL STATION AND CONENIENCE STORE PROJECT

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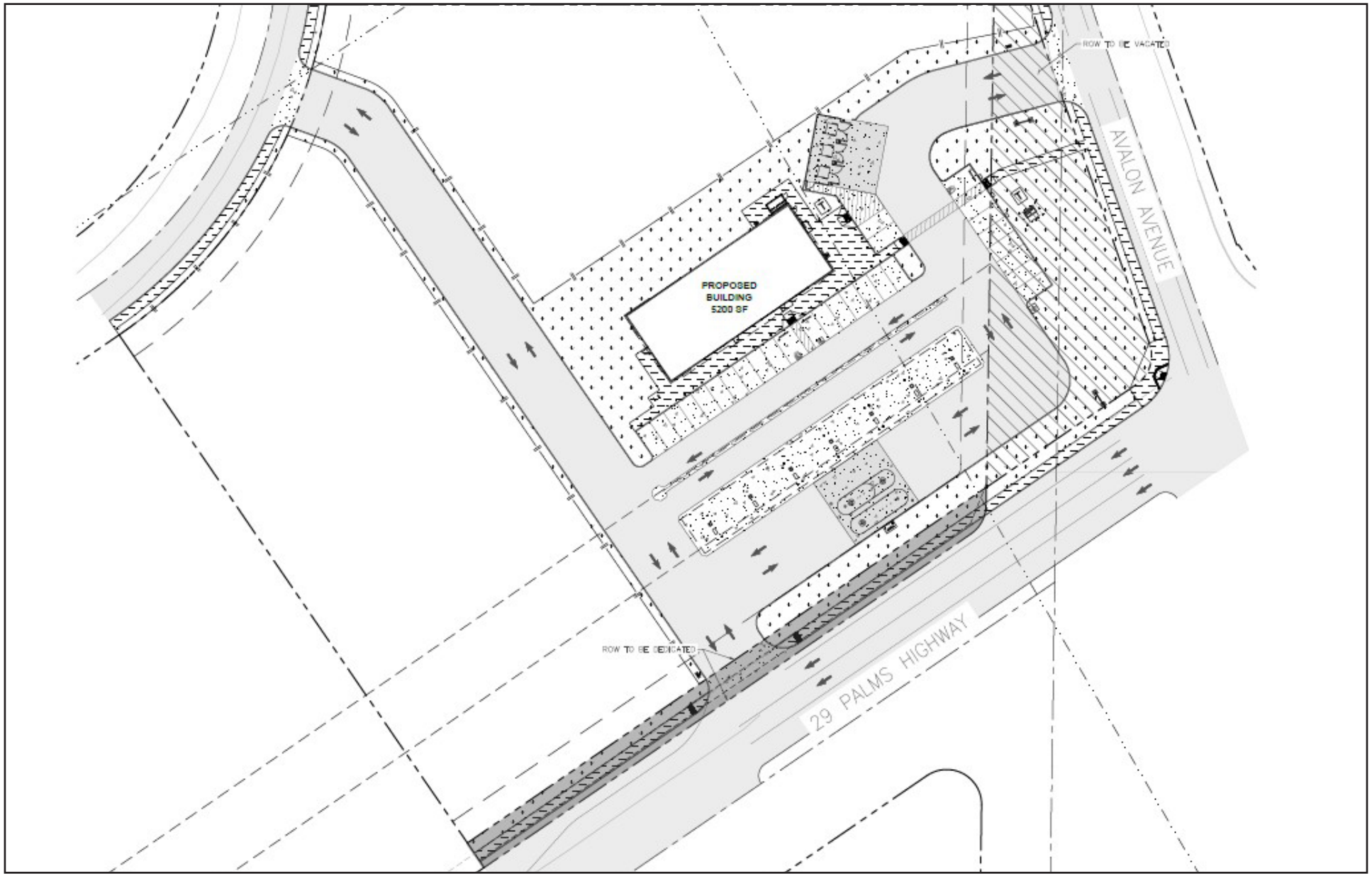

SOURCE: Kimley-Horn and Associates, Inc., 2025

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FIGURE 2: PRELIMINARY SITE PLAN

CIRCLE K FUEL STATION AND CONVENIENCE STORE PROJECT

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Noise Background

Sound is technically described in terms of amplitude (loudness) and frequency (pitch). The standard unit of sound amplitude measurement is the decibel (dB). The decibel scale is a logarithmic scale that describes the physical intensity of the pressure vibrations that make up any sound. The pitch of the sound is related to the frequency of the pressure vibration. Since the human ear is not equally sensitive to a given sound level at all frequencies, a special frequency-dependent rating scale has been devised to relate noise to human sensitivity. The A-weighted decibel scale (dBA) provides this compensation by discriminating against frequencies in a manner approximating the human ear's sensitivity.

Noise, on the other hand, is typically defined as unwanted sound. A typical noise environment consists of a base of steady ambient noise that is the sum of various distant and indistinguishable noise sources. Superimposed on this background noise is the sound from individual local sources. These can vary from an occasional aircraft or train passing by to virtually continuous noise from traffic on a major highway.

Several rating scales have been developed to analyze the adverse effects of community noise on people. Since 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. For example, the equivalent continuous sound level (L_{eq}) is 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. The Day-Night Sound Level (L_{dn}) is a 24-hour average L_{eq} with a 10 dBA "weighting" added to noise from 10:00 p.m. to 7:00 a.m. to account for noise sensitivity in the nighttime. The Community Noise Equivalent Level (CNEL) is a 24-hour average L_{eq} with a 10 dBA weighting added to noise from 10:00 p.m. to 7:00 am. and an additional 5 dBA weighting from 7:00 p.m. to 10:00 p.m. to account for noise sensitivity in the evening and nighttime.

Regulatory Setting

State of California Noise Standards

The State of California does not have standards for environmental noise, but the Governor's Office of Land Use and Climate Innovation (Governor's Office) has established general plan guidelines for evaluating the compatibility of various land uses as a function of community noise exposure.[1] The purpose of these guidelines is to maintain acceptable noise levels in a community setting for different land use types. 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.

[1] State of California Governor's Office of Planning and Research, *General Plan Guidelines, Appendix D: Noise Element Guidelines*, page 374, 2017, https://opr.ca.gov/docs/OPR_COMPLETE_7.31.17.pdf, accessed July 9, 2025.

In addition, 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 Governor's Office.

Ground-Borne Vibration

The California Department of Transportation (Caltrans) *Transportation and Construction Vibration Manual* provides vibration thresholds for building damage and human annoyance. The guidance states that older residential buildings can withstand vibration levels up to 0.3 inches per second (in/sec) peak particle velocity (PPV) and not experience vibration damage. The guidance identifies the vibration threshold for human annoyance when vibrations are considered annoying by people subjected to continuous vibrations as 0.2 in/sec PPV.

Town of Yucca Valley General Plan

The Town of Yucca Valley General Plan Noise Element (Noise Element) provides guidance and regulates long-term noise to protect residents, workers, and visitors from potentially adverse noise impacts.

Table N-1: Land Use Compatibility for Community Noise Environments (shown as **Table 1: Land Use Compatibility for Community Noise Environments**) establishes land use compatibility at various noise levels and offers criteria the Town can use in evaluating land use decisions.

The Noise Element includes the following goal and policies that are applicable to the project:

Goal 1: A noise environment where excessive noise from stationary, transportation-related, and temporary sources of noise are appropriately managed.

Policy N 1-1: Separate excessive noise-generating uses from residential uses and other sensitive receptors through building design and noise-minimizing buffers such as landscaping, berms, and setbacks.

Policy N 1-3: Require daytime only truck deliveries to commercial and industrial uses adjacent to residential uses and other sensitive receptors unless there is no feasible alternative.

Policy N 1-6: Encourage noise-compatible land uses and thoughtful site planning and building design adjacent to highways and airports.

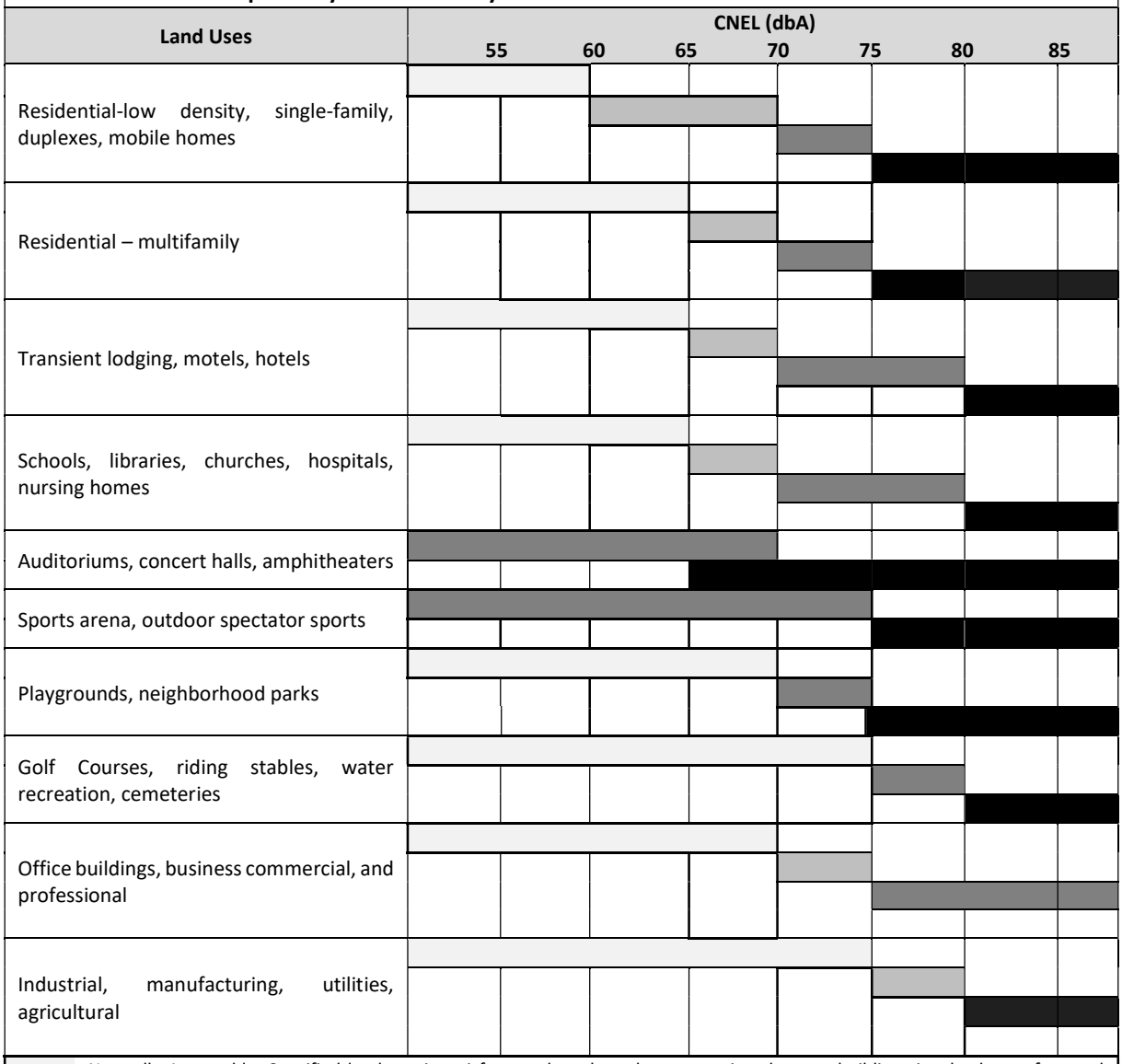
Policy N 1-13: Enforce Town noise standards and monitor compliance with noise standards.

Policy N 1-15: Require the design and construction of industrial and commercial development to minimize excessive offsite noise impacts to surrounding properties

Policy N 1-18: Enforce standards on the hours of operation for nonemergency construction.

Policy N 1-19: Enforce limits on the hours of refuse collection, street and parking lot sweeping, and other property maintenance operations.

Table 1: Land Use Compatibility for Community Noise Environments



Normally Acceptable: Specified land use is satisfactory, based on the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.

Conditionally Acceptable: New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.

Normally Unacceptable: New construction or development should be discouraged. If new construction does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

Clearly Unacceptable: New construction or development clearly should not be undertaken.

Source: Town of Yucca Valley, *General Plan, Noise Element,* 2014, https://www.yucca-valley.org/home/showpublisheddocument/2594/637009395714400000, accessed July 8, 2025.

Town of Yucca Valley Municipal Code

The Town's Municipal Code has adopted regulations to control unnecessary, excessive, and annoying noise, as set forth in *Section 9.34.080: Noise*, and vibration, as set forth in *Section 9.34.090: Vibration.*

Municipal Code Section 9.34.080: Noise

1. Stationary noise sources shall comply with the noise limits outlined in **Table 2: Noise Standard for Stationary Noise Sources**.

Table 2: Noise Standards for Stationary Noise Sources		
Affected Land Uses	**7:00 a.m. – 10:00 p.m. (L_{eq})**	**10:00 p.m. – 7:00 a.m. (L_{eq})**
Residential	55 db(A)	45db(A)
Professional Services	55 db(A)	55 db(A)
Other Commercial	60 db(A)	60 db(A)
Industrial	70 db(A)	70 db(A)
Source: Town of Yucca Valley, *Chapter 9.34: Performance Standards, Section 9.34.080: Noise,* https://codelibrary.amlegal.com/codes/yuccavalleyca/latest/yuccavalley_ca/0-0-0-16234#JD_9.34.080, accessed July 8, 2025.		

2. The noise levels when measured at or beyond the property shall not exceed the following:

   A. The noise standard for the receiving land use for a cumulative period of more than 30 minutes in any hour;

   B. The noise standard plus five dB(A) for a cumulative period of more than 15 minutes in any hour;

   C. The noise standard plus ten dB(A) for a cumulative period of more than five minutes in any hour;

   D. The noise standard plus 15 dB(A) for a cumulative period of more than one minute in any hour; or

   E. The noise standard plus 20 dB(A) for any period of time.

3. Mobile noise sources shall comply with the noise limits outlined in **Table 3: Noise Standards for Adjacent Mobile Noise Sources**.

4. If the ambient noise level exceeds any of the first four noise limit categories listed above, the allowable noise exposure standard shall be increased to reflect such ambient noise level. If the ambient noise level exceeds the fifth noise limit category, the maximum allowable noise level under such category shall be increased to reflect the maximum ambient noise level.

5. If the alleged offensive noise consists entirely of impact noise or simple tone noise, the noise limits in **Table 2** shall be reduced by five dB(A).

6. The following activities shall be exempt from the Municipal Code provisions:

   A. Temporary construction, maintenance, repair, or demolition activities between 7:00 a.m. and 10:00 p.m., except Sundays and federal holidays.

Table 3: Noise Standards for Adjacent Mobile Noise Sources			
Categories	**Uses**	**L_{dn} (or CNEL) dB(A)**	
		Interior[1]	**Exterior[2,3]**
Residential	Single-family, multi-family, duplex, mobile homes	45	60
Commercial	Amphitheater, concert hall, auditorium, movie theater	45	N/A
	Commercial retail, bank, restaurant	50	N/A
	Hotel, motel, transient housing	45	60
	Office building, research and development, professional offices	45	65
Institutional/public	Hospital, nursing home, school classroom, religious institution, library	45	65
Open space	Park	N/A	65

N/A = not available

1. The indoor environment shall exclude bathrooms, kitchens, toilets, closets and corridors.
2. The outdoor environment shall be limited to:
   - Hospital/office building patios
   - Hotel and motel recreation areas
   - Mobile home parks
   - Multi-family private patios or balconies
   - Park picnic areas
   - Private yard of single-family dwellings
   - School playgrounds
3. An exterior noise level of up to 65 dB(A) (or CNEL) shall be allowed provided exterior noise levels have been substantially mitigated through a reasonable application of the best available noise reduction technology, and interior noise exposure does not exceed 45 dB(A) (or CNEL) with windows and doors closed. Requiring that windows and doors remain closed to achieve an acceptable interior noise level shall necessitate the use of air conditioning or mechanical ventilation.

Source: Town of Yucca Valley, *Chapter 9.34: Performance Standards, Section 9.34.080: Noise*, https://codelibrary.amlegal.com/codes/yuccavalleyca/latest/yuccavalley_ca/0-0-0-16234#JD_9.34.080, accessed July 8, 2025.

Municipal Code Section 9.34.090: Vibration

1. Ground vibration that can be felt without the aid of instruments at or beyond the lot line or that produces a particle velocity greater than or equal to 0.2 inch per second measured at or beyond the lot line is prohibited.

2. The following activities shall be exempt from the Municipal Code provisions:

   A. Temporary construction, maintenance, repair, or demolition activities between 7:00 a.m. and 10:00 p.m., except Sundays and federal holidays.

Environmental Setting

Mobile noise sources, especially cars and trucks, are the Town's most common and significant noise sources. The existing mobile noise sources in the project area are generated by motor vehicles traveling along Paxton Road, Avalon Avenue, 29 Palms Highway, and Diadem Drive. Other noise sources are the various land uses (i.e., residential, commercial, institutional, and recreational) throughout the Town that generate stationary source noise. The primary stationary noise sources in the project area are those associated with the surrounding commercial and residential uses. Such noise sources include idling vehicles, truck deliveries, music playing, mechanical equipment (e.g.,

heating, ventilation, and air conditioning [HVAC] equipment), dogs barking, and people talking, and are typical of urban areas. The noise associated with these stationary sources may represent a single-event noise occurrence or short-term noise.

Noise Measurements

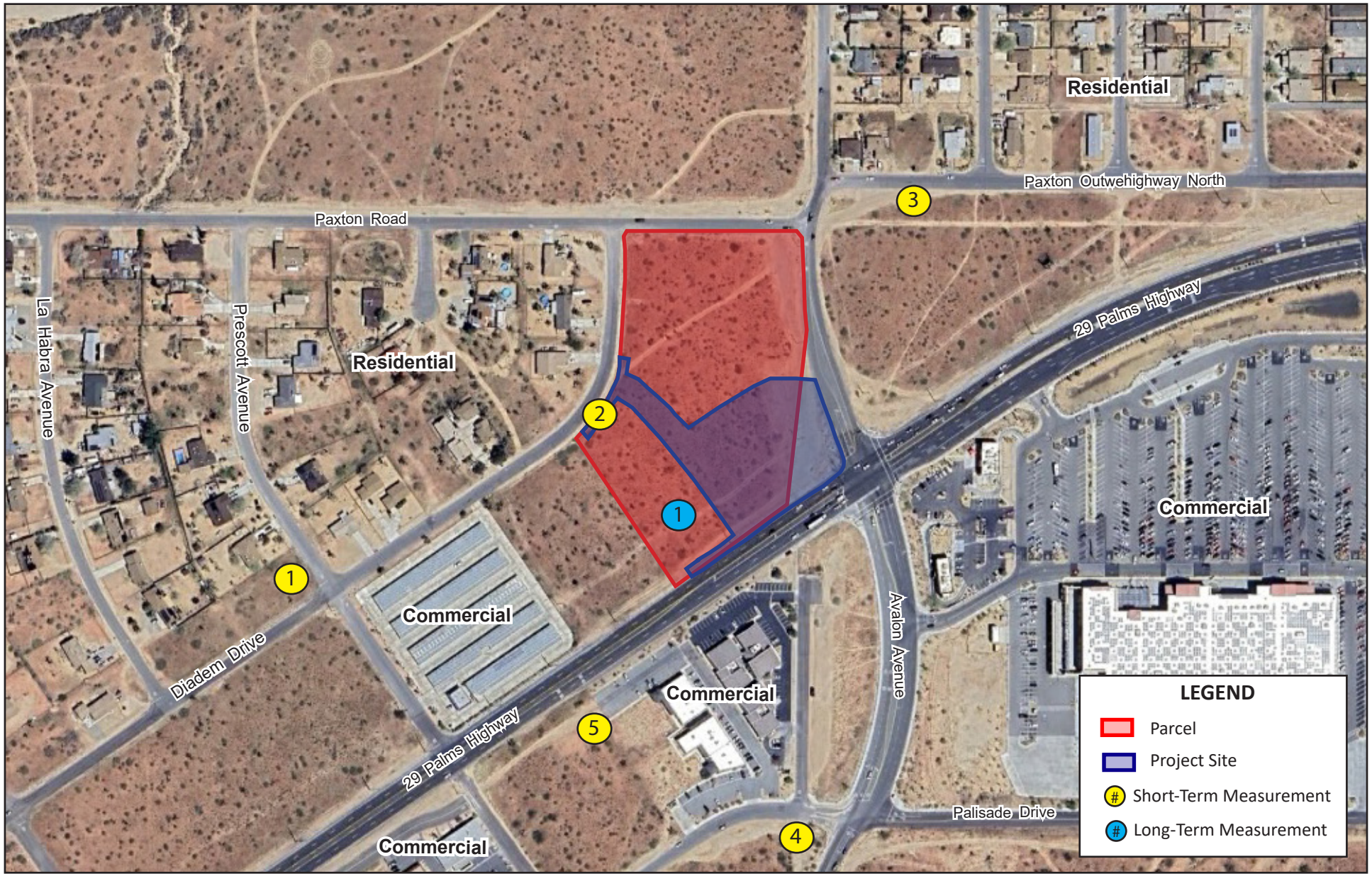
To quantify existing ambient noise levels in the project area, Kimley-Horn conducted five short-term noise (10-minute) measurements and one long-term (24-hour) measurement; see **Appendix A: Noise Data** for additional details. The noise measurement sites were selected to represent existing ambient noise levels at the receptors immediately adjacent to the project site. The 10-minute daytime measurements were taken between 2:57 p.m. and 4:12 p.m. on June 25, 2025. The 24-hour measurement was taken between 4:30 p.m. on June 25, 2025, to 4:30 p.m. on June 26, 2025. Measurements of L_{eq} are considered representative of the noise levels throughout the day. The noise measurement locations are shown on **Figure 3: Noise Measurement Locations Map**, and the average noise levels measured at each location are listed in **Table 4: Existing Noise Measurements**.

Table 4: Existing Noise Measurements

Site	Location	Date and Measurement Period	Duration	Daytime Average (dBA L_{eq})	Nighttime Average (dBA L_{eq})	24-hour Average (dBA L_{eq})
ST-1	Western corner of Prescott Avenue and Diadem Drive.	June 25, 2025, 2:57 p.m. - 3:07 p.m.	10 mins	52.4	-	-
ST-2	Across from 58414 Diadem Drive.	June 25, 2025, 3:11 p.m. - 3:21 p.m.	10 mins	49.9	-	-
ST-3	Across from 58520 Paxton Outer Highway N.	June 25, 2025, 3:26 p.m. - 3:36 p.m.	10 mins	55.5	-	-
ST-4	Southwest corner of Avalon Avenue and Palisade Drive.	June 25, 2025, 3:43 p.m. - 3:53 p.m.	10 mins	53.5	-	-
ST-5	Adjacent to the Yucca Valley Medical and Professional Plaza.	June 25, 2025, 4:02 p.m. - 4:12 p.m.	10 mins	63.4	-	-
LT-1	South-central portion of the project site.	June 25, 2025, 4:30 p.m. – June 26, 2025, 4:30 p.m.	24 hours	61.9	57.6	60.8

ST = short-term; LT = long-term; - = no data available

Source: Noise measurements were taken by Kimley-Horn and Associates on June 25 and June 26, 2025. See **Appendix A** for the noise measurement results.



SOURCE: Google Earth, 2025

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FIGURE 3: NOISE MEASUREMENT LOCATIONS MAP

CIRCLE K FUEL STATION AND CONENIENCE STORE PROJECT

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Sensitive Receptors

Noise exposure standards and guidelines for various types of land uses reflect varying noise sensitivities associated with uses. Noise sensitive receptors are defined as residential uses, hospitals and medical facilities, residential care facilities, places of worship, schools, daycare centers, and parks.[2] Sensitive receptors nearest the project site are shown in **Table 5: Sensitive Receptors 5: Sensitive Receptors**.

Table 5: Sensitive Receptors	
Sensitive Receptor	**Distance[1] and Direction from the Project Site**
1 – Single-family Residential Uses	50 feet northwest of project site
2 – Single-family Residential Uses	450 northeast of project site
3 – Single-family Residential Uses	733 feet southwest of project site
1. Distance measured from the project site property line to the nearest sensitive receptor property line.	
Source: Google Earth, 2025.	

On-Site Construction Noise

Construction noise typically occurs intermittently and varies depending on the nature or phase of construction (e.g., land clearing, grading, excavation, or paving). Noise generated by construction equipment, including earth movers and material handlers, can reach high levels. During construction, exterior noise levels could affect sensitive receptors near the construction site.

Project construction activities would include site preparation, infrastructure improvements, grading, building construction, paving, and architectural coating. Such activities may require tractors, dozers, graders, and industrial saws during demolition, site preparation, and grading; cranes, forklifts, and tractors during building construction; pavers, rollers, mixers, and tractors during paving; and air compressors during architectural coating. Typical operating cycles for these types of construction equipment may involve 1 or 2 minutes of full-power operation followed by 3 to 4 minutes at lower power settings. Other primary sources of acoustical disturbance would be random incidents, which would last less than one minute (such as dropping large pieces of equipment or the hydraulic movement of machinery lifts). Noise levels associated with individual construction equipment anticipated to be used during project construction are listed in **Table 6: Project Construction Equipment Noise Levels**.

[2] Town of Yucca Valley, *General Plan, Noise Element,* 2014, https://www.yucca-valley.org/home/showpublisheddocument/2594/637009395714400000, accessed July 8, 2025.

Table 6: Project Construction Equipment Noise Levels			
Construction Phase	**Equipment[1]**	**Typical Noise Level at 50 feet from Source (dBA L_{max})**	**Usage Factor (%)**
Site Preparation	Grader	85	40
	Scraper	84	40
	Tractor	84	40
Grading	Grader	85	40
	Tractor	84	40
	Dozer	82	40
Infrastructure Improvements	Concrete Saw	90	20
	Excavator	81	40
	Trencher	80	50
Building Construction	Forklift	85	50
	Tractor	84	40
	Crane	81	16
	Generator Sets	81	50
	Welder	74	40
Paving	Paving Equipment	90	20
	Tractor	84	40
	Cement and Mortar Mixer	79	40
	Roller	80	20
	Paver	77	50
Architectural Coating	Air Compressors	78	40
1. Equipment compiled based on air quality modeling defaults and contractor input.			
Source: Federal Highway Association, *Roadway Construction Noise Model*, User Guide 2005.			

It is noted that the typical noise levels shown in **Table 6** are for equipment when operating at full power 50 feet from the sensitive receptor, without any intervening structures or topography that may reduce noise levels. Construction noise was calculated by accounting for each piece of equipment's usage factor, or the fraction of time that the equipment would be in use at full power over a specific period. Given the project site's constraints (e.g., size) and standard construction practices, only a limited amount of equipment can operate on the project site at a particular time.

The FHWA Roadway Construction Noise Model (RCNM) was used to predict construction noise at the sensitive receptors nearest the project site. When calculating construction noise, the loudest piece of anticipated equipment is conservatively assumed to operate at the construction area boundary nearest the modeled receptor while all other equipment anticipated for each individual construction phase is assumed to operate at staggering distances throughout the construction area. This methodology accounts for equipment operating throughout the construction area and not at a fixed location for extended periods of time.[3] Since the Town's Municipal Code does not establish quantitative construction noise standards, this analysis conservatively uses the Federal Transit Administration's (FTA) construction noise threshold of 80 dBA L_{eq} for residential uses as the

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

significance criteria.[4] See **Appendix A** for more information regarding the construction assumptions used in this analysis.

Table 7: Project Construction Noise Levels summarizes the exterior construction noise levels at the sensitive receptors nearest the project site without accounting for attenuation from intervening barriers, structures, or topography.

Table 7: Project Construction Noise Levels

Construction Phase[1]	Land Use	Direction	Noise Level (dBA L_{eq})	Noise Threshold (dBA L_{eq})[2]	Exceeded?
Site Preparation	Residential	Northwest	75.8	80	No
	Residential	Northeast	64.6		No
	Residential	Southwest	61.9		No
Infrastructure Improvements	Residential	Northwest	75.3		No
	Residential	Northeast	64.2		No
	Residential	Southwest	58.8		No
Grading	Residential	Northwest	76.3		No
	Residential	Northeast	65.3		No
	Residential	Southwest	62.6		No
Building Construction	Residential	Northwest	70.0		No
	Residential	Northeast	65.2		No
	Residential	Southwest	61.1		No
Paving	Residential	Northwest	76.8		No
	Residential	Northeast	65.4		No
	Residential	Southwest	62.6		No
Architectural Coating	Residential	Northwest	56.9		No
	Residential	Northeast	51.9		No
	Residential	Southwest	47.8		No

1. The site preparation and grading construction area was assumed to be the entire project site. The infrastructure improvements construction area was assumed to be the utility lines improvements within the Avalon Avenue right-of-way and paved circulation area. The building construction and architectural coating construction area was assumed to be the convenience store. The paving construction area was assumed to be the paved circulation area.
2. Per the FTA's guidelines, the construction noise threshold for residential uses is 80 dBA L_{eq}. See Table 7-3 of the *FTA Transit Noise and Vibration Impact Assessment Manual* (2018).

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

As shown in **Table 7**, the highest anticipated construction noise level of 76.8 dBA L_{eq} at the nearest sensitive receptor during the paving phase would not exceed the FTA's construction noise threshold of 80 dBA L_{eq} for residential uses. Pursuant to the Town's Municipal Code, construction activities would be limited to the hours of 7:00 a.m. to 10:00 p.m. on Monday through Saturday. The Town's permitted hours of construction are required in recognition that construction activities undertaken

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

during daytime hours are a typical part of living in an urban environment and do not cause a significant impact. Furthermore, construction noise would not occur at a fixed location for extended periods of time, would be temporary, and would not result in a permanent increase in ambient noise levels in the project area. Impacts would be less than significant, and no mitigation is required.

Construction Traffic Noise

Project construction activities would generate mobile source noise from haul and delivery trucks and construction workers traveling to and from the project site using Avalon Avenue, 29 Palms Highway, and Diadem Drive. Haul and delivery trucks and construction workers are expected to arrive at the project site before construction starts and leave when construction ends, and thus, would not overlap with the noise generated by project construction equipment. It is reasonable to assume that workers would already have arrived at the project site to begin construction activities prior to the arrival of haul and delivery trucks. Therefore, this analysis only considers the noise generated by haul and delivery trucks.

According to the modeling assumptions included in the Air Quality and Greenhouse Gas Memorandum, the grading phase would have the highest assumed number of trucks, when it is assumed there would be up to 58 daily haul truck trips accessing the project site. A heavy-duty truck passing by a receptor is assumed to generate a noise level of 70 dBA L_{eq} at 50 feet.[5] Assuming that all 58 haul trucks would pass through the same roadway segment within a 15-minute period, the noise level from the truck trips would be 68.2 dBA L_{eq} at 50 feet from the roadway centerline. The mobile noise associated with project construction would not exceed FTA's construction noise threshold of 80 dBA L_{eq} for residential uses. Additionally, mobile source noise associated with project construction activities that occurs between the hours of 7:00 a.m. to 10:00 p.m. on Monday through Saturday would be exempt from the Town's Municipal Code standards. Impacts would be less than significant, and no mitigation is required.

On-Site Operational Noise

The project proposes a Circle K fuel station and convenience store. Project operations would generate noise on-site from mechanical equipment (e.g., HVAC), trash and recycling pick-up activity, truck deliveries, parking lot and fuel dispensing activities, landscape maintenance.

Mechanical Equipment

Potential stationary noise sources related to long-term project operations would include mechanical equipment (e.g., HVAC equipment) located on the convenience store rooftop. It is assumed the mechanical equipment would be located within that portion of the convenience store rooftop nearest each sensitive receptor. Mechanical equipment (e.g., HVAC equipment) typically generates noise

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

levels of approximately 52 dBA at 50 feet.[6] **Table 8: Mechanical Equipment Noise Levels** summarizes the mechanical equipment noise levels at the nearest sensitive receptors without accounting for shielding provided by screening or architectural features.

Table 8: Mechanical Equipment Noise Levels

Sensitive Receptor	Distance to Receptor (feet)[1]	Noise Level at Receptor (dBA L_{eq})	Daytime Noise Standard (dBA L_{eq})[2]	Exceeded?	Nighttime Noise Standard (dBA L_{eq})[3]	Exceeded?
1 – Single-family Residential Uses (northwest)	348	35.1	55	No	57.6	No
2 – Single-family Residential Uses (northeast)	617	30.2	55	No	57.6	No
3 – Single-family Residential Uses (southwest)	993	26.0	55	No	57.6	No

1. Distance from the convenience store rooftop to the nearest sensitive receptor.
2. Pursuant to Municipal Code Section 9.34.080: Noise, the exterior residential daytime noise standard is 55 dBA.
3. Pursuant to Municipal Code Section 9.34.080: Noise, the exterior residential nighttime noise standard was adjusted to reflect the existing ambient environment. Refer to **Table 4** for ambient noise measurement data.

As shown in **Table 8**, the mechanical equipment noise associated with project implementation would not exceed the Town's exterior residential daytime (55 dBA) or adjusted nighttime (57.6 dBA) stationary source noise standard. Therefore, impacts would be less than significant, and no mitigation is required.

Trash and Recycling Pick-up

Trash and recycling would be picked up from the trash enclosure on the northeastern side of the project site during daytime hours (i.e., from 7:00 a.m. to 10:00 p.m.), refer to **Figure 2**. Trash and recycling pick-up activity servicing the project area currently occurs under existing conditions and would not be a new noise source. However, trash and recycling pick-up activity noise levels have been conservatively estimated. Trash and recycling pickup activities generate noise levels of approximately 85 dBA at approximately 3.3 feet.[7] The noise levels attributable to trash and recycling pick-up activity at the nearest sensitive receptors are presented in **Table 9: Trash and Recycling Pick-up Noise Levels**.

Table 9 indicates that trash and recycling pick-up noise levels would not exceed the Town's exterior residential daytime (55 dBA) stationary source noise standard. Therefore, impacts would be less than significant, and no mitigation is required.

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

Table 9: Trash and Recycling Pick-up Noise Levels				
Sensitive Receptor	**Distance to Receptor (feet)[1]**	**Noise Level at Receptor (dBA L_{eq})**	**Daytime Noise Standard (dBA L_{eq})[2]**	**Exceeded?**
1 – Single-family Residential Uses (northwest)	413	43.1	55	No
2 – Single-family Residential Uses (northeast)	560	40.4	55	No
3 – Single-family Residential Uses (southwest)	1073	34.8	55	No
1. Distance from the trash enclosure area to the nearest sensitive receptor. 2. Pursuant to Municipal Code Section 9.34.080: Noise, the exterior residential daytime noise standard is 55 dBA.				

Truck Deliveries

The project would include fuel replenishment deliveries to the underground storage tanks located along the southern boundary and goods replenishment deliveries to the convenience store. Pursuant to the Noise Element Policy N-1, truck deliveries to the project site would only occur during daytime hours (i.e., from 7:00 a.m. to 10:00 p.m.). 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/loading areas; dropping down the dock ramps; and maneuvering away from the docks. Typically, heavy truck operations generate a noise level of 64 dBA at a distance of 50 feet.[8] **Table 10: Truck Deliveries Noise Levels** summarizes the truck delivery noise levels at the nearest sensitive receptors.

Table 10: Truck Deliveries Noise Levels				
Sensitive Receptor	**Distance to Receptor (feet)[1]**	**Noise Level at Receptor (dBA L_{eq})**	**Daytime Noise Standard (dBA L_{eq})[2]**	**Exceeded?**
1 – Single-family Residential Uses (northwest)	392	46.1	55	No
2 – Single-family Residential Uses (northeast)	570	42.9	55	No
3 – Single-family Residential Uses (southwest)	880	39.1	55	No
1. Distance from the parking lot or underground storage tanks to the nearest sensitive receptor. 2. Pursuant to Municipal Code Section 9.34.080: Noise, the exterior residential daytime noise standard is 55 dBA.				

As shown in **Table 10**, the truck delivery noise associated with project implementation would not exceed the Town's exterior residential daytime (55 dBA) stationary source noise standard. Thus, impacts would be less than significant, and no mitigation is required.

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

Parking Lot and Fuel Dispensing

The project proposes 28 parking spaces along the northern and eastern side of the project site and seven fuel pumps at the center of the project site, refer to **Figure 2**. Noises associated with parking and fuel dispensing activities include noise from vehicles starting and stopping, doors closing, car horns and alarms, loading and unloading, and conversations. The noise levels from these activities range from 53 to 61 dBA at 50 feet and are short-term.[9] **Table 11: Parking and Fuel Dispensing Noise Levels** shows the noise attributable to parking and fuel dispensing activities would not exceed the Town's exterior residential daytime (55 dBA) or adjusted nighttime (57.6 dBA) stationary source noise standard.

Table 11: Parking and Fuel Dispensing Noise Levels

Sensitive Receptor	Distance to Receptor (feet)[1]	Noise Level at Receptor (dBA L_{eq})	Daytime Noise Standard (dBA L_{eq})[2]	Exceeded?	Nighttime Noise Standard (dBA L_{eq})[3]	Exceeded?
1 – Single-family Residential Uses (northwest)	392	43.1	55	No	57.6	No
2 – Single-family Residential Uses (northeast)	570	39.9	55	No	57.6	No
3 – Single-family Residential Uses (southwest)	860	36.3	55	No	57.6	No

1. Distance from the parking lot or fuel pumps to the nearest sensitive receptor.
2. Pursuant to Municipal Code Section 9.34.080: Noise, the exterior residential daytime noise standard is 55 dBA.
3. Pursuant to Municipal Code Section 9.34.080: Noise, the exterior residential nighttime noise standard was adjusted to reflect the existing ambient environment. Refer to **Table 4** for ambient noise measurement data.

Furthermore, parking lot and fuel dispensing activity noise would be consistent with the existing environment and partially masked by the mobile noise along surrounding roadways. Therefore, impacts would be less than significant, and no mitigation is required.

Landscape Maintenance Activities

The project would include new landscaping that would require brief periodic maintenance, which would during daytime hours (i.e., from 7:00 a.m. to 10:00 p.m.). Landscape maintenance activity currently occurs under existing conditions and would not be a new noise source. However, the noise levels associated with landscape maintenance have been conservatively estimated. The noise generated by a gasoline-powered lawnmower is estimated to be approximately 70 dBA at five feet.[10]

Table 12: Landscape Maintenance Equipment Noise Levels summarizes the landscape maintenance equipment noise levels at the nearest sensitive receptors without accounting for shielding provided by screening or architectural features.

[9] Kariel, H. G., Noise in Rural Recreational Environments, Canadian Acoustics 19(5), 3-10, 1991.
[10] U.S. EPA, *Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances*, 1971

Table 12: Landscape Maintenance Equipment Noise Levels						
Sensitive Receptor	**Distance to Receptor (feet)[1]**	**Noise Level at Receptor (dBA L_{eq})**	**Daytime Noise Standard (dBA)[2]**	**Exceeded?**	**Nighttime Noise Standard (dBA)[3]**	**Exceeded?**
1 – Single-family Residential Uses (northwest)	114	42.8	55	No	57.6	No
2 – Single-family Residential Uses (northeast)	485	30.3	55	No	57.6	No
3 – Single-family Residential Uses (southwest)	816	25.7	55	No	57.6	No

1. Distance from the landscaping planters to the nearest sensitive receptor.
2. Pursuant to Municipal Code Section 9.34.080: Noise, the exterior residential daytime noise standard is 55 dBA.
3. Pursuant to Municipal Code Section 9.34.080: Noise, the exterior residential nighttime noise standard was adjusted to reflect the existing ambient environment. Refer to **Table 4** for ambient noise measurement data.

As shown in **Table 12**, the landscape maintenance equipment noise associated with project implementation would not exceed the Town's exterior residential daytime (55 dBA) or adjusted nighttime (57.6 dBA) stationary source noise standard. Thus, impacts would be less than significant, and no mitigation is required.

On-Site Composite Noise

The project's composite noise levels, including all on-site project-related noise sources discussed above plus the existing ambient level, were evaluated to identify the potential maximum project-related noise level increase that may occur at the nearest sensitive receptors. It is conservatively assumed that the operational noise sources at the project site would occur in a constant, simultaneous manner. However, noise sources would occur intermittently throughout the day (except for the HVAC which may operate in a steady-state manner). As stated above, trash and recycling pick-up, truck deliveries, and landscape maintenance activities would not occur during nighttime hours and were not considered in the composite nighttime analysis. **Table 13: Daytime On-site Composite Noise Levels** and **Table 14: Nighttime On-site Composite Noise Levels** presents the project's composite noise levels at the nearest sensitive receptors. In general, an increase of 5 dBA is considered to be substantial.[11] As shown in **Table 13** and **Table 14**, the project would result in noise level increases below 5 dBA and would not exceed the City's noise standards at any of the sensitive receptors surrounding the project site. Therefore, impacts would be less than significant in this regard, and no mitigation is required.

[11] California Department of Transportation, *Technical Noise Supplement to the Traffic Noise Analysis Protocol*, September 2013, and Federal Highway Administration, *Noise Fundamentals*, 2017.

Table 13: Daytime On-site Composite Noise Levels

Sensitive Receptor	Mechanical Equipment (dBA L_{eq})	Trash and Recycling (dBA L_{eq})	Truck Delivery (dBA L_{eq})	Parking Lot and Fuel Dispensing (dBA L_{eq})	Landscape Maintenance (dBA L_{eq})	Combined Noise Level (dBA L_{eq})[1]	Ambient Noise Level (dBA L_{eq})[2]	Ambient + Operational Noise Level (dBA L_{eq})	Noise Standard (dBA L_{eq})[3]	Incremental Increase (dBA L_{eq})	Significant?[4]
1 – Single-family Residential Uses	35.1	43.1	46.1	43.1	42.8	50.2	49.9	53.0	55	3.1	No
2 – Single-family Residential Uses	30.2	40.4	42.9	39.9	30.3	46.2	55.5	56.0	55	0.5	No
3 – Single-family Residential Uses	26.0	34.8	39.1	36.3	25.7	42.1	53.5	53.8	55	0.3	No

1. Noise levels for all operational sources were logarithmically added together and conservatively assumed to operate in a simultaneous, constant manner.
2. Ambient noise measurements were taken by Kimley-Horn and Associates on June 25 and June 26, 2025, and are shown in **Table 4**.
3. Pursuant to Municipal Code Section 9.34.080: Noise, the exterior residential daytime noise standard is 55 dBA.
4. Potential impacts would occur if the composite noise associated with project implementation would exceed the noise standard and cause an incremental noise increase of 5 dBA within the project area.

Table 14: Nighttime On-site Composite Noise Levels

Sensitive Receptor	Mechanical Equipment (dBA L_{eq})	Parking Lot and Fuel Dispensing (dBA L_{eq})	Combined Noise Level (dBA L_{eq})[1]	Ambient Noise Level (dBA L_{eq})[2,3]	Ambient + Operational Noise Level (dBA L_{eq})	Noise Standard (dBA L_{eq})	Incremental Increase (dBA L_{eq})	Significant?[4]
1 – Single-family Residential Uses	35.1	43.1	43.8	45.6	47.8	45.6	2.2	No
2 – Single-family Residential Uses	30.2	39.9	40.3	51.2	51.5	51.2	0.3	No
3 – Single-family Residential Uses	26.0	36.3	36.7	49.2	49.4	49.2	0.2	No

1. Noise levels for all operational sources operating were logarithmically added together and conservatively assumed to operate in a simultaneous, constant manner.
2. The ambient noise levels were adjusted based on the long-term measurement data collected by Kimley-Horn and Associates on June 25 and June 26, 2025 (shown in **Table 4**).
3. Pursuant to Municipal Code Section 9.34.080: Noise, the exterior residential nighttime noise standard was adjusted to reflect the existing ambient environment. Refer to **Table 4** for ambient noise measurement data.
4. Potential impacts would occur if the composite noise associated with project implementation would exceed the noise standard and cause an incremental noise increase of 5 dBA within the project area.

Operational Traffic Noise

Project implementation would generate average daily traffic (ADT) volumes along nearby roadway segments, which would result in noise increases on roadways adjacent to the project site. In general, a 3-dBA increase in traffic noise is barely perceptible to people, while a 5-dBA increase is readily noticeable and is considered substantial. Traffic volumes on project area roadways would have to approximately double for the resulting traffic noise levels to generate a barely perceptible 3-dBA increase.[12]

29 Palms Highway and Avalon Avenue (the primary access routes to the project site) have existing ADT volumes of approximately 20,300 vehicles and 1,080 vehicles, respectively.[13] The project would generate approximately 882 net daily trips, [14] which would not double the existing traffic volumes or result in a noticeable increase in traffic noise along 29 Palms Highway and Avalon Avenue.

Diadem Drive has an existing ADT volume of approximately 16 vehicles.[15] The project would generate approximately 45 daily trips along Diadem Drive.[16] Traffic noise levels along Diadem Drive were calculated using the FHWA's Highway Noise Prediction Model (FHWA-RD-77-108). The traffic noise modeling was conducted for conditions With and Without the Project and the results are shown in **Table 15: Existing and Existing Plus Project Traffic Noise Levels**.

Table 15: Existing and Existing Plus Project Traffic Noise Levels

Roadway Segment	Existing		Existing Plus Project		Incremental Increase (dBA L_{eq})	Noise Standard (dBA L_{eq})[2]	Significant?[3]
	ADT	dBA CNEL[1]	ADT	dBA CNEL[1]			
Diadem Drive between Prescott Avenue and Paxton Road	16	33.4	64	39.4	6.0	60	No

ADT = Average Daily Traffic

1. Noise level at 50 feet from the roadway centerline. The actual sound level at any receptor location is dependent upon such factors as the source-to-receptor distance and the presence of intervening structures, barriers, and topography.
2. Pursuant to Municipal Code Section 9.34.080: Noise, the exterior mobile source noise standard for residential uses is 60 dBA CNEL.
3. Potential impacts would occur if the traffic noise associated with project implementation would exceed the noise standard and cause an incremental noise increase of 5 dBA along surrounding roadways.

As shown in **Table 15**, project-generated trips would cause a 6.0 dBA incremental increase along Diadem Drive. However, the project-generated mobile noise would not exceed the Town's mobile

[12] According to the California Department of Transportation, *Technical Noise Supplement to Traffic Noise Analysis Protocol* (September 2013), it takes a doubling of traffic to create a noticeable (i.e., 3 dBA) noise increase.

[13] Replica HQ, Annual Average Daily Traffic 2024 for the Town of Yucca Valley, https://www.replicahq.com/, accessed July 2025.

[14] Kimley-Horn and Associates, Inc., *Traffic Scope Approval Form*, Table 1: Summary of Project Trip Generation Circle K Fuel Station – Town of Yucca Valley, 2025.

[15] Ibid.

[16] Based on information provided by the project traffic engineer (Kimley-Horn and Associates, Inc.), approximately five percent of project-generated trips would occur along Diadem Drive.

source noise standard of 60 dBA CNEL for residential uses. Therefore, impacts would be less than significant in this regard, and no mitigation is required.

Vibration

Construction Vibration

The project's increases in ground-borne vibration levels would be primarily associated with short-term construction-related activities. The ground-borne vibration generated by construction equipment spreads through the ground and diminishes in magnitude with increases in distance. Project construction could result in varying degrees of temporary ground-borne vibration, depending on the specific construction equipment used and the operations involved.

The types of construction vibration impacts include building damage and human annoyance. Building damage can be cosmetic or structural. Ordinary buildings that are not particularly fragile would not experience 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 the vibration source and receiver. In addition, not all buildings respond similarly to vibration generated by construction equipment. Human annoyance occurs when construction vibration rises significantly above the threshold of human perception for extended periods of time. The Town has not adopted specific standards for vibration impacts during construction. This analysis uses the Caltrans structural damage criteria of 0.3 in/sec PPV for older residential buildings and 0.2 in/sec PPV for the human annoyance threshold.[17]

Vibratory equipment expected to be used at the project site that FTA guidance includes reference vibration levels for include loaded haul trucks, large bulldozer, small bulldozer, and vibratory roller.[18] Haul trucks would be staged at locations that would provide ease of access/egress from the project site and onto the roadway network. Construction activities are anticipated to occur as near as 114 feet from the nearest residential structures. **Table 16: Typical Construction Equipment Vibration Levels** lists the reference vibration levels for typical construction equipment at 25 feet and the vibration level at the nearest sensitive receptor.

Table 16: Typical Construction Equipment Vibration Levels

Equipment	Peak Particle Velocity at 25 feet (in/sec)	Peak Particle Velocity at 114 feet (in/sec)
Loaded Trucks	0.076	0.0078
Vibratory Roller	0.21	0.0216
Large Bulldozer	0.089	0.0091
Small Bulldozer	0.003	0.003

[17] California Department of Transportation, *Transportation and Construction Vibration Guidance Manual*, 2020

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

Table 16: Typical Construction Equipment Vibration Levels		
Equipment	**Peak Particle Velocity at 25 feet (in/sec)**	**Peak Particle Velocity at 114 feet (in/sec)**
Structural Damage Threshold	0.30	0.30
Human Annoyance Threshold	0.20	0.20
Exceeds Thresholds?	No	No
Source: Federal Transit Administration, *Transit Noise and Vibration Impact Assessment Manual*, 2018.		

As shown in **Table 16**, the vibration velocities from typical heavy construction equipment that would be used during project construction would not exceed the structural damage or human annoyance thresholds. Impacts would be less than significant, and no mitigation is required.

Operational Vibration

Concerning vibration-generating activities, project operations would primarily involve personal automobiles used by employees and customers, occasional delivery trucks (such as UPS, FedEx, etc.), and trash and recycling collection trucks. Due to the rapid drop-off rate of ground-borne vibration and the short duration of the associated events, vehicular traffic-induced ground-borne vibration is rarely perceptible beyond the roadway right-of-way and rarely results in vibration levels that cause damage to buildings in the vicinity. According to the FTA Transit Noise and Vibration Guidelines, trucks rarely create vibration levels that exceed 70 VdB (equivalent to 0.012 in/sec PPV) when they are on roadways. Impacts would be less than significant, and no mitigation is required.

Conclusion

The project construction and operational noise and vibration levels would not exceed applicable standards. The project would result in less than significant construction and operational (i.e., stationary and mobile source) noise and vibration impacts, and no mitigation is required.

Appendix A

Noise Data

Noise Measurement Field Data

Project:	Yucca Valley CK	**Job Number:**	194420107
Site No.:	ST-1	**Date:**	6/25/2025
Analyst:	Tanay Pradhan and Daniel Karz	**Time:**	2:57 p.m. - 3:07 p.m.
Location:	Western corner of Prescott Avenue and Diadem Drive		
Noise Sources:	Traffic on streets and birds chirping		
Comments:			

Results (dBA):

Leq:	Lmin:	Lmax:	Peak:
52.4	35.8	71.4	90.3

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

Weather	
Temp. (degrees F):	90
Wind (mph):	9
Sky:	Clear
Bar. Pressure (inHg):	29.79
Humidity:	9%

Photo:

Kimley»Horn

Measurement Report

Report Summary

Meter's File Name	LxT_Data.097.s	Computer's File Name	LxTse_0005586-20250625 145719-LxT_Data.097.ldbin
Meter	LxT SE 0005586	Firmware	2.404
User		Location	
Job Description			
Note			

Measurement

Start Time	2025-06-25 14:57:19	Duration	0:10:00.0		
End Time	2025-06-25 15:07:19	Run Time	0:10:00.0	Pause Time	0:00:00.0
Pre-Calibration	2025-06-25 14:55:51	Post-Calibration	None	Calibration Deviation	---

Results

Overall Metrics

LA_{eq}	52.4 dB		
LAE	80.2 dB	SEA	--- dB
EA	11.6 µPa²h		
LA_{peak}	90.3 dB	2025-06-25 15:00:32	
LAS_{max}	71.4 dB	2025-06-25 15:01:55	
LAS_{min}	35.8 dB	2025-06-25 15:00:02	
LA_{eq}	52.4 dB		
LC_{eq}	66.0 dB	LC_{eq} - LA_{eq}	13.6 dB
LAI_{eq}	54.9 dB	LAI_{eq} - LA_{eq}	2.5 dB

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

Community Noise	LDN	LDay	LNight
	52.4 dB	52.4 dB	--- dB

	LDEN	LDay	LEve	LNight
	52.4 dB	52.4 dB	--- dB	--- dB

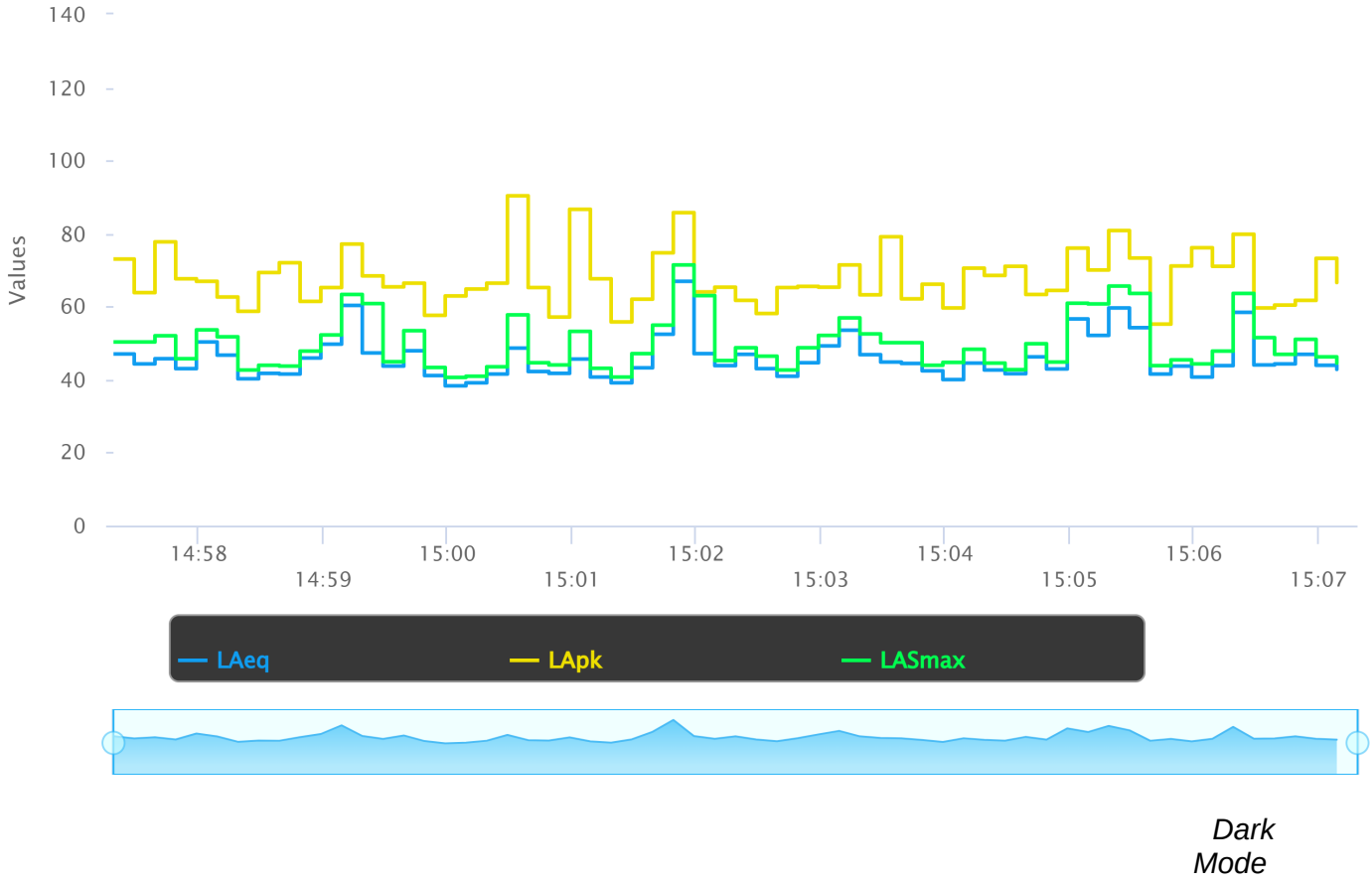
Any Data	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L_{eq}	52.4 dB		66.0 dB		--- dB	
$L_{S(max)}$	71.4 dB	2025-06-25 15:01:55	--- dB	None	--- dB	None
$L_{S(min)}$	35.8 dB	2025-06-25 15:00:02	--- dB	None	--- dB	None
$L_{Peak(max)}$	90.3 dB	2025-06-25 15:00:32	--- dB	None	--- dB	None

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

Statistics

LAS 5.0	57.9 dB
LAS 10.0	53.0 dB
LAS 33.3	45.3 dB
LAS 50.0	43.5 dB
LAS 66.6	42.3 dB
LAS 90.0	39.6 dB

Time History



Dark Mode

Noise Measurement Field Data

Project:	Yucca Valley CK	**Job Number:**	194420107
Site No.:	ST-2	**Date:**	6/25/2025
Analyst:	Tanay Pradhan and Daniel Karz	**Time:**	3:11 p.m. - 3:21 p.m.
Location:	Across from 58414 Diadem Drive		
Noise Sources:	Nearby traffic, birds chirping		
Comments:			

Results (dBA):

Leq:	Lmin:	Lmax:	Peak:
49.9	36.5	66.4	97.7

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

Weather	
Temp. (degrees F):	91
Wind (mph):	8
Sky:	Clear
Bar. Pressure (inHg):	29.79
Humidity:	9%

Photo:

Kimley»Horn

Measurement Report

Report Summary

Meter's File Name	LxT_Data.098.s	Computer's File Name	LxTse_0005586-20250625 151154-LxT_Data.098.ldbin
Meter	LxT SE 0005586	Firmware	2.404
User		Location	
Job Description			
Note			

Measurement

Start Time	2025-06-25 15:11:54	Duration	0:10:00.0		
End Time	2025-06-25 15:21:54	Run Time	0:10:00.0	Pause Time	0:00:00.0
Pre-Calibration	2025-06-25 14:55:47	Post-Calibration	None	Calibration Deviation	---

Results

Overall Metrics

LA_{eq}	49.9 dB		
LAE	77.7 dB	SEA	--- dB
EA	6.5 µPa²h		
LA_{peak}	97.7 dB	2025-06-25 15:21:52	
LAS_{max}	66.4 dB	2025-06-25 15:12:35	
LAS_{min}	36.5 dB	2025-06-25 15:17:24	
LA_{eq}	49.9 dB		
LC_{eq}	63.7 dB	LC_{eq} - LA_{eq}	13.8 dB
LAI_{eq}	53.3 dB	LAI_{eq} - LA_{eq}	3.4 dB

Exceedances

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

Community Noise

LDN	LDay	LNight
49.9 dB	49.9 dB	--- dB

LDEN	LDay	LEve	LNight
49.9 dB	49.9 dB	--- dB	--- dB

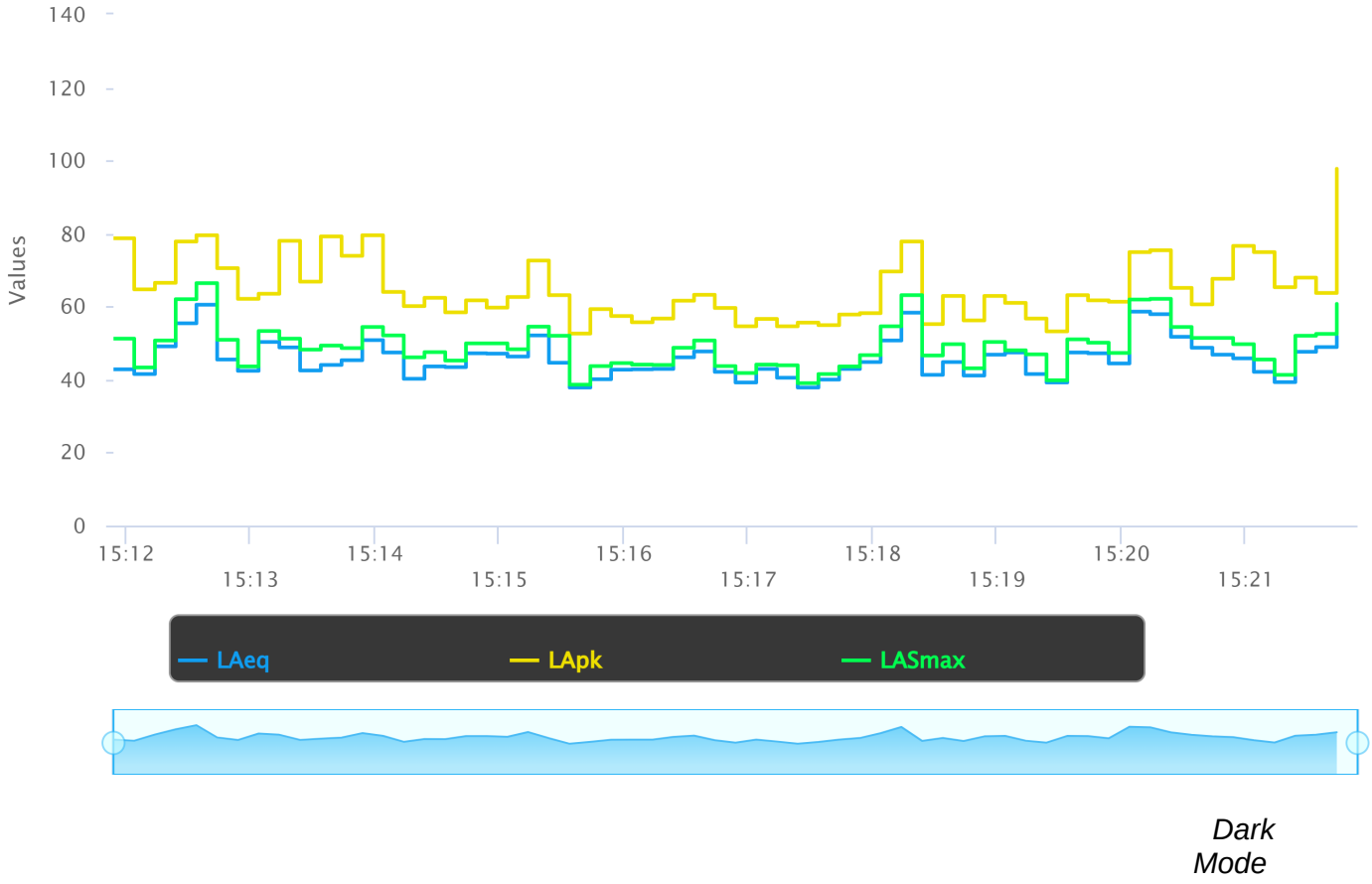
Any Data	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L_{eq}	49.9 dB		63.7 dB		--- dB	
$L_{S(max)}$	66.4 dB	2025-06-25 15:12:35	--- dB	None	--- dB	None
$L_{S(min)}$	36.5 dB	2025-06-25 15:17:24	--- dB	None	--- dB	None
$L_{Peak(max)}$	97.7 dB	2025-06-25 15:21:52	--- dB	None	--- dB	None

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

Statistics

LAS 5.0	55.0 dB
LAS 10.0	51.6 dB
LAS 33.3	46.8 dB
LAS 50.0	44.1 dB
LAS 66.6	42.6 dB
LAS 90.0	39.2 dB

Time History



Dark Mode

Noise Measurement Field Data

Project:	Yucca Valley CK	**Job Number:**	194420107
Site No.:	ST-3	**Date:**	6/25/2025
Analyst:	Tanay Pradhan and Daniel Karz	**Time:**	3:26 p.m. - 3:36 p.m.
Location:	Across from 58520 Paxton Outerhighway N		
Noise Sources:	Traffic along streets		
Comments:			

Results (dBA):

Leq:	Lmin:	Lmax:	Peak:
55.5	47.3	67.0	81.5

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

Weather	
Temp. (degrees F):	92
Wind (mph):	8
Sky:	Clear
Bar. Pressure (inHg):	29.79
Humidity:	9%

Photo:

Kimley»Horn

Measurement Report

Report Summary

Meter's File Name	LxT_Data.099.s	Computer's File Name	LxTse_0005586-20250625 152602-LxT_Data.099.ldbin
Meter	LxT SE 0005586	Firmware	2.404
User		Location	
Job Description			
Note			

Measurement

Start Time	2025-06-25 15:26:02	Duration	0:10:00.0		
End Time	2025-06-25 15:36:02	Run Time	0:10:00.0	Pause Time	0:00:00.0
Pre-Calibration	2025-06-25 14:55:47	Post-Calibration	None	Calibration Deviation	---

Results

Overall Metrics

LA_{eq}	55.5 dB		
LAE	83.3 dB	SEA	--- dB
EA	23.7 µPa²h		
LA_{peak}	81.5 dB	2025-06-25 15:29:44	
LAS_{max}	67.0 dB	2025-06-25 15:34:36	
LAS_{min}	47.3 dB	2025-06-25 15:26:16	
LA_{eq}	55.5 dB		
LC_{eq}	70.9 dB	LC_{eq} - LA_{eq}	15.4 dB
LAI_{eq}	56.9 dB	LAI_{eq} - LA_{eq}	1.4 dB

Exceedances

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

Community Noise

LDN	LDay	LNight
55.5 dB	55.5 dB	--- dB

LDEN	LDay	LEve	LNight
55.5 dB	55.5 dB	--- dB	--- dB

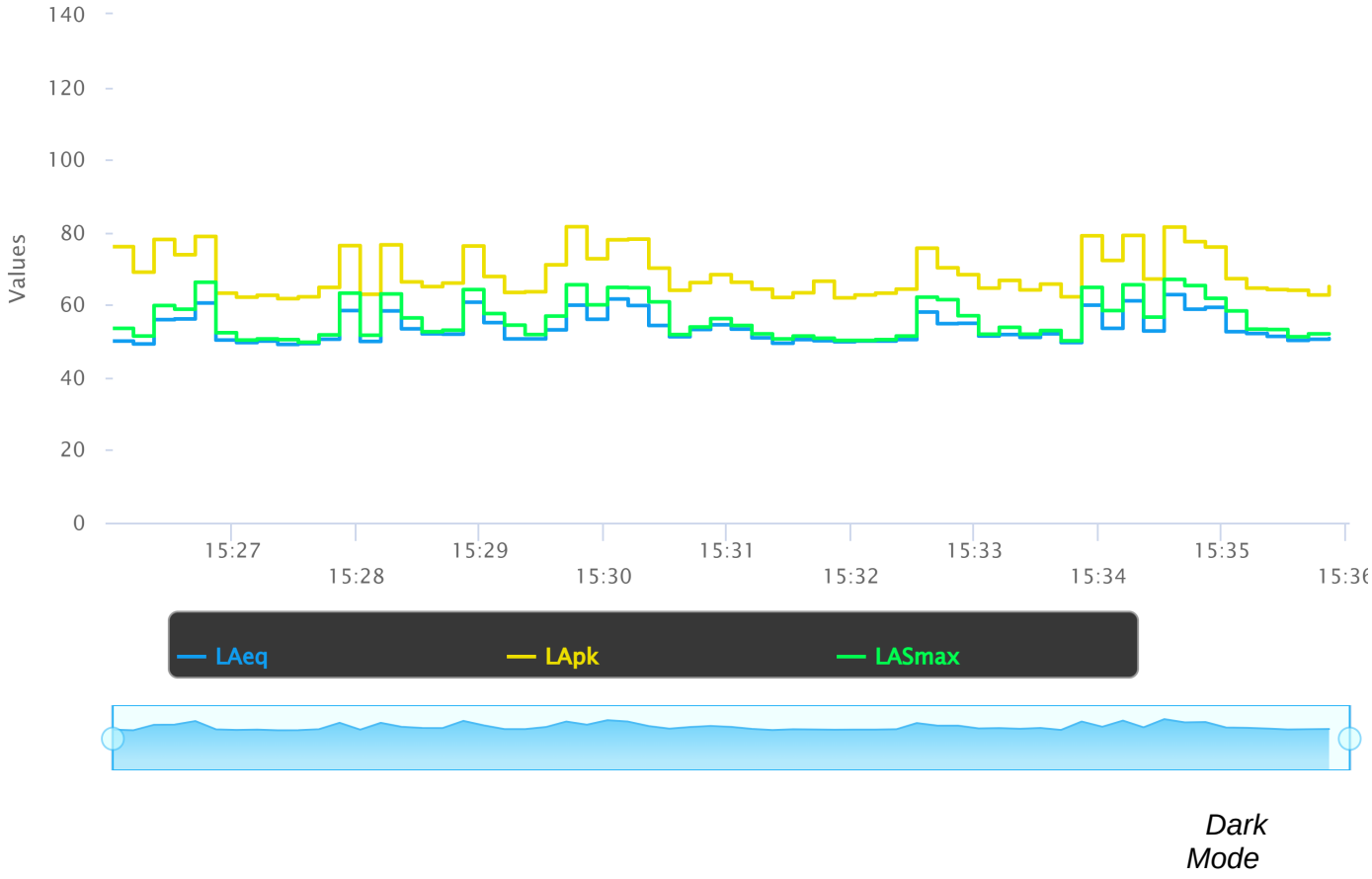
Any Data	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L_{eq}	55.5 dB		70.9 dB		--- dB	
$L_{S(max)}$	67.0 dB	2025-06-25 15:34:36	--- dB	None	--- dB	None
$L_{S(min)}$	47.3 dB	2025-06-25 15:26:16	--- dB	None	--- dB	None
$L_{Peak(max)}$	81.5 dB	2025-06-25 15:29:44	--- dB	None	--- dB	None

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

Statistics

LAS 5.0	61.8 dB
LAS 10.0	59.3 dB
LAS 33.3	53.3 dB
LAS 50.0	51.7 dB
LAS 66.6	50.6 dB
LAS 90.0	49.5 dB

Time History



Dark Mode

Noise Measurement Field Data

Project:	Yucca Valley CK	**Job Number:**	194420107
Site No.:	ST-4	**Date:**	6/25/2025
Analyst:	Tanay Pradhan and Daniel Karz	**Time:**	3:43 p.m. - 3:53 p.m.
Location:	Southwest corner of Avalon Avenue and Palisade Drive		
Noise Sources:	Traffic along nearby streets		
Comments:			

Results (dBA):

Leq:	Lmin:	Lmax:	Peak:
53.5	50.5	65.4	89.3

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

Weather	
Temp. (degrees F):	92
Wind (mph):	8
Sky:	Clear
Bar. Pressure (inHg):	29.78
Humidity:	9%

Photo:

Kimley»Horn

Measurement Report

Report Summary

Meter's File Name	LxT_Data.100.s	Computer's File Name	LxTse_0005586-20250625 154335-LxT_Data.100.ldbin
Meter	LxT SE 0005586	Firmware	2.404
User		Location	
Job Description			
Note			

Measurement

Start Time	2025-06-25 15:43:35	Duration	0:10:00.0		
End Time	2025-06-25 15:53:35	Run Time	0:10:00.0	Pause Time	0:00:00.0
Pre-Calibration	2025-06-25 14:55:47	Post-Calibration	None	Calibration Deviation	---

Results

Overall Metrics

LA_{eq}	53.5 dB		
LAE	81.3 dB	SEA	--- dB
EA	14.9 µPa²h		
LA_{peak}	89.3 dB	2025-06-25 15:44:00	
LAS_{max}	65.4 dB	2025-06-25 15:44:01	
LAS_{min}	50.5 dB	2025-06-25 15:49:41	
LA_{eq}	53.5 dB		
LC_{eq}	73.0 dB	LC_{eq} - LA_{eq}	19.5 dB
LAI_{eq}	55.8 dB	LAI_{eq} - LA_{eq}	2.3 dB

Exceedances

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

Community Noise

LDN	LDay	LNight
53.5 dB	53.5 dB	--- dB

LDEN	LDay	LEve	LNight
53.5 dB	53.5 dB	--- dB	--- dB

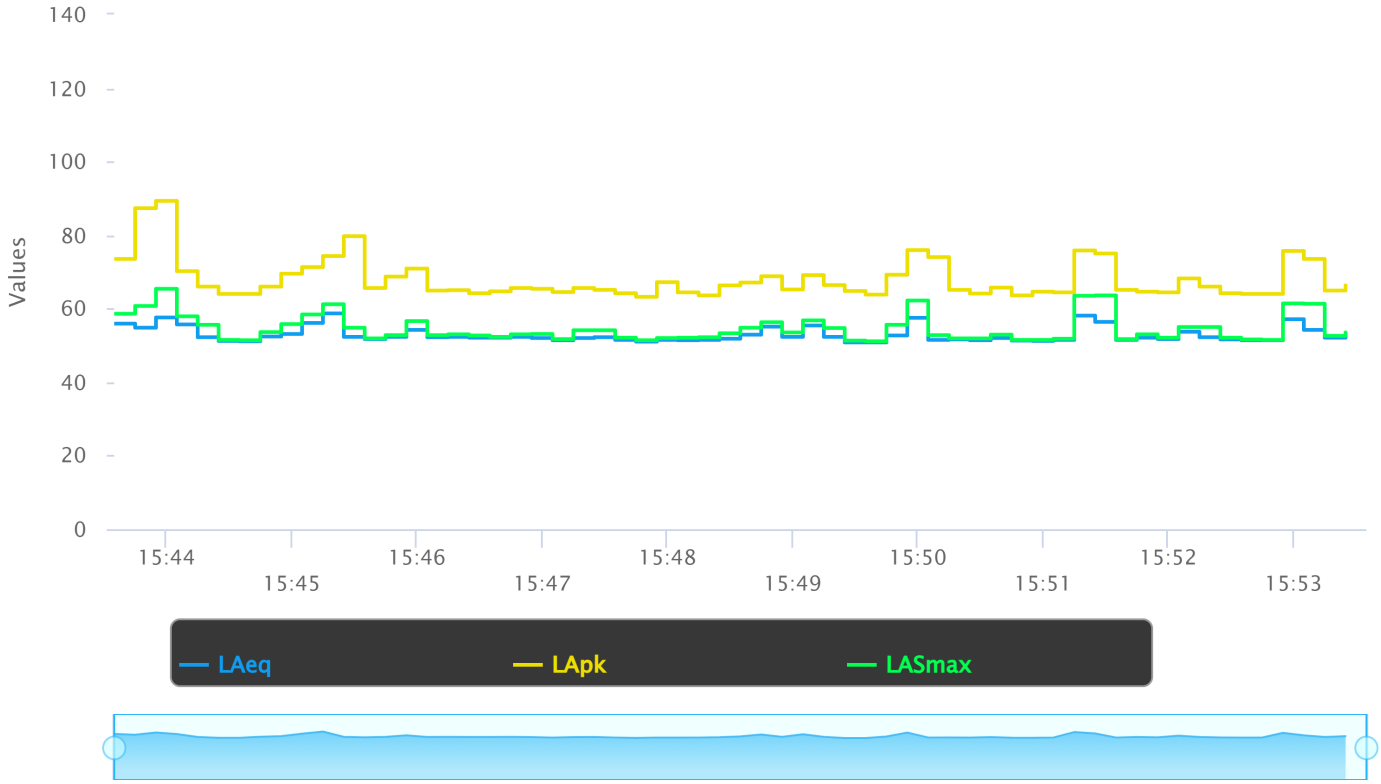
Any Data	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L_{eq}	53.5 dB		73.0 dB		--- dB	
$L_{S(max)}$	65.4 dB	2025-06-25 15:44:01	--- dB	None	--- dB	None
$L_{S(min)}$	50.5 dB	2025-06-25 15:49:41	--- dB	None	--- dB	None
$L_{Peak(max)}$	89.3 dB	2025-06-25 15:44:00	--- dB	None	--- dB	None

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

Statistics

LAS 5.0	57.4 dB
LAS 10.0	55.3 dB
LAS 33.3	52.4 dB
LAS 50.0	51.9 dB
LAS 66.6	51.5 dB
LAS 90.0	51.2 dB

Time History



Dark Mode

Noise Measurement Field Data

Project:	Yucca Valley CK	**Job Number:**	194420107
Site No.:	ST-5	**Date:**	6/25/2025
Analyst:	Tanay Pradhan and Daniel Karz	**Time:**	4:02 p.m. - 4:12 p.m.
Location:	Adjacent to the Yucca Valley Medical and Professional Plaza		
Noise Sources:	Traffic along streets, passerby asking for water		
Comments:			

Results (dBA):

Leq:	Lmin:	Lmax:	Peak:
63.4	52.0	75.4	93.3

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

Weather	
Temp. (degrees F):	92
Wind (mph):	9
Sky:	Clear
Bar. Pressure (inHg):	29.78
Humidity:	9%

Photo:

Kimley»Horn

Measurement Report

Report Summary

Meter's File Name	LxT_Data.101.s	Computer's File Name	LxTse_0005586-20250625 160247-LxT_Data.101.ldbin
Meter	LxT SE 0005586	Firmware	2.404
User		Location	
Job Description			
Note			

Measurement

Start Time	2025-06-25 16:02:47	Duration	0:10:00.0		
End Time	2025-06-25 16:12:47	Run Time	0:10:00.0	Pause Time	0:00:00.0
Pre-Calibration	2025-06-25 14:55:47	Post-Calibration	None	Calibration Deviation	---

Results

Overall Metrics

LA_{eq}	63.4 dB		
LAE	91.2 dB	SEA	--- dB
EA	145.9 µPa²h		
LA_{peak}	93.3 dB	2025-06-25 16:07:14	
LAS_{max}	75.4 dB	2025-06-25 16:07:16	
LAS_{min}	52.0 dB	2025-06-25 16:04:24	
LA_{eq}	63.4 dB		
LC_{eq}	74.0 dB	LC_{eq} - LA_{eq}	10.6 dB
LAI_{eq}	64.8 dB	LAI_{eq} - LA_{eq}	1.4 dB

Exceedances

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

Community Noise

LDN	LDay	LNight
63.4 dB	63.4 dB	--- dB

LDEN	LDay	LEve	LNight
63.4 dB	63.4 dB	--- dB	--- dB

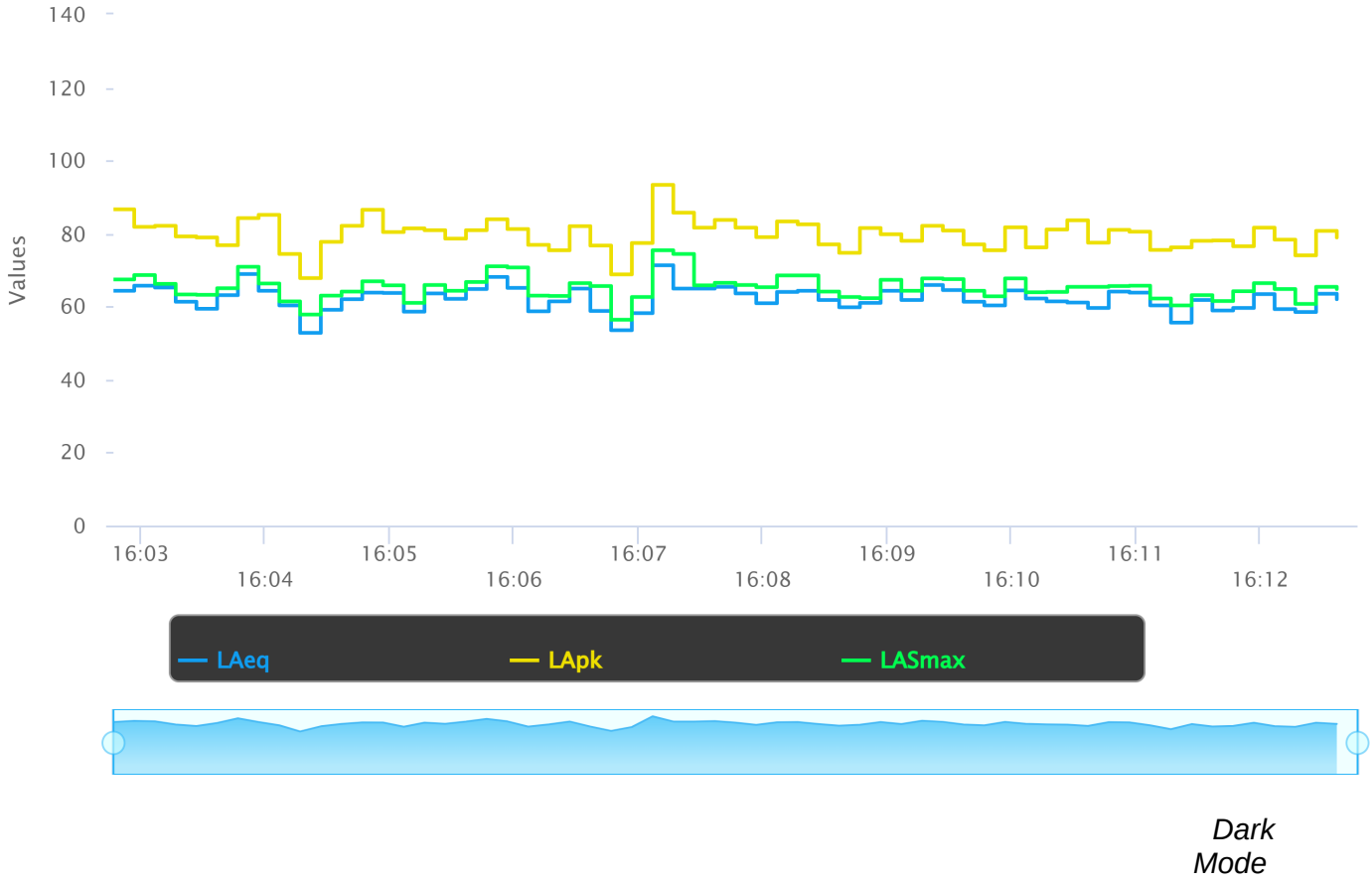
Any Data	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L_{eq}	63.4 dB		74.0 dB		--- dB	
$L_{S(max)}$	75.4 dB	2025-06-25 16:07:16	--- dB	None	--- dB	None
$L_{S(min)}$	52.0 dB	2025-06-25 16:04:24	--- dB	None	--- dB	None
$L_{Peak(max)}$	93.3 dB	2025-06-25 16:07:14	--- dB	None	--- dB	None

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

Statistics

LAS 5.0	67.1 dB
LAS 10.0	66.1 dB
LAS 33.3	63.5 dB
LAS 50.0	62.0 dB
LAS 66.6	60.5 dB
LAS 90.0	56.1 dB

Time History



Dark Mode

Noise Measurement Field Data

Project:	Yucca Valley CK	**Job Number:**	194420107
Site No.:	LT-1	**Date:**	6/25/2025-6/26/2025
Analyst:	Tanay Pradhan and Daniel Karz	**Time:**	4:30 p.m. - 4:30 p.m.
Location:	South-central portion of the project site		
Noise Sources:	Traffic along nearby streets		
Comments:			

Results (dBA):

Leq:	Lmin:	Lmax:	Peak:
63.4	52.0	75.4	93.3

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

Weather	
Temp. (degrees F):	92
Wind (mph):	9
Sky:	Clear
Bar. Pressure (inHg):	29.78
Humidity:	9%

Photo:

Kimley»Horn

Measurement Report

Report Summary

Meter's File Name	LxT_Data.102.s	Computer's File Name	LxTse_0005586-20250625 163045-LxT_Data.102.ldbin
Meter	LxT SE 0005586	Firmware	2.404
User		Location	
Job Description			
Note			

Measurement

Start Time	2025-06-25 16:30:45	Duration	24:00:00.0		
End Time	2025-06-26 16:30:45	Run Time	24:00:00.0	Pause Time	0:00:00.0
Pre-Calibration	2025-06-25 14:55:47	Post-Calibration	None	Calibration Deviation	---

Results

Overall Metrics

LA_{eq}	60.8 dB		
LAE	110.2 dB	SEA	--- dB
EA	11.5 mPa²h		
LA_{peak}	106.9 dB	2025-06-25 18:22:43	
LAS_{max}	92.5 dB	2025-06-25 18:22:43	
LAS_{min}	30.6 dB	2025-06-26 03:21:07	
LA_{eq}	60.8 dB		
LC_{eq}	74.2 dB	LC_{eq} - LA_{eq}	13.4 dB
LAI_{eq}	62.4 dB	LAI_{eq} - LA_{eq}	1.6 dB

Exceedances

	Count	Duration
LAS > 85.0 dB	3	0:00:11.2
LAS > 115.0 dB	0	0:00:00.0
LApk > 135.0 dB	0	0:00:00.0
LApk > 137.0 dB	0	0:00:00.0
LApk > 140.0 dB	0	0:00:00.0

Community Noise

LDN	LDay	LNight
65.0 dB	61.9 dB	57.6 dB

LDEN	LDay	LEve	LNight
65.3 dB	62.3 dB	60.2 dB	57.6 dB

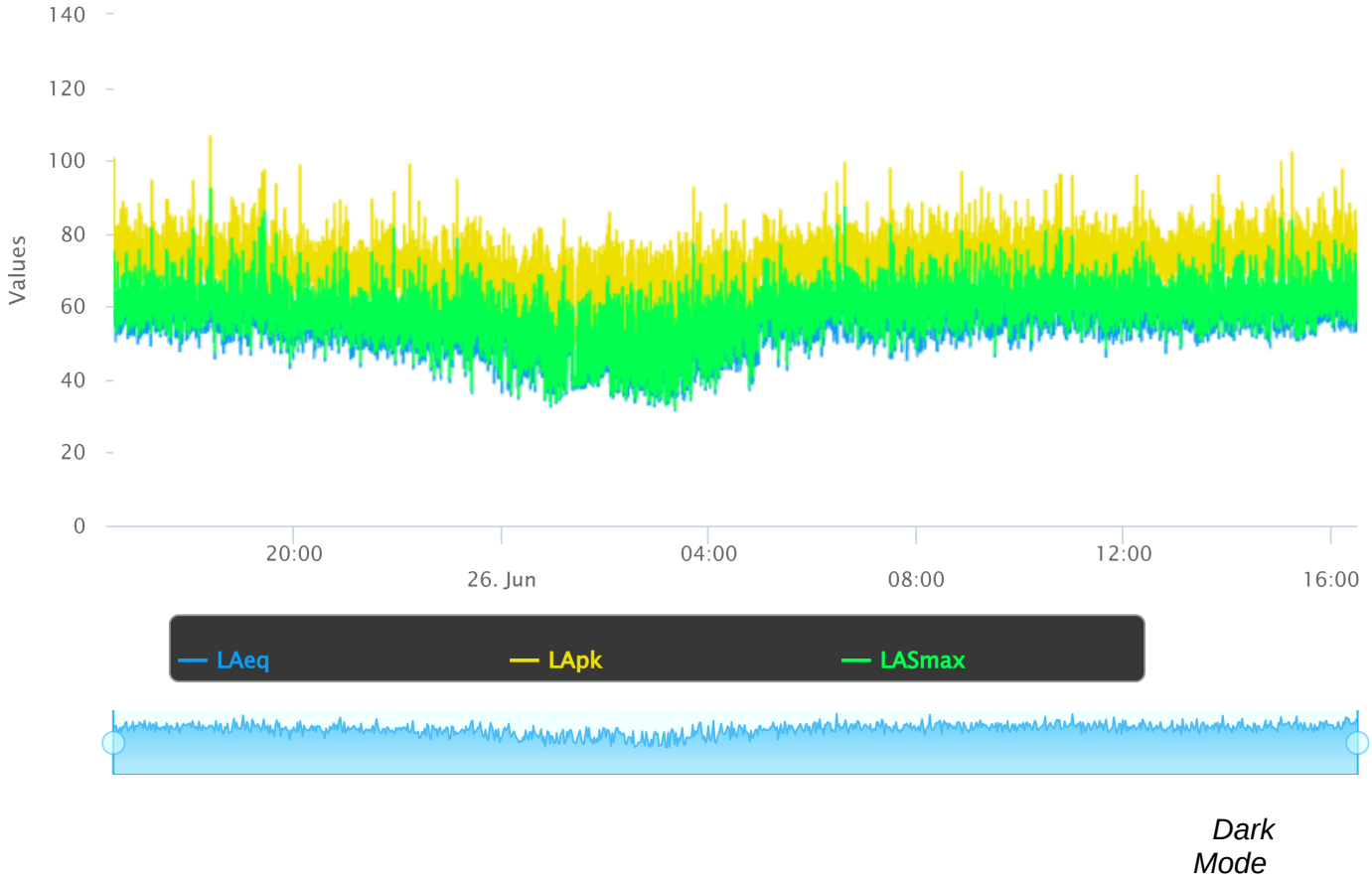
Any Data	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L_{eq}	60.8 dB		74.2 dB		--- dB	
$LS_{(max)}$	92.5 dB	2025-06-25 18:22:43	--- dB	None	--- dB	None
$LS_{(min)}$	30.6 dB	2025-06-26 03:21:07	--- dB	None	--- dB	None
$L_{Peak(max)}$	106.9 dB	2025-06-25 18:22:43	--- dB	None	--- dB	None

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

Statistics

LAS 5.0	65.6 dB
LAS 10.0	63.4 dB
LAS 33.3	58.5 dB
LAS 50.0	55.7 dB
LAS 66.6	52.7 dB
LAS 90.0	44.7 dB

Time History



Dark Mode

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

	Sensitive Receptor	Distance to Receptor (feet)	Direction	Shielding
1	Single-Family Residential Uses	114	NW	0
2	Single-Family Residential Uses	484	NE	0
3	Single-Family Residential Uses	677	SW	0

Construction Phase	Equipment Type	No. of Equip.	Acoustical Usage Factor	Reference Noise Level at 50ft per Unit, Lmax
Site Preparation				
	Grader	1	40%	85
	Scraper	1	40%	84
	Tractor	1	40%	84
	Combined LEQ			
Grading				
	Grader	1	40%	85
	Tractor	1	40%	84
	Tractor	1	40%	84
	Dozer	1	40%	82
	Combined LEQ			
Infrastructure Improvements				
	Concrete Saw	1	20%	90
	Excavator	1	40%	81
	Slurry Trenching Machine	1	50%	80
	Combined LEQ			
Building Construction				
	All Other Equipment > 5 HP	1	50%	85
	All Other Equipment > 5 HP	1	50%	85
	Tractor	1	40%	84
	Crane	1	16%	81
	Generator	1	50%	81
	Welder/Torch	3	40%	74
	Combined LEQ			
Paving				
	Pavement Scarafier	1	20%	90
	Tractor	1	40%	84
	Concrete Mixer Truck	1	40%	79
	Roller	1	20%	80
	Roller	1	20%	80
	Paver	1	50%	77
	Combined LEQ			
Architectural Coating				
	Compressor (air)	1	40%	78
	Combined LEQ			
Maximum Noise Level				

Source for Ref. Noise Levels: RCNM, 2005

	RECEPTOR	1		RECEPTOR	2		RECEPTOR	3
Distance, feet	Noise Level at Receptor 1, Lmax	Noise Level at Receptor 1, Leq	Distance, feet	Noise Level at Receptor 2, Lmax	Noise Level at Receptor 2, Leq	Distance, feet	Noise Level at Receptor 3, Lmax	Noise Level at Receptor 3, Leq
114	77.8	73.9	484	65.3	61.3	677	62.4	58.4
164	73.3	69.3	534	63.0	59.0	727	60.3	56.4
214	71.4	67.4	584	62.7	58.7	777	60.2	56.2
		75.8			**64.6**			**61.9**
114	77.8	73.9	484	65.3	61.3	677	62.4	58.4
164	73.7	69.7	534	63.4	59.4	727	60.7	56.8
214	71.4	67.4	584	62.7	58.7	777	60.2	56.2
214	69.1	65.1	584	60.4	56.4	777	57.9	53.9
		76.3			**65.3**			**62.6**
129	81.4	74.4	495	69.7	62.7	947	64.1	57.1
179	69.6	65.6	545	60.0	56.0	997	54.7	50.7
229	67.2	64.2	595	58.9	55.9	1047	54.0	51.0
		75.3			**64.2**			**58.8**
348	68.1	65.1	617	63.2	60.2	993	59.0	56.0
358	67.9	64.9	627	63.0	60.0	1003	59.0	55.9
368	66.7	62.7	637	61.9	57.9	1013	57.9	53.9
368	63.3	55.3	637	58.5	50.5	1013	54.5	46.5
378	63.0	60.0	647	58.4	55.4	1023	54.4	51.4
378	61.2	57.2	647	56.5	52.6	1023	52.6	48.6
		70.0			**65.2**			**61.1**
114	82.3	75.4	484	69.8	62.8	677	66.9	59.9
164	73.7	69.7	534	63.4	59.4	727	60.7	56.8
214	66.2	62.2	584	57.5	53.5	777	55.0	51.0
214	67.4	60.4	584	58.7	51.7	777	56.2	49.2
264	65.5	58.6	634	57.9	50.9	827	55.6	48.6
264	62.7	59.7	634	55.1	52.1	827	52.8	49.8
		76.8			**65.4**			**62.6**
348	60.8	56.9	617	55.9	51.9	993	51.7	47.8
		56.9			**51.9**			**47.8**
		76.8			**65.4**			**62.6**

Construction Truck Pass-By Noise

Source	Noise Level	Reference Dist. (feet)	Dist. to Receptor (feet)	Trucks	Distance Attenuation	Duration (minutes)
Truck passby (arrival, departure)	70	50	50	58	70.0	9.86
					Total*	9.86

Metric	Truck Pass-by Noise Levels at 50 feet from Roadway Centerline
$L_{eq(15\text{-}min)}$	68.2
L_{max}	70.0

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

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

Operational Noise Calculations

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

Mechanical Equipment

Sensitive Receptor	Reference Level (dBA)	Reference Distance (feet)[1]	Distance to Receptor (feet)[2]	Noise Level at Receptor (dBA)
1- Single-family Residential Uses (NW)	52	50	348	35.1
2- Single-family Residential Uses (NE)	52	50	617	30.2
3- Single-family Residential Uses (SW)	52	50	993	26.0

1. Source: Elliott H. Berger, Rick Neitzel, and Cynthia A. Kladden, *Noise Navigator Sound Level Database with Over 1700 Measurement Values* , July 6, 2010.
2. Distance based on the convenience store rooftop nearest the sensitive receptor.

Trash and Recycling Pick-up

Sensitive Receptor	Reference Level (dBA)	Reference Distance (feet)[1]	Distance to Receptor (feet)[2]	Noise Level at Receptor (dBA)
1- Single-family Residential Uses (NW)	85	3.3	413	43.1
2- Single-family Residential Uses (NE)	85	3.3	560	40.4
3- Single-family Residential Uses (SW)	85	3.3	1073	34.8

1. Source: Kariel, *H. G., Noise in Rural Recreational Environments* , Canadian Acoustics 19(5), 3-10, 1991.
2. Distance based on the trash enclousre located on the northeastern side of the project site.

Truck Delivery

Sensitive Receptor	Reference Level (dBA)	Reference Distance (feet)[1]	Distance to Receptor (feet)[2]	Noise Level at Receptor (dBA)
1- Single-family Residential Uses (NW)	64	50	392	46.1
2- Single-family Residential Uses (NE)	64	50	570	42.9
3- Single-family Residential Uses (SW)	64	50	880	39.1

1. Source: Elliott H. Berger, Rick Neitzel, and Cynthia A. Kladden, *Noise Navigator Sound Level Database with Over 1700 Measurement Values* , July 6, 2010.
2. Distance based on the parking lot area or underground storage tank area nearest the sensitive receptor.

Parking Lot and Fuel Dispensing

Sensitive Receptor	Reference Level (dBA)	Reference Distance (feet)[1]	Distance to Receptor (feet)[2]	Noise Level at Receptor (dBA)
1- Single-family Residential Uses (NW)	61	50	392	43.1
2- Single-family Residential Uses (NE)	61	50	570	39.9
3- Single-family Residential Uses (SW)	61	50	860	36.3

1. Source: Elliott H. Berger, Rick Neitzel, and Cynthia A. Kladden, *Noise Navigator Sound Level Database with Over 1700 Measurement Values* , July 6, 2010.
2. Distance based on the parking lot area or fuel pump nearest the sensitive receptor.

Landscape Maintenance

Sensitive Receptor	Reference Level (dBA)	Reference Distance (feet)[1]	Distance to Receptor (feet)[2]	Noise Level at Receptor (dBA)
1- Single-family Residential Uses (NW)	70	5	114	42.8
2- Single-family Residential Uses (NE)	70	5	485	30.3
3- Single-family Residential Uses (SW)	70	5	816	25.7

1. Source: U.S. EPA, Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances, 1971.
2. Distance based on the lanmdscape planter nearest the sensitive receptor.

Daytime Composite

Sensitive Receptor	Mechanical Equipment (dBA)	Trash and Recycling (dBA)	Truck Delivery (dBA)	Parking Lot and Fuel Dispensing (dBA)	Landscape Maintenance (dBA)	Combined Noise at Receptor (dBA)	Noise Standard (dBA)	Ambient (dBA)	Ambient + Operational (dBA)	Incremental Increase (dBA)
1- Single-family Residential Uses	35.1	43.1	46.1	43.1	42.8	50.2	55.0	49.9	53.0	3.1
2- Single-family Residential Uses	30.2	40.4	42.9	39.9	30.3	46.2	55.0	55.5	56.0	0.5
3- Single-family Residential Uses	26.0	34.8	39.1	36.3	25.7	42.1	55.0	53.5	53.8	0.3

Nighttime Composite

Sensitive Receptor	Mechanical Equipment (dBA)	Parking Lot and Fuel Dispensing (dBA)	Combined Noise at Receptor (dBA)	Noise Standard (dBA)	Ambient (dBA)	Ambient + Operational (dBA)	Incremental Increase (dBA)
1- Single-family Residential Uses	35.1	43.1	43.8	45.6	45.6	47.8	2.2
2- Single-family Residential Uses	30.2	39.9	40.3	51.2	51.2	51.5	0.3
3- Single-family Residential Uses	26.0	36.3	36.7	49.2	49.2	49.4	0.2

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

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			
Scenario	**Roadway**	**Segment**	**Lanes**	**Width**	**Volume**	**(mph)**	**Factor**	**Trucks**	**Trucks**	**50 Feet**	**70 CNEL**	**65 CNEL**	**60 CNEL**	**55 CNEL**
Existing	Diadem Drive	Prescott Avenue and Paxton Road	2	0	16	25	0	2.0%	1.0%	33.4	-	-	-	-
Existing Plus Project	Diadem Drive	Prescott Avenue and Paxton Road	2	0	64	25	0	2.0%	1.0%	39.4	-	-	-	-

[1] Distance is from the centerline of the roadway segment to the receptor location.

"-" = contour is located within the roadway right-of-way.