Appendix G

Noise and Vibration Assessment Letter Report

HELIX Environmental Planning, Inc.
1180 Iron Point Road, Suite 130
Folsom, CA 95630
916.435.1205 tel
619.462.0552 fax
www.helixepi.com

June 21, 2024 08951.00001.001

Mr. Vic Singh
SHK Group, LLC
5276 Penning Place
Fairfield, CA 94533

Subject: Raley Boulevard Truck Service and Parking Facility Noise and Vibration Assessment

Dear Mr. Singh:

HELIX Environmental Planning, Inc. (HELIX) has assessed the Noise and Vibration impacts associated with the construction and operation of the proposed Raley Boulevard Truck Service and Parking Facility (project) located in the City of Sacramento (City). Analysis within this report was prepared to support impact analysis pursuant to the California Environmental Quality Act (CEQA; Public Resources Code Sections 21000 et seq.), CEQA Guidelines (Title 14, Section 15000 et seq. of the California Code of Regulations). The analysis reviews the discussions of potential impacts and irreversible significant effects analyzed in the 2040 General Plan Master EIR (Master EIR) to determine their adequacy for the project (see CEQA Guidelines Section 15178(b),(c)) and identifies any potential new or additional project-specific significant environmental effects that were not analyzed in the Master EIR and any mitigation measures or alternatives that may avoid or mitigate the identified effects to a level of insignificance, if any (City 2023).

PROJECT LOCATION

The project site is located on an approximately 6.42-acre site located at 5221 Raley Boulevard in North Sacramento in the City of Sacramento (City). The project consists of Assessor's Parcel Number (APN): 215-0250-061. See Figure 1, *Site and Vicinity Map*, and Figure 2, *Aerial Map*, attached to this letter report.

PROJECT DESCRIPTION

The project would develop a truck service facility and a truck and trailer parking facility (described below). The project would be accessed from a driveway connecting to Raley Boulevard on the northeastern side of the project site. The project would include right-of-way improvements along the project's frontage with Raley Boulevard including widening Raley Boulevard by approximately 20 feet to accommodate a bicycle lane, landscaping, and new sidewalk. Total paving in the right-of-way would include 129,430 square feet (SF) of asphalt and 80,920 SF of concrete.

Additional project improvements would include: an employee/visitor vehicle parking area with nine parking spaces; an 8-foot-high wrought iron fence surrounding the truck repair facility and truck parking facility; a sidewalk connecting Raley Boulevard, the employee/customer parking area and the truck service facility; landscaping at the project entrance and along the project perimeter; a covered trash enclosure; and three stormwater retention basins in the northwest, southwest, and southeast corners of the project site. See Figure 3, *Site Plan*, attached to this letter report.

Truck Service Facility

The truck service facility would consist of a mechanics shop building with administrative/office space and three truck service bays. The building would be located within the truck and trailer parking facility (described below) and set back approximately 152 feet from the nearest front (east) property line, 191 feet from the nearest side (north), and 269 feet from the rear (west) property line. The mechanics shop building would total approximately 6,090 SF including: three approximately 499.2 SF (19.5 feet x 25.6 feet) truck servicing bays on the first floor; approximately 2,396 SF of office area (including a reception area, storage, two restrooms, and an office) on the first floor; and approximately 691 SF of storage space and a 320 SF breakroom located on a second floor above the office area. Each truck servicing bay would have 12-foot-high roll-up doors on the east and west ends.

Truck and Trailer Parking Facility

The truck and trailer parking facility would include 150 parking stalls, each with dimensions of 11 feet by 75 feet each. The truck/trailer parking stalls would be placed along the north, south, west, and east sides of the project site as well as in the central portion on either side of the mechanics shop building. Truck parking areas would be paved with asphalt. A 50-foot-wide truck concrete drive aisle would circle the mechanics shop building providing access to the truck/trial parking stalls. The project truck parking facility would not be used for storage of cargo which would require the operation of transport refrigeration units (TRUs) on the project site.

NOISE METRICS

All noise-level and sound-level values presented herein are expressed in terms of decibels (dB), with A weighting, abbreviated "dBA," to approximate the hearing sensitivity of humans. Time averaged noise levels of one hour are expressed by the symbol "L_{EQ}" unless a different time period is specified. Maximum noise levels are expressed by the symbol "L_{MAX}." Some of the data also may be presented as octave-band-filtered and/or A-octave band-filtered data, which are a series of sound spectra centered on each stated frequency, with half of the bandwidth above and half of the bandwidth below, the stated frequency. These data are typically used for machinery noise analysis and barrier-effectiveness calculations. The Community Noise Equivalent Level (CNEL) is a 24-hour average, where noise levels during the evening hours of 7:00 p.m. to 10:00 p.m. have an added 5 dBA weighting, and sound levels during the nighttime hours of 10:00 p.m. to 7:00 a.m. have an added 10 dBA weighting. This is similar to the Day Night sound level (L_{DN}), which is a 24-hour average with an added 10 dBA weighting on the same nighttime hours but no added weighting on the evening hours.

Because decibels are logarithmic units, S_{PL} cannot be added or subtracted through standard arithmetic. Under the decibel scale, a doubling of sound energy corresponds to a 3 dBA increase. In other words, 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 from one source under the same conditions. For example, if one automobile produces an S_{PL} of 70 dBA when it passes an observer, two cars passing simultaneously would not produce 140 dBA—rather, they would combine to produce 73 dBA. Under the decibel scale, three sources of equal loudness together produce a sound level 5 dBA louder than one source.

Under controlled conditions in an acoustic laboratory, the trained, healthy human ear is able to discern 1 dBA changes in sound levels, when exposed to steady, single-frequency ("pure-tone") signals in the mid-frequency (1,000 Hertz [Hz]–8,000 Hz) range. In typical noisy environments, changes in noise of 1 to 2 dBA are generally not perceptible. It is widely accepted, however, that people begin to detect sound level increases of 3 dB in typical noisy environments. Further, a 5 dBA increase is generally perceived as a distinctly noticeable increase, and a 10 dBA increase is generally perceived as a doubling of loudness.

VIBRATION METRICS

Ground-borne vibration consists of rapidly fluctuating motions or waves transmitted through the ground with an average motion of zero. Sources of ground-borne vibrations include natural phenomena and anthropogenic causes (e.g., explosions, machinery, traffic, trains, construction equipment). Vibration sources may be continuous (e.g., factory machinery) or transient (e.g., explosions). Peak particle velocity (PPV) is commonly used to quantify vibration amplitude. The PPV, with units of inches per second (in/sec), is defined as the maximum instantaneous positive or negative peak of the vibration wave.

ENVIRONMENTAL SETTING

Existing Noise Environment

Noise sources in the project vicinity are dominated by traffic noise from Raley Boulevard and from aircraft operating from Sacramento McClellan Airport approximately one mile east of the project site. Additional existing noise sources in the area include aircraft operating from the Rio Linda Airport approximately 0.9 mile to the northwest; a law enforcement outdoor firearms training range approximately 0.8 mile to the northeast; and truck noise from the existing industrial land uses northwest, north and northwest of the project site.

Noise-Sensitive Land Uses

Noise-sensitive land uses (NSLUs) are land uses that may be subject to stress and/or interference from excessive noise, including residences, hospitals, schools, hotels, resorts, libraries, sensitive wildlife habitat, or similar facilities where quiet is an important attribute of the environment. Noise receptors (receivers) are individual locations that may be affected by noise. The closest NSLU is a single-family residence approximately 870 feet west of the project site. Additional single-family residences are located approximately 1,160 and 1,260 feet southwest of the project site. The closest school to the project site is the Main Avenue Elementary School approximately 2,890 feet (0.55 mile) south of the project site.

Noise Survey

A site visit and noise survey was conducted on April 29, 2024, which included two short-term (15 minute) ambient noise measurements. Measurement M1 was conducted along the project's eastern property line, approximately 35 feet from the Raley Boulevard centerline. Measurement M2 was conducted near the center of the project site. See Figure 4, *Receiver and Measurement Locations*, attached to this letter report. The noise measurement survey notes are included as Attachment A to this report. The measured noise levels and notes are shown in Table 1, *Noise Measurement Results*. Traffic counts on Raley Boulevard were conducted during measurement M1: 140 cars/light duty trucks/vans; 4 medium trucks; and 13 heavy trucks. During the 15-minute measurement M1, trucks were approximately 11 percent of the total counted vehicles.

Table 1
NOISE MEASUREMENT RESULTS

M1	
Date	April 29, 2024
Time	10:20 a.m. – 10:35 a.m.
Location	Eastern edge of the project site, near Raley Boulevard
Noise Level	70.1 dBA L_{EQ}
Notes	Noise primarily from vehicular traffic on Raley Boulevard and aircraft operating out of Sacramento McClellan Airport to the east. Also, some noise from aircraft operating out of Rio Linda Airport to the northeast, and from a shooting range to the northwest. Traffic count: 140 cars/pickups; 4 medium trucks; 13 heavy trucks.
M2	
Date	April 29, 2024
Time	10:39 a.m. – 10:54 a.m.
Location	Near the center of the project site
Noise Level	68.9 dBA L_{EQ}
Notes	Noise primarily from vehicular traffic on Raley Boulevard and aircraft operating out of Sacramento McClellan Airport to the east. Also, some noise from trucks at the industrial businesses northwest, north, and northeast of the project site.

REGULATORY SETTING

City of Sacramento 2040 General Plan

The City's 2040 General Plan Environmental Resources and Constraints Element contains the following goals and policies related to noise and vibration that would be applicable to the project (City 2024).

Goal LUP-1: A compact urban footprint and sustainable development pattern with infrastructure that supports efficient delivery of public services while protecting surrounding open space lands.

> **Policy LUP 1.13**: Airport Land Use Compatibility. The City shall work with the Sacramento County Airport System (SCAS) and the Airport Land Use Commission (ALUC) to ensure that new development near the area's airports is compatible with airport operations, adopted ALUC policies, and applicable Airport Land Use Compatibility Plans.

Goal ERC-4: Collaborative action to address air pollution.

Policy ERC 4.3: Project Design. The City shall promote the incorporation of new technologies, materials, and design and construction techniques in private development projects that minimize air pollution, noise, excess heat, and other forms of pollution and its impacts.

Goal ERC-10: A healthy sound environment conducive to living and working.

Policy ERC 10.1: Exterior Noise Standards. The City shall require noise mitigation for all development where the projected exterior noise levels exceed those shown in Table ERC-1 (reproduced in this report as Table 2, *Exterior Noise Compatibility Standards for Various Land Uses*) to the extent feasible.

Table 2
EXTERIOR NOISE COMPATIBILITY STANDARDS FOR VARIOUS LAND USES

Land Use Type	Highest Level of Noise Exposure that is Regarded as "Normally Acceptable" (dBA LDN or CNEL) [a]
Residential—Low-Density Single-Family, Duplex, Mobile Homes [b, c]	60
Residential—Multi-Family [d]	65
Urban Residential Infill h and Mixed-Use Projects [e, f, g]	70
Transient Lodging—Motels, Hotels	65
Schools, Libraries, Churches, Hospitals, Nursing Homes	70
Auditoriums, Concert Halls, Amphitheaters	Mitigation based on site-specific study
Sports Arena, Outdoor Spectator Sports	Mitigation based on site-specific study
Playgrounds, Neighborhood Parks	70
Golf Courses, Riding Stables, Water Recreation, Cemeteries	75
Office Buildings—Business, Commercial, and Professional	70
Industrial, Manufacturing, Utilities, Agriculture	75

Source: City of Sacramento 2040 General Plan Table ERC-1 (2024)
dBA = A-weighted decibels; LDN = Day Night sound level; CNEL = Community Noise Equivalent Level

[a] As defined in the California Office of Planning and Research Guidelines, "Normally Acceptable" means that the "specified land use is satisfactory, based upon the assumption that any building involved is of normal conventional construction, without any special noise insulation requirements.

[b] Applies to the primary open space area of a detached single-family home, duplex, or mobile home, which is typically the backyard or fenced side yard, as measured from the center of the primary open space area (not the property line). This standard does not apply to secondary open space areas, such as front yards, balconies, stoops, and porches.

[c] The exterior noise standard for the residential area west of McClellan Airport known as McClellan Heights/Parker Homes is 65 dBA.

[d] Applies to the primary open space areas of townhomes and multi-family apartments or condominiums (private year yards for townhomes; common courtyards, roof gardens, or gathering spaces for multi-family developments). These standards shall not apply to balconies or small attached patios in multistoried multi-family structures.

[e] Applies to the Central City and areas with a Residential Mixed-Use designation.

[f] All mixed-use projects located anywhere in the City of Sacramento.

[g] See notes b and d above for definition of primary open space areas for single-family and multi-family developments.

Policy ERC 10.2: Noise Source Control. The City should require noise impacts in new developments to be controlled at the noise source where feasible, as opposed to the receptor end, using techniques including but not limited to the following:

- Site design,
- Building orientation,
- Building design, and
- Hours of operation

Policy ERC 10.5: Interior Vibration Standards. The City shall require construction projects that are anticipated to generate significant vibration levels to use appropriate methods (i.e., type of equipment, low-impact tools, modifying operations, increasing setback distance, vibration monitoring) to ensure acceptable interior vibration levels at nearby residential and commercial uses based on the current City or Federal Transit Administration (FTA) criteria.

Policy ERC 10.7: Vibration. The City shall consider the potential for vibration-induced damage associated with construction activities, highways, and rail lines in close proximity to historic buildings and archaeological sites. Where there is potential for substantial vibration-induced damage, the City shall require preparation of a Pre-Construction Survey and Vibration Management and Monitoring Plan, prepared by a qualified historic preservation specialist or structural engineer to document existing conditions, present appropriate methods to avoid or reduce potential vibration damage, monitor for excessive vibration, and ensure any damage is documented and repaired.

Policy ERC 10.9: Construction Noise Controls. The City shall limit the potential noise impacts of construction activities on surrounding land uses through noise regulations in the City Code that address permitted days and hours of construction, types of work, construction equipment, and sound attenuation devices.

Policy ERC 10.11: Hazardous Noise Protection. The City shall discourage outdoor activities or uses in areas within the 70 dBA CNEL airport noise contour where people could be exposed to hazardous noise levels.

City of Sacramento Municipal Code

Chapter 8.68 of the City' Municipal Code contains the noise regulations which would be applicable to the project:

Section 8.68.060 – Exterior Noise Standards.

a) The noise standards that apply to all agricultural and residential properties are:
   1. From 7 a.m. to 10 p.m. the exterior noise standard shall be 55 dBA.
   2. From 10 p.m. to 7 a.m. the exterior noise standard shall be 50 dBA.

b) It is unlawful for any person at any location to create any noise which causes the noise levels when measured on agricultural or residential property to exceed for the duration of time set forth following the specified exterior noise standards in any one hour by (shown in Table 3, *Exterior Noise Standards Allowable Increases*):

Table 3
EXTERIOR NOISE STANDARDS ALLOWBALE INCREASES

Cumulative Duration of the Intrusive Sound	Allowable Increase (dBA)
Cumulative period of 30 minutes per hour	0
Cumulative period of 15 minutes per hour	+5
Cumulative period of 5 minutes per hour	+10
Cumulative period of 1 minutes per hour	+15
Level not to be exceeded for any time per hour	+20

Source: City of Sacramento City Code Section 8.68.060(1)(B)
dBA = A-weighted decibels

c) Each of the noise limits specified in subsection B of this section shall be reduced by five dBA for impulsive or simple tone noises, or for noises consisting of speech or music.

d) If the ambient noise level exceeds that permitted by any of the first four noise categories specified in subsection B of this section, the allowable noise limit shall be increased in five dBA increments in each category to encompass the ambient noise level. If the ambient noise level exceeds the fifth noise level category, the maximum ambient noise level shall be the noise limit for that category.

Section 8.68.080 – Exemptions.

The following activities shall be exempted from the provisions of this chapter [only exclusions relevant to the project shown]:

D. Noise sources due to the erection (including excavation), demolition, alteration or repair of any building or structure between the hours of seven a.m. and six p.m., on Monday, Tuesday, Wednesday, Thursday, Friday and Saturday, and between nine a.m. and six p.m. on Sunday; provided, however, that the operation of an internal combustion engine shall not be exempt pursuant to this subsection if such engine is not equipped with suitable exhaust and intake silencers which are in good working order. The director of building inspections, may permit work to be done during the hours not exempt by this subsection in the case of urgent necessity and in the interest of public health and welfare for a period not to exceed three days. Application for this exemption may be made in conjunction with the application for the work permit or during progress of the work.

Section 8.68.200 – Specific unlawful noises.

Notwithstanding any other provision of the chapter to the contrary, the following acts, among others, are declared to be loud, disturbing, and unnecessary noises in violation of this chapter, but such enumeration shall not be deemed to be exclusive, namely [only acts relevant to the project shown]:

D. Pile Drivers, Hammers, Etc. The operation between the hours of ten p.m. and seven a.m. of any pile driver, steam shovel, pneumatic hammer, derrick, steam or electric hoist or other appliance, the use of which is attended by loud or unusual noise.

E. Tools. The use or operation between the hours of ten p.m. and seven a.m. of any power saw, power planer, or other powered tool or appliance or saw or hammer, or other tool, so as to disturb the quiet, comfort, or repose of persons in any dwelling, hotel, motel, apartment, or other type of residence, or of any person in the vicinity.

METHODOLOGY AND ASSUMPTIONS

Noise Modeling Software

Project construction noise was analyzed using the U.S. Department of Transportation (USDOT) Roadway Construction Noise Model ([RCNM]; USDOT 2008), which utilizes estimates of sound levels from standard construction equipment.

Modeling of the exterior noise environment for this report was accomplished using the Computer Aided Noise Abatement (CadnaA) model version 2023. Traffic noise was evaluated using the U.S. Department of Transportation (USDOT) Traffic Noise Model version 2.5 (TNM; USDOT 2004). The noise models used in this analysis were developed from the site plan provided by the project architect. Input variables included building mechanical equipment reference noise levels, truck back-up alarm reference noise levels, road alignment, lane configuration, projected traffic volumes, estimated truck composition percentages, and vehicle speeds.

Off-Site Traffic Noise

The one-hour L_{EQ} traffic noise level is calculated utilizing peak-hour traffic. For typical urban and suburban traffic patterns, the model-calculated afternoon peak hour (PM peak hour) L_{EQ} noise output is equivalent to the CNEL (California Department of Transportation [Caltrans] 2013). The traffic noise modeling does not account for noise attenuation from terrain, buildings, or structures (e.g., sound walls). The City provides average daily traffic (ADT) and PM peak hour count data for street segments in the City. The increase in traffic noise as a result of the project's addition to traffic was modeled using the most recent traffic count data available from the City for three segments of Raley Boulevard near the project site: Grace Street to Main Street, Santa Ana Avenue to Vinci Avenue, and Vinci Avenue to Ascot Avenue (City 2017). Traffic as modeled at the posted speed limit of 50 miles per hour (mph) for the analyzed segments of Raley Boulevard. Traffic was assumed to comprise the mix of vehicles observed during the noise measurement described above: 89 percent cars and light trucks; 2 percent medium trucks; and 9 percent heavy trucks.

The project's contribution to traffic on Raley Boulevard was estimated using project trip generation calculations and rates from the City of San Diego Land Development Code Trip Generation Manual which has trip generation rates for a truck repair service (2.5 trips per 1,000 SF of administrative office space plus 140 trips per site) and for a truck parking facility (60 trips per acre) (City of San Diego 2003). Using these trip generation rates, the project would generate 424 average daily trips (ADT), conservatively assuming there would be no internal trip capture (project truck service customers coming from the project truck parking facility). To estimate the mix of cars and trucks, 30 ADT were assumed to be project employee commute trips, one half of the truck parking facility trips were assumed to be truck driver car commute trips (139 ADT) and the remaining project trips (255 ADT) were assumed to be truck trips. Based on data from the City of San Diego Trip Generation Manual, 41 project PM peak hour trips were calculated (9.7 percent of project ADT). All project truck trips were assumed to be by heavy duty

trucks (gross vehicle weight more than 33,000 pounds). Because the distribution of project traffic was unknown, all segments of Raley Boulevard were conservatively assumed to carry 100 percent of the project traffic. A printout of the project trip generation calculation sheet is included as Attachment B to this letter report. The PM peak hour traffic volumes used in the analysis are shown in Table 4, *Raley Boulevard PM Peak Hour Traffic Volumes*.

Table 4
RALEY BOULEVARD PM PEAK HOUR TRAFFIC VOLUMES

Roadway Segment	Existing (Year)	Existing + Project
Grace Avenue to Main Street	1,319 (2008)	1,360
Santa Ana Avenue to Vinci Avenue	1,032 (2007)	1,073
Vinci Avenue to Ascot Avenue	1,074 (1998)	1,115

Source: City 2017

On-Site Noise Sources

Building Mechanical Equipment

The project mechanics shop would use a heating, ventilation, and air conditioning (HVAC) system for heating and cooling the office space, restroom, and break room. Standard HVAC planning assumes approximately one ton of HVAC for every 350 to 500 SF of occupied office space (American Society of Heating, Refrigeration, and Air Conditioning Engineers [ASHRAE] 2012). Specific planning data for the future HVAC system was not available at the time of this analysis. For the purposes of this analysis, one Carrier 50PG08 7.5-ton HVAC unit, which has a sound power level (S_{WL}) of 80.0 dBA (Carrier 2008), was assumed. The HVAC system was assumed to be mounted on the ground next to the project building and was modeled in continuous operation. The manufacturer's noise data for the HVAC units is provided below in Table 5, *Building HVAC Noise Data*.

Table 5
BUILDING HVAC NOISE DATA

63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz	Overall Noise Level in A-weighted Scale (dBA)[1]
91.7	83.6	81.0	77.9	75.0	69.9	66.0	59.3	80.0

Source: Carrier 2008
[1] Sound Power Levels (S_{WL})
Note: Noise levels in decibels (dB) measured at octave frequencies
Hz = Hertz; kHz = kilohertz

Project On-Site Trucks

Trucks would operate on the project site while accessing the project truck repair facility or the project truck parking areas. Trucks would enter and exit the site from the driveway on Raley Boulevard, circulate around the project site via the truck aisle which circles the project building. Each truck was assumed to circulate on the project site at an average speed of 10 miles per hour (mph), then reverse to a parking stall at 3 mph. Each truck was assumed to idle at the parking stall for the maximum allowable time of

five minutes, in accordance with CCR Title 13, Section 2485. Truck movements were modeled in CadnaA as road sources and idling trucks were molded as a point sources.

There are no California or federal regulations which require on-road trucks to be equipped with backup warning devices. However, backup alarms are commonly used on local delivery truck and van fleets due to safety/liability concerns. The most common truck backup alarm is a pulsing single tone, typically at one kHz. Recently, in response to noise complaints, backup alarms which produce a less intrusive pulsing broad-spectrum noise have been introduced. To be conservative, all trucks were assumed to be equipped with a traditional one kHz back up alarm, mounted on the back of the truck at a height of three feet. Backup alarms were modeled as line sources with typical noise levels of 109.7 dBA measured at a distance of four feet.

Project on-site noise generation was modeled for the peak daytime hour and peak nighttime hour. Operating hours for the project were not known at the time of this analysis. The project truck repair service was assumed to operate during daytime hours only (7:00 a.m. to 7:00 p.m.). The project truck parking facility was assumed to operate 24-hours per day. The daytime peak hour noise generation was based on the PM peak hour trip generation data from the City of San Diego: 11 percent of ADT for the truck repair service and 9 percent of ADT for the truck parking facility, resulting in 26 trucks circulating on the project site (13 entering and 13 exiting) and 13 trucks reversing into a parking stall and idling for five minutes. Peak nighttime hour truck activity on the project site (between 10:00pm. and 7:00 a.m.) was assumed to be 50 percent of the truck parking facility PM peak hour truck trips, resulting in 7 trucks circulating on the project site (3 to 4 entering and 3 to 4 exiting) and 4 trucks reversing into a parking stall and idling for five minutes. The parking stalls in use were assumed to be distributed approximately evenly in the project perimeter truck parking area.

Mechanics Shop Equipment and Tools

Truck service and repair activities would include the use of equipment and tools which would be a potential source of noise including: an air compressor; pneumatic impact wrenches; and tire removal/installation equipment. Truck service and repair activities were assumed to occur within the mechanics shop with all bay doors open.

Air Compressor

The specific model of air compressor to be installed in the proposed building has not been determined as of this analysis. This analysis assumes a DeWalt 60-gallon vertical stationary air compressor with a rated noise level of 83 dBA at a distance of 3 feet (De Walt 2024). The compressor was assumed to operate at a 50 percent duty cycle (30 minutes per hour).

Impact Wrenches

The specific model(s) of pneumatic impact wrench to be used in the project has not been determined as of this analysis. It anticipated that a ¾ inch drive impact wrench would be required for removal and installation of truck wheels. Data was not available for ¾ inch impact wrenches. Therefore, the modeling assumes the wrenches would be twice as loud (6 dBA higher) that the noise of an Ingersoll-Rand ½" dive impact wrench, as measured by HELIX. The modeled sound power level is shown in Table 6, *Three-Impact Wrench Noise Data (S_{WL} dBA).* The modeling assumes that six impact wrenches would be in

concurrent operation (one wrench 15 feet inside each of the six service bay rollup doors. Each wrench was assumed to be operated 15 minutes per hour.

Table 6
INCH IMPACT WRENCH NOISE DATA (S_{WL} dBA)

31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz	Overall Noise Level
58.9	63.1	71.1	76.0	80.8	81.7	83.4	85.7	86.5	91.3

S_{WL} = sound power level; Hz = Hertz; kHz = kilohertz

Tire Removal and Installation

Machines to remove and install tires on truck wheels were assumed to be required for the project. Typical noise produced by tire removal/installation was taken from measurements done for a Colorado State University study of noise exposure at tire changing facilities. The measured tire removal/installation machine produced 83.2 dBA at 2 feet (approximately equivalent to S_{WL}). A compressed air tire bead seating machine produced 111.3 dBA at 2 feet (Willson-Kerns 2019). One tire removal/installation machine and one tire bead seating machine was assumed to be used once per hour for 30 seconds in each service bay.

STANDARDS OF SIGNIFICANCE

Based on Appendix G of the CEQA Guidelines, implementation of the project would result in a significant adverse impact if it would:

1. Generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the City of Sacramento General Plan or noise ordinance;

2. Generate excessive ground-borne vibration or ground-borne noise levels; or

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 use airport or private airstrip, expose people residing or working in the project area to excessive noise.

Per City Municipal Code Section 8.68.060, noise generated on the project site would be significant if it resulted in noise measured on agricultural or residential property: which exceeds 55 dBA for a cumulative period of 30 minute per hour or 75 dBA L_{MAX} from 7:00 a.m. to 10 p.m.; or which exceeds 50 dBA for a cumulative period of 30 minute per hour or 70 dBA L_{MAX} from 10:00 p.m. to 7 a.m.

Consistent with the standards of significance used in the Master EIR, a project's contribution to traffic noise would be significant if it would result in a permanent increase of 5 dBA for areas exposed to existing ambient levels less than 60 CNEL or L_{DN}, a permanent increase of 3 dBA for areas exposed to ambient levels between 60 and 65 CNEL or L_{DN}, or a permanent increase of 1.5 dBA for areas exposed to ambient levels above 65 CNEL or L_{DN} (City 2023).

Per the City General Plan Policy ERC-10.5, the significance of ground-borne vibration generate by project construction activities would be significant if interior levels at nearby commercial and residential uses

exceed criteria established by the FTA. Per the FTA Transit Noise and Vibration Manual, construction vibration would be significant if the level would exceed the vibration damage criteria: 0.5 inches per second PPV for reinforced-concrete, steel or timber (no plaster) buildings; 0.3 inches per second PPV for engineered concrete and masonry (no plaster) buildings; 0.2 inches per second PPV for non-engineered timber and masonry buildings; or 0.12 inches per second PPV for buildings extremely susceptible to vibration damage (FTA 2018).

Noise measured on the project site from aircraft and airport operations would be excessive if it would exceed the City General Plan industrial use noise compatibility normally acceptable limit of 75 CNEL or L_{DN}.

IMPACT ANALYSIS

Issue 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 City of Sacramento General Plan or noise ordinance?

Summary of Analysis Under the 2040 General Plan Master EIR and Applicable General Plan Policies

Less than The Master EIR analyzed whether implementation of the 2040 General Plan could result in a substantial temporary increase in ambient noise levels in excess of established City standards in Impact 4.11-2. The Master EIR concluded that compliance with the construction noise exemption hours presented in the City Code (Section 8.68.08) would help to ensure noise generated in association with construction and maintenance activities would only occur during the hours specified. However, construction noise, especially use of pile drivers or other noisy equipment, or where construction activities could take place outside these time periods for portions of the project such as large continuous concrete pours for commercial buildings, could disturb noise sensitive uses, even on a short-term basis. Therefore, impacts from temporary or periodic increases in the ambient noise levels and temporary or periodic exceedances of the City's noise level standards would occur resulting in a potentially significant impact. Compliance with Master EIR mitigation measure NOI-01, Construction Noise, would ensure effective management of construction noise levels and compliance with the 2040 General Plan policies and City Code and would be sufficient to mitigate the impact to less than significant.

The Master EIR analyzed whether implementation of the 2040 General Plan would have the potential to result in a substantial permanent increase in ambient noise levels in excess of established City standards in Impact 4.11-1. Stationary noise sources are addressed through project design in Policy ERC 4.3 (Project Design); exterior noise level standards in Policies ERC 10.1 (Exterior Noise Standards) and ERC 10.2 (Noise Source Control); interior noise level standards in Policies ERC 10.3 (Interior Noise Standards) and ERC 10.4 (Interior Noise Review for Multiple, Loud, Short-Term Events); and through the development of zoning standards as outlined in Implementing Action EJ-A.5 (Performance Zoning). Traffic noise sources are addressed through the exterior noise level standards in Policy ERC 10.1 and interior noise level standards in Policies ERC 10.3 and ERC 10.4, as well as the use of alternative paving materials (e.g., quiet pavements) included in Policy ERC 10.8. The Master EIR concluded that implementation of the 2040 General Plan policies would protect future noise-sensitive land uses from

exposure to excessive noise levels from surface transportation noise through appropriate consideration of the compatibility of an individual projects relative to the ambient noise environment. However, existing noise sensitive receptors located adjacent to some roadway segments would have the potential to experience permanent increases in excess of the exterior land General Plan use compatibility standards. Therefore, the exposure of existing/baseline, Future 2040 and Cumulative noise-sensitive land uses to substantial noise increases as a result of the future growth under the 2040 General Plan would be a potentially significant impact. Implementation of noise attenuation measures sufficient to reduce noise level exposure to below the City's exterior land use compatibility standards may not be feasible due to limitations on allowable roadway modifications, inadequate right-of-way space for construction of a berm or noise barrier/screen, or limitation due to ingress and egress paths. Consequently, the impact resulting from permanent increase in ambient noise would be significant and unavoidable.

Project Impact Analysis

Less than Significant Impact with Mitigation.

Construction Noise

Construction noise impacts would be temporary and would cease completely at the completion of project construction. As described above, the closest existing NSLUs to the project site a single-family residence approximately 870 feet to the west. Heavy earthmoving equipment used during grading would have the potential to be used along the project's periphery, including dozers, backhoes, and graders. Modeling with the RCNM shows that the combined noise from a dozer, backhoe, and grader would result in 58.4 dBA L_{EQ} at a distance of 870 feet. The modeling output for the anticipated construction equipment is included in Attachment C to this report. This level of noise would exceed the City noise ordinance daytime exterior noise standard of 55 dBA and daytime exterior noise standard of 50 dBA. The City Municipal Code Section 8.68.080 exempts construction noise from the noise ordinance standards if the activity occurs between the hours of 7:00 a.m. and 6:00 p.m. Monday through Saturday and between 9:00 a.m. and 6:00 p.m. on Sunday. Construction which occurs outside of these hours would result in a potentially significant impact. Mitigation measure NOI-01 from the Master EIR would restrict construction hours and require best management practices for minimization of construction noise. Mitigation measure NOI-01 would reduce impacts from project temporary construction noise to less than significant.

Operational Noise

On-Site Noise

As described above, project operation noise sources would include the building HVAC system, the use of equipment and tools within the mechanics shop (assuming all truck bay door would be open), trucks circulating on the project site, trucks reversing into parking stalls (with backup alarms), and trucks idling for the maximum allowable five minutes. Receivers were placed at a height of 5 feet on the property lines for the three closest residences to the project site and at five points on the property lines for the industrial uses northwest, north and northwest of the project site. See Figure 4 for modeled receiver locations.

The calculated peak daytime and peak nighttime hour noise level results are compared to the City's noise standards measured at the receiving property boundary in Table 7, *Operational Hourly Noise*. The CadnaA modeling output tables are included as Attachment D to this report.

Table 7
OPERATIONAL HOURLY NOISE

Receiver Number	Land Use	Project Noise Day/Night (dBA L_{EQ})	City Noise Limit Day/Night (dBA)[1]	*Exceed Standards?*
R1	Residential	46.9/40.1	55/50	*No*
R2	Residential	43.6/36.8	55/50	*No*
R3	Residential	43.5/36.8	55/50	*No*
I1	Industrial	57.4/51.3	None	*No*
I2	Industrial	62.5/56.3	None	*No*
I3	Industrial	63.0/56.3	None	*No*
I4	Industrial	60.3/53.6	None	*No*
I5	Industrial	56.5/50.0	None	*No*

Source: CadnaA
[1] Noise limit from City Municipal Code Section 8.68.060.
dBA = A-weighted decibel; L_{EQ} = time-averaged noise level

As shown in Table 7, the project's on-site generated operational noise would not exceed the City's daytime or nighttime standards measured at the closest residential land uses. The City has not adopted a standard for the significance of project noise received by an industrial land use. Therefore, the L_{DN} resulting from the highest calculated project operational noise (at reviver I4) at the industrial use north was compared to the City's maximum normally acceptable noise level for industrial land uses. The L_{DN} calculation conservatively assumes the peak hour daytime noise (63.0 dBA) would occur every hour from 7:00 a.m. to 7:00 p.m. and the peak nighttime noise (56.3 dBA) would occur every hour from 7:00 p.m. to 7:00 a.m. The L_{DN} nighttime weighting of 10 dBA was applied to all hours from 10:0 p.m. to 7:00 a.m. The resulting noise level at receiver I4 would be 64.2 L_{DN}, below the City's 75 L_{DN} maximum normally acceptable noise level for industrial land uses. Therefore, impacts from project operational on-site generated noise would be less than significant.

Off-Site Traffic Noise

The project would generate vehicular traffic along nearby roadways. As described above, the TNM was used to calculate the peak p.m. hour noise for Existing and Existing Plus Project scenarios for three segments of Raley Boulevard near the project site. The results of the off-site traffic noise modeling are shown in Table 8, *Off-Site Traffic Noise Levels*.

Table 8
EXISTING OFF-SITE TRAFFIC NOISE LEVELS

Roadway Segment	Distance to Nearest NLSU (ft)	Existing (dBA L_{EQ})	Existing + Project (dBA L_{EQ})	Project-Generated Increase (dBA L_{EQ})
Grace Avenue to Main Street	50	72.5	73.0	0.5
Santa Ana Avenue to Vinci Avenue	100[1]	68.3	68.9	0.6
Vinci Avenue to Ascot Avenue	50	71.4	72.0	0.6

Source: TNM

[1] No NSLU along this road segment, distance to the closest industrial building shown.

As shown in Table 8, the maximum increase in ambient traffic noise along Raley Boulevard because of project-generated car and truck trips would be 0.6 dBA. This increase would not exceed the standard of a maximum allowable 1.5 dBA increase in traffic noise where the exiting noise level exceeds 65 dBA. Therefore, impacts from project operational traffic noise would be less than significant.

Impact Conclusion

Project operations on-site generated noise and the project's contribution to traffic noise would not exceed the City standards. Project construction noise would be potentially significant if noise generating construction activities would occur outside the hours of 7:00 a.m. to 6:00 p.m. Monday through Saturday and 9:00 a.m. to 6:00 p.m. on Sunday. Mitigation measure NOI-1 from the Master EIR would reduce the impact of project construction noise to less than significant. Therefore, the project would not generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the City of Sacramento General Plan or noise ordinance. The impact would be less than significant with mitigation incorporated, and the project would not result in a new or more severe impact than identified in the Master EIR.

Mitigation Measures

NOI-1: Construction Noise. The following measure shall be implemented by all construction contractors to reduce the effects of noise levels generated from construction activities.

- Construction hours shall be limited to 7:00 a.m. to 6:00 p.m. Monday through Saturday and between 9:00 a.m. and 6:00 p.m. on Sunday. Construction outside of these hours may be approved through a development permit based on a site-specific "construction noise mitigation plan" and a finding by the Director of Community Development or their designee that the construction noise mitigation plan is adequate to prevent excessive noise disturbance of affected residential uses. Because it is anticipated that certain construction activities (such as continuous pours of concrete foundations) may require work outside normally permitted construction hours (e.g., overnight), the project's Development Permit would allow for such construction activities, subject to conditions of approval, including performance standards, imposed by the City to limit noise impacts.

- Construction equipment and vehicles shall be fitted with efficient, properly operating noise suppression devices (e.g., mufflers, silencers, wraps) that meet or exceed manufacture specifications. Mufflers and noise suppressors shall be properly maintained and tuned to ensure proper fit, function and minimization of noise.

- Impact tools and equipment that is particularly loud (e.g., concrete saws) shall have the working area/impact area shrouded or shielded, with intake and exhaust ports on power equipment muffled or suppressed. The use of temporary or portable, application-specific noise shields or barriers, or temporary construction barriers adjacent to or at the boundary of the construction area may be necessary to reduce associated noise levels.

- Construction equipment shall not be idled for extended periods (e.g., 5 minutes or longer) of time in the immediate vicinity of noise-sensitive receptors. Stationary noise-generating equipment such as air compressors or portable power generators shall be located as far as possible from sensitive receptors. Temporary noise barriers shall be constructed, if needed, to screen stationary noise-generating equipment when located near adjoining noise-sensitive land uses.

- For major construction projects: a designated on-site disturbance coordinator shall be designated by the general contractor and shall post contact information in a conspicuous location near the entrance(s) of the construction site, so it is clearly visible to passers-by and nearby receptors. The coordinator shall document and manage complaints resulting from the construction noise. The disturbance coordinator shall determine the cause of the noise complaint (e.g., inoperative muffler) and shall require that reasonable measures be implemented to correct the problem. Reoccurring disturbances shall be evaluated by a qualified acoustical consultant retained by the project applicant to ensure compliance with applicable standards.

Issue 2

Would the project generate excessive ground-borne vibration or ground-borne noise levels?

Summary of Analysis Under the 2040 General Plan Master EIR and Applicable General Plan Policies

The Master EIR analyzed whether implementation of the 2040 General Plan would result in excessive construction ground-borne vibration in Impact 4.11-3. The Master EIR concluded that implementation of the 2040 General Plan policies and effective review of new projects eliminates or reduces the potential exposure to excessive ground-borne noise and vibration levels. Therefore, impacts would be less than significant, and no mitigation would be required.

Project Impact Analysis

Less than Significant Impact. Construction activities known to generate excessive ground-borne vibration, such as pile driving, would not be conducted by the project. A possible source of vibration during general project construction activities would be a vibratory roller used for gravel or pavement compaction. A vibratory roller could be used up to 115 feet from the closest off-site structure (an

industrial building north of the project site). A large vibratory roller can create approximately 0.210 inch per second PPV at 25 feet (FTA 2018). At a distance of 115 feet, a large vibratory roller would create a PPV of 0.021 inches per second,[1] and would not exceed the FTA vibration damage criteria of 0.5 inches per second PPV for a reinforced-concrete, steel or timber building. Therefore, the project would not generate excessive ground-borne vibration or ground-borne noise levels. The impact would be less than significant, no mitigation would be required, and the project would not result in a new or more severe impact than identified in the Master EIR.

Issue 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 use airport or private airstrip, would the project expose people residing or working in the project area to excessive noise?

Summary of Analysis Under the 2040 General Plan Master EIR and Applicable General Plan Policies

The Master EIR analyzed whether implementation of the 2040 General Plan would expose people residing or working in the project area to excessive noise from aircraft and airport operations in impact 4.11-4. The Master EIR concluded that the 65 CNEL Land Use Compatibility Noise Contours for Sacramento International Airport, McClellan Airport, and Mather Airport do not cross over into the city limits. The 65 dBA CNEL Land Use Compatibility Noise Contours for Sacramento Executive Airport are contained within the airport property The Rio Linda Airport is a privately-owned and operated airport that is open for general public aviation use and the 65 CNEL contour remains primarily on airport property. Existing and future noise sensitive uses within the Planning Area would not be exposed to excessive aircraft noise levels. The impact would be less than significant, and no mitigation would be required.

Project Impact Analysis

Less than Significant Impact. The closest airports to the project site are the Rio Linda Airport approximately 0.9 mile to the northwest and the Sacramento McCellan approximately 1.0 mile to the east. The project site is not within any of the mapped airport noise contours, including the 65 CNEL contour for the Rio Linda Airport and the 60 CNEL contour for the Sacramento McCellan Airport (Sacramento Area Council of Governments [SACOG] 2021). Therefore, although aircraft may be audible in the airspace around the project site, persons working in the project area would not be exposed to excessive noise levels from aircraft or airports. The impact would be less than significant, no mitigation would be required, and the project would not result in a new or more severe impact than identified in the Master EIR.

[1] Equipment PPV = Reference PPV * $(25/D)^n$(in/sec), where Reference PPV is PPV at 25 feet, D is distance from equipment to the receptor in feet, and n= 1.5 (FTA 2018)

SUMMARY

With implementation of mitigation from the Master EIR to restrict project construction hours and require construction noise best management practices, the project would not result in a temporary or permanent increase in ambient noise levels in excess of City Standards. The project would not result in the generation of excessive ground-borne vibration, and the project would not expose persons to excessive noise from aircraft or airport operations. Impacts related to noise and vibration would be less than significant and would not result in a new or more severe impact than identified in the Master EIR.

Sincerely,

Martin Rolph
Noise Specialist

Jason Runyan
Noise Specialist, QA/QC

Attachments:

Figure 1:	Site and Vicinity Map
Figure 2:	Aerial Map
Figure 3:	Site Plan
Figure 4:	Measurement and Receiver Locations
A:	Noise Survey Sheets
B:	Trip Generation Calculation Sheet
C:	RCNM Output
D:	CadnaA Output

REFERENCES

American Society of Heating, Refrigeration, and Air Conditioning Engineers (ASHRAE). 2012. ASHRAE Handbook.

California Department of Transportation (Caltrans). 2013. 2013. Technical Noise Supplement (TeNS) to the Traffic Noise Protocol. September. Available at: https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/tens-sep2013-a11y.pdf.

Carrier. 2008. 50PG03 – 28 Product Data. Available at: https://www.shareddocs.com/hvac/docs/1009/Public/01/50PG-06PD.pdf.

DeWalt. 2024. DXCMLA3706056 Vertical Stationary Electric Air Compressor (60 Gal). Available at: https://www.dewalt.com/product/dxcmla3706056/vertical-stationary-electric-air-compressor-60-gal. Accessed June 5.

Federal Transit Administration (FTA). 2018. Transit Noise and Vibration Impact Assessment Manual. September. Available at: https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf.

Sacramento, City of (City). 2024. Sacramento 2040 General Plan Environmental Resources and Constraints Element. Adopted February 27. Available at: https://www.cityofsacramento.gov/content/dam/portal/cdd/Planning/adopted-2040-general-plan/2040%20GP_2-06_Environmental%20Resources%20and%20Constraints_Adopted.pdf.

2023. Draft Master Environmental Impact Report, Sacramento 2040 General Plan and Climate Action and Adaptation Plan, SCH# 2019012048. August. Available at: https://www.cityofsacramento.gov/content/dam/portal/cdd/Planning/Environmental-Impact-Reports/2040-gpu-and-caap/Sacramento-2040-Plan-Final-MEIR_1-2024.pdf.

2017. City of Sacramento Historical Traffic Counts. Published Aprile 23. Available at: https://data.cityofsacramento.org/datasets/SacCity::traffic-counts/explore.

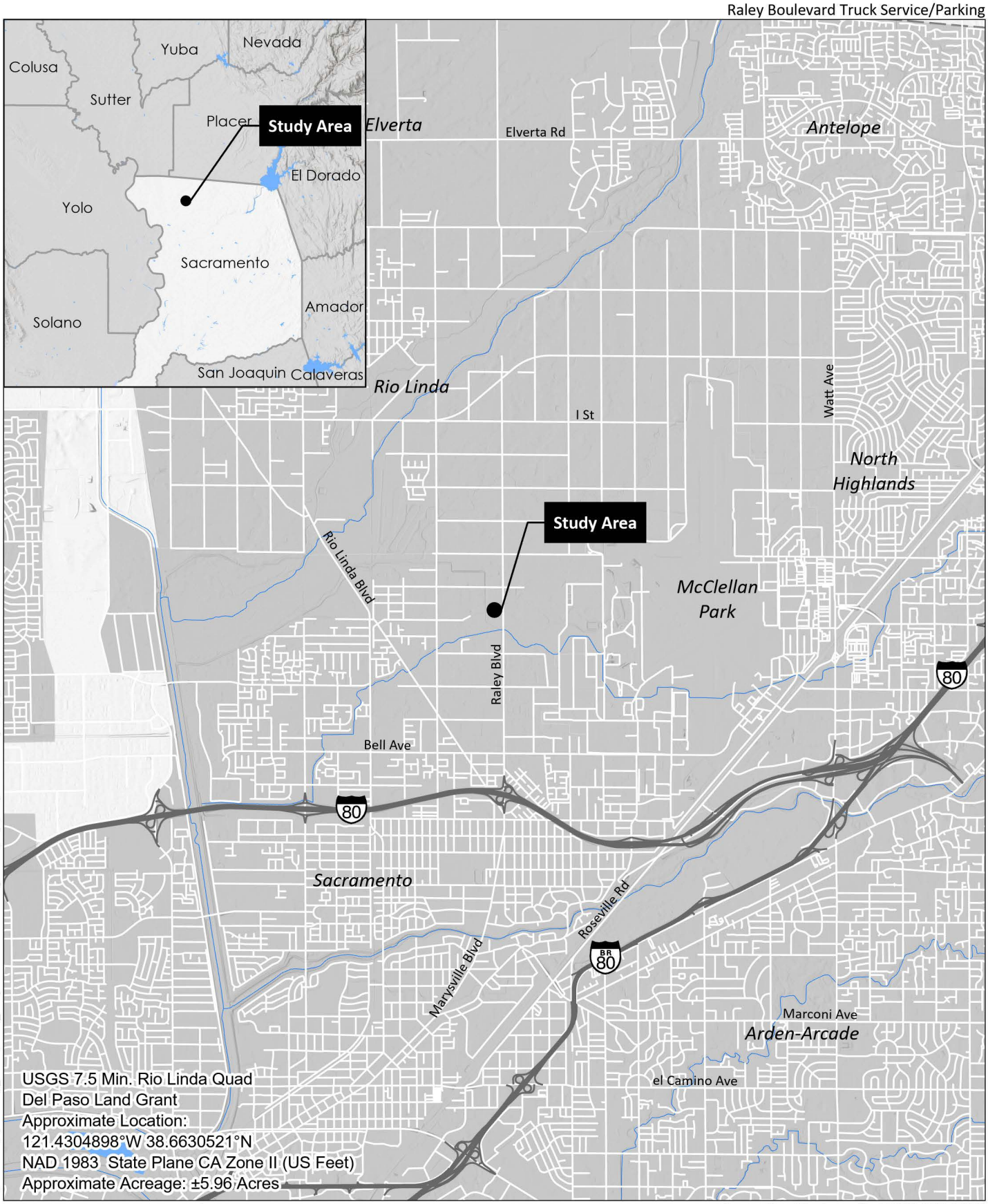
Sacramento Area Council of Governments (SACOG). 2021. SACOG Open Data Portal Airport Noise Contours. Available at: https://data.sacog.org/datasets/e10a0fad5da942d2979b68e6710a9c10.

San Diego, City of. 2003. Land Development Code Trip Generation Manual. Revised May. Available at: https://www.sandiego.gov/sites/default/files/legacy/planning/documents/pdf/trans/tripmanual.pdf.

Willson-Kerns, Cory. 2019. Noise Exposure and Evaluation at Tire Changing Facilities, Colorado State University Department of Environmental and Radiological Health Sciences.

Figures

Raley Boulevard Truck Service/Parking



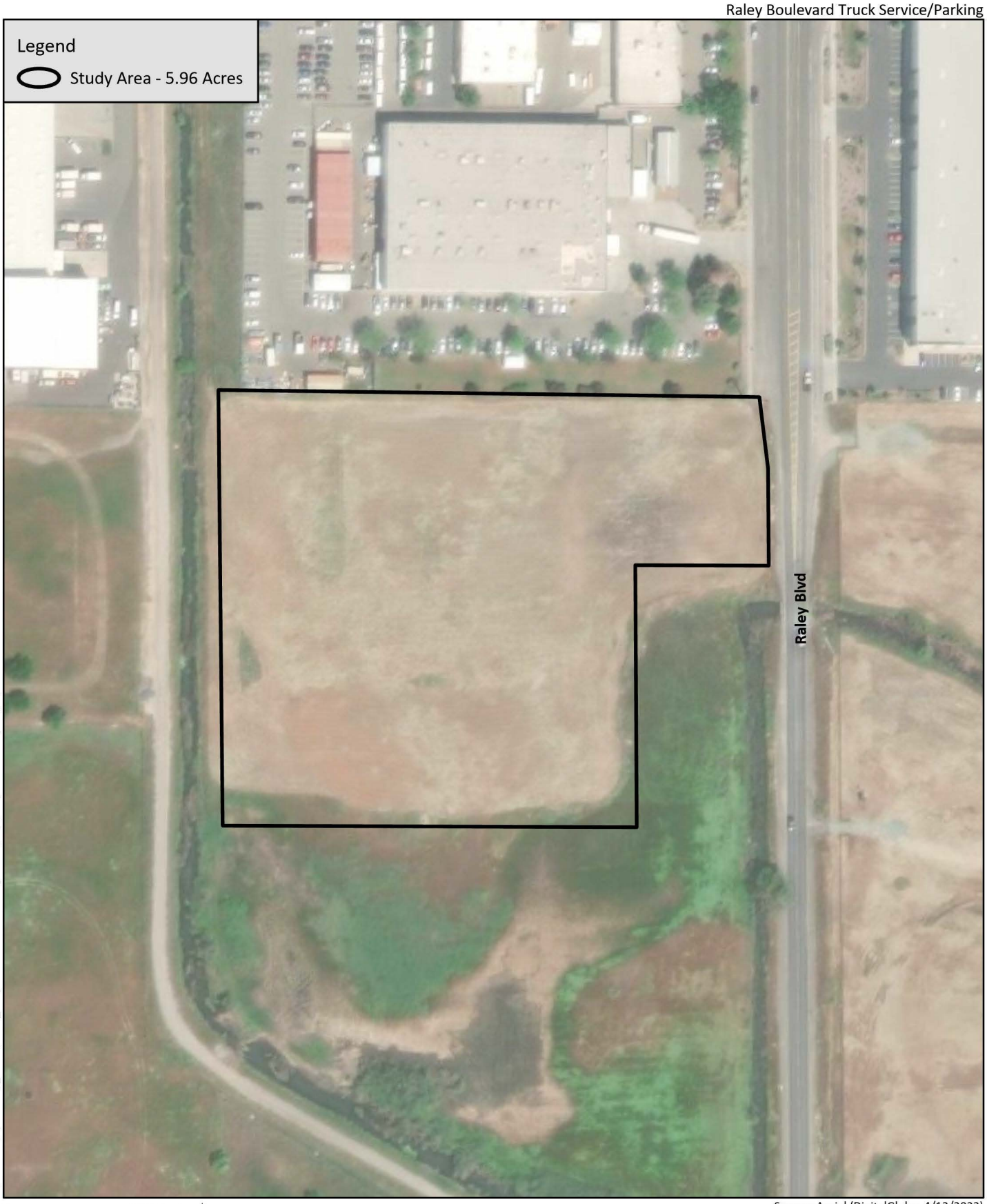
T:\PROJECTS\S\SHKGroup_08951\00001_RaleyBlvdTruckServiceParking\SMND\Map\RaleyBlvd ISMND.aprx 2/7/2024

Source: Base Map Layers (Esri, USGS, NGA, NASA)

HELIX Environmental Planning

Site and Vicinity Map

Figure 1



T:\PROJECTS\S\SHKGroup_08951\00001_RaleyBlvdTruckServiceParking\SMND\Map\RaleyBlvd ISMND.aprx 2/28/2024

0 150 Feet

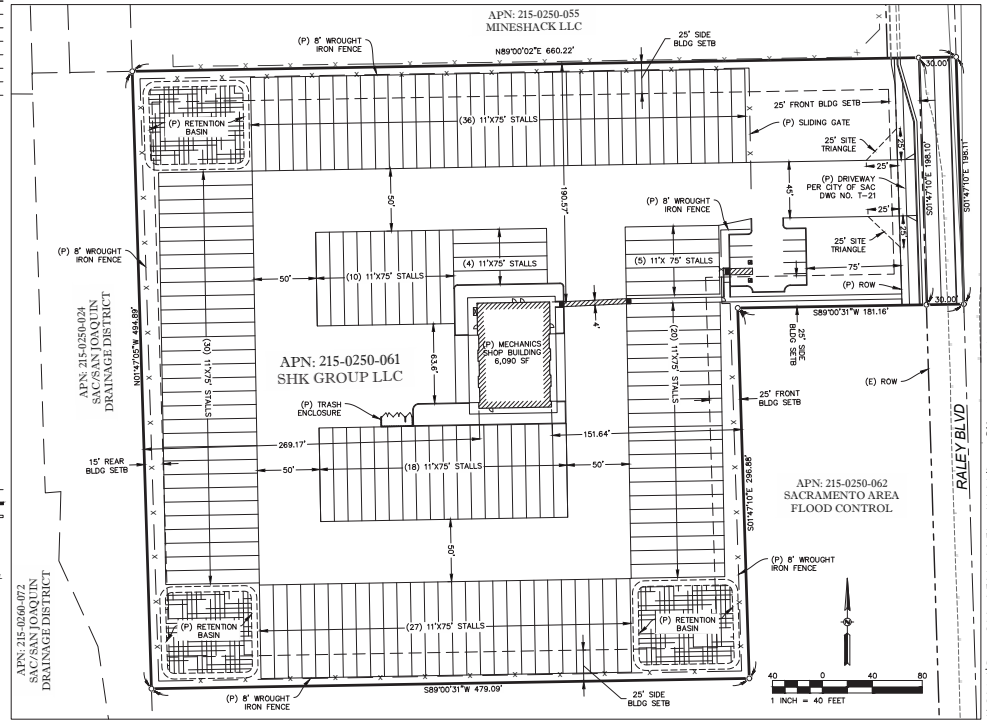
Source: Aerial (DigitalGlobe, 4/12/2022)

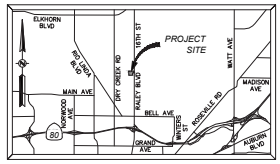
HELIX Environmental Planning

Aerial Map

Figure 2

PRELIMINARY IMPROVEMENT PLANS FOR
5221 RALEY BLVD
SACRAMENTO, CA 95838
APN: 215-0250-061





VICINITY MAP
NOT TO SCALE

LEGEND

DESCRIPTION	EXISTING	PROPOSED
PROPERTY LINE		
ROW		
EASEMENT		
LOT LINE		
CENTERLINE		
SW, CURB & GUTTER		
DITCH / FLOWLINE		
EP		
STORM DRAIN	XX"SD	XX"SD
SANITARY SEWER	XX"SS	XX"SS
WATER LINE	XX"W	XX"W
DOMESTIC WATER	XX"DW	XX"DW
FIRE SERVICE	XX"FS	XX"FS
GAS LINE	XX"G	XX"G
SDMH		
DRAINAGE INLET		
CULVERT WITH FES		
DIRECTION OF SURFACE FLOW		
OVERLAND RELEASE PATH		
SSMH		
SSCO		
FIRE HYDRANT		
PIV		
FDC		
WATER VALVE		
WATER METER	DIM	DIM
CONCENTRIC REDUCER		
BACKFLOW PREVENTION ASSEMBLY		
REDUCED PRESSURE BACKFLOW PREVENTION ASSEMBLY	RP	RP
AIR RELEASE VALVE		
BLOW OFF ASSEMBLY		
PIPE CAP		
GAS VALVE		
TELEPHONE MH		
UTILITY POLE		
UTILITY POLE WITH LIGHT		
STREET LIGHT		
SITE LIGHT		
JUNCTION/PULL BOX	PB	PB
MONUMENT WELL		
BOLLARD		
SIGN		
FENCE	X X X	X X X
RETAINING WALL		
BLOCK WALL		
MAJOR CONTOUR	25	25
MINOR CONTOUR		
GRADE BREAK LINE		GB
TREE & DRIP		REMOVAL
CONTROL POINT		100.00 PK
FINISH FLOOR ELEVATION	FF: 123.00	FF: 123.00
SPOT ELEVATION (ASPHALT CONCRETE)	× 157.01 AC	13.34 AC
MATCH (E) GRADE ELEVATION		13.61 AC MATCH (E)
TRUNCATED DOMES		
BUILDING		

ABBREVIATIONS:

AB	AGGREGATE BASE	FH	FIRE HYDRANT	℄	PROPERTY LINE
AC	ASPHALT CONCRETE	FL	FLOW LINE	PCC	POINT OF CONNECTION
ARV	AIR RELEASE VALVE	FOC	FACE OF CURB	PRC	POINT OF REVERSE CURVE
BC	BEGIN CURVE	FP	FINISH PAVEMENT	PT	POINT OF TANGENCY
BCR	BEGIN CURVE RETURN	FS	FIRE SPRINKLER	PUE	PUBLIC UTILITY EASEMENT
BLDG	BUILDING	GB	GRADE BREAK	PVI	POINT OF VERTICAL INTERSECTION
BOC	BACK OF CURB	GR	GRATE ELEVATION	RC	RELATIVE COMPACTION
BOW	BACK-OF-WALK	GV	GATE VALVE	RCP	REINFORCED CONCRETE PIPE
BVC	BEGIN VERTICAL CURVE	GVW	GROSS VEHICLE WEIGHT	ROW	RIGHT-OF-WAY
BW	BOTTOM OF WALL	HC	HANDICAP	RT	RIGHT TURN OR RIGHT
CAB	CABINET	HCR	HANDICAP RAMP	RPPA	REDUCED PRESSURE PRINCIPLE ASSEMBLY
CG	COMPACTED GRAVEL	HDPE	HIGH DENSITY POLYETHYLENE	RW	RETAINING WALL
CONC	CONCRETE	HP	HIGH POINT	SASD	SACRAMENTO AREA SEWER DISTRICT
C&G	CURB & GUTTER	IRR	IRRIGATION	SDMH	STORM DRAIN MANHOLE
CG&S	CURB, GUTTER & SIDEWALK	INV	INVERT	SD	STORM DRAIN
CH	CHORD	I.E.	INVERT ELEVATION	SE	SOUTHEAST
℄	CENTERLINE	JP	JOINT POLE	SS	SANITARY SEWER
CMP	CORRUGATED METAL PIPE	L	LENGTH	SSCO	SANITARY SEWER CLEAN OUT
CR	CURB RETURN	LF	LINEAL FEET	SSMH	SANITARY SEWER MANHOLE
CTV	CABLE TV	LIP	LIP OF GUTTER	SWCT	SAWCUT
DCDA	DOUBLE CHECK DETECTOR ASSEMBLY	LP	LOW POINT	SW	SIDEWALK OR SOUTHWEST
		LT	LEFT TURN OR LEFT	STA	STATION
DI	DRAIN / DROP INLET	MAX	MAXIMUM	TC	TOP OF CURB
DIP	DUCTILE IRON PIPE	MH	MAINTENANCE HOLE	TP	TOP OF PAVEMENT
DS	DOWN SPOUT	MIN	MINIMUM	TS	TOP OF SIDEWALK
(E)	EXISTING	NE	NORTHEAST	TW	TOP OF WALL
EC	END CURVE	NW	NORTHWEST	UNO	UNLESS NOTED OTHERWISE
ECR	END CURB RETURN	OC	ON CENTER	W	WATER
EP	EDGE OF PAVEMENT	OH	OVERHEAD	WV	WATER VALVE
ETW	EDGE OF TRAVELED WAY	OH/T&E	OVERHEAD TELEPHONE & ELECTRIC	WM	WATER METER
EVC	END OF VERTICAL CURVE	OMP	OPEN METAL PIPE	WWF	WELDED WIRE FABRIC
FDC	FIRE DEPARTMENT CONNECTION	(P)	PROPOSED	VCP	VITRIFIED CLAY PIPE
FF	FINISH FLOOR	PCC	PORTLAND CEMENT CONCRETE OR POINT OF COMPOUND CURVE	VIF	VERIFY-IN-FIELD
FG	FINISHED GROUND	PG	PROFILE GRADE		
FGBW	FINISHED GROUND @ BOT. WALL	PIV	POST INDICATOR VALVE		
FGTW	FINISHED GROUND @ TOP OF WALL				

PARKING INFORMATION

ITEM	REQUIREMENTS	PROVIDED
BUILDING SIZE	-	6,090 SF
PARKING REQUIRED	2 CUSTOMER SPACES + 1 SPACE PER 500 SF OF OFFICE (OFFICE = 2,396 SF) = 7 TOTAL	9 SPACES (7 STD + 2 ADA)
MIN. PARKING DIMENSIONS	8.5' X 18'	9' X 18'
MIN. DRIVEWAY WIDTH	16' (ONE-WAY)	22'
ACCESSIBLE SPACES	1 SPACE	2 SPACES

*PARKING STANDARDS PER THE CITY OF SACRAMENTO ZONING CODE

PARKING STALL COUNT

9'x18' STANDARD PARKING STALLS	7
9'x18' ADA PARKING STALLS	2
11'x75' TRUCK PARKING STALLS	150

UTILITY CONTACT INFORMATION

UTILITY	UTILITY CO.	PHONE
GAS	PG&E	(800) 743-5000
ELECTRIC	SMUD	(916) 732-5700
FIRE	CITY OF SACRAMENTO	(916) 808-1300
WATER	CITY OF SACRAMENTO	(916) 808-5454
SEWER	CITY OF SACRAMENTO	(916) 808-5454
DRAINAGE	CITY OF SACRAMENTO	(916) 808-5454
U.S.A.	UNDERGROUND SERVICE ALERT	1-800-642-2444

DEVELOPMENT STANDARDS

EXISTING GENERAL PLAN: THE CITY OF SACRAMENTO 2035 GENERAL PLAN

ZONE: M-1(S)-R (LIGHT INDUSTRIAL ZONE)

USE: VEHICLE STORAGE YARD

ITEM	REQUIREMENTS	PROVIDED
MIN. FRONT BUILDING SETBACK	25'	151.64'
MIN. SIDE BUILDING SETBACK	25'	190.57'
MIN. REAR BUILDING SETBACK	15'	269.17'
MAX. BUILDING HEIGHT	70'	26'-5"

PROPERTY AREA: 6.26 AC GROSS, 6.04 AC NET

REFERENCE IS MADE TO THE CITY OF SACRAMENTO ZONING CODE

TOTAL DISTURBED AREA: 6.26 AC

RAW EARTHWORK SUMMARY

CUT:	6990 CY
FILL:	4020 CY
NET:	2970 CY (EXPORT)

NOTE:
EARTHWORK QUANTITIES ARE ESTIMATED TO SUBGRADE AND DO NOT TAKE INTO ACCOUNT SHRINKAGE, EXCESS MATERIALS FROM TRENCHING AND MISC. UNKNOWN STRUCTURAL SECTIONS. CONTRACTOR SHOULD VERIFY EARTHWORK QUANTITIES.

811
Know what's below.
Call before you dig.
or (800) 642-2444

SHEET INDEX:

PROPERTY OWNER / DEVELOPER:

SHK GROUP LLC
351 DNIEPER RIVER WAY
SACRAMENTO, CA 95834
CONTACT: VIC SINGH
PH: (916) 849-9040

TOPOGRAPHIC SURVEY:

FIELD SURVEY BY: CWE
FIELD SURVEY DATED: 7/25/23

BASIS OF BEARINGS:

THE BASIS OF BEARINGS FOR THIS SURVEY IS A LINE BETWEEN A FOUND BRASS DISK, NOT STAMPED, IN A MONUMENT WELL LOCATED AT THE INTERSECTION OF RALEY BOULEVARD AND ASCOT WAY, AND A FOUND 5/8 INCH REBAR, NOT CAPPED, AT THE INTERSECTION OF RALEY BOULEVARD AND SANTA ANA AVENUE, BEING SOUTH 01° 47' 10" EAST, PER RECORD OF SURVEY, 80 RS 15, O.R.S.C.

BENCHMARK:

THE BENCHMARK USED FOR THIS SURVEY WAS THE CITY OF SACRAMENTO BENCHMARK NO. 298-B58, WHICH IS THE TOP OF A BRASS DISC INSIDE A MONUMENT WELL LOCATED AT THE INTERSECTION OF RALEY BLVD AND ASCOT AVENUE.

ELEVATION = 55.95 FEET (NAVD 88 DATUM)

JURISDICTION:

CITY OF SACRAMENTO

ZONING:

M-1(S)-R (LIGHT INDUSTRIAL ZONE)
-NO PROPOSED CHANGE

FLOOD PLAIN:

A PORTION OF THIS PROPERTY ALONG THE NORTHERLY LINE THEREIN IS LOCATED WITHIN ZONE "X", WITH A 0.2% ANNUAL CHANCE FLOOD HAZARD. ZONE "X" AREAS ARE SUBJECT TO 1% ANNUAL CHANCE FLOOD WITH AVERAGE DEPTH LESS THAN ONE FOOT OR WITH DRAINAGE AREAS OF LESS THAN ONE SQUARE MILE.

A PORTION OF THIS PROPERTY (A MAJORITY OF THE PARCEL) IS LOCATED WITHIN ZONE "AE". AREAS WITHIN ZONE "AE" ARE DETERMINED TO BE SPECIAL FLOOD HAZARD AREAS, SUBJECT TO FLOODING AT A DETERMINED BASE FLOOD ELEVATION.

A PORTION OF THIS PROPERTY IS LOCATED WITHIN A REGULATORY FLOODWAY ZONE WHICH FOLLOWS MAGPIE CREEK DIVERSION ALONG THE WESTERLY LINE OF THE PROPERTY, AND IS SUBJECT TO HIGHER FLOW DURING FLOOD EVENTS.

FLOOD ZONES AFFECTING THIS PROPERTY ARE DETERMINED BY THE NATIONAL FLOOD INSURANCE PROGRAM, FLOOD INSURANCE RATE MAP COMMUNITY PANEL NO.: 6067C0066H, EFFECTIVE AS OF 8/12/2012

UTILITY NOTE:

THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE SURVEYOR/ENGINEER MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR/ENGINEER FURTHER DOES NOT GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEYOR/ENGINEER HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES.

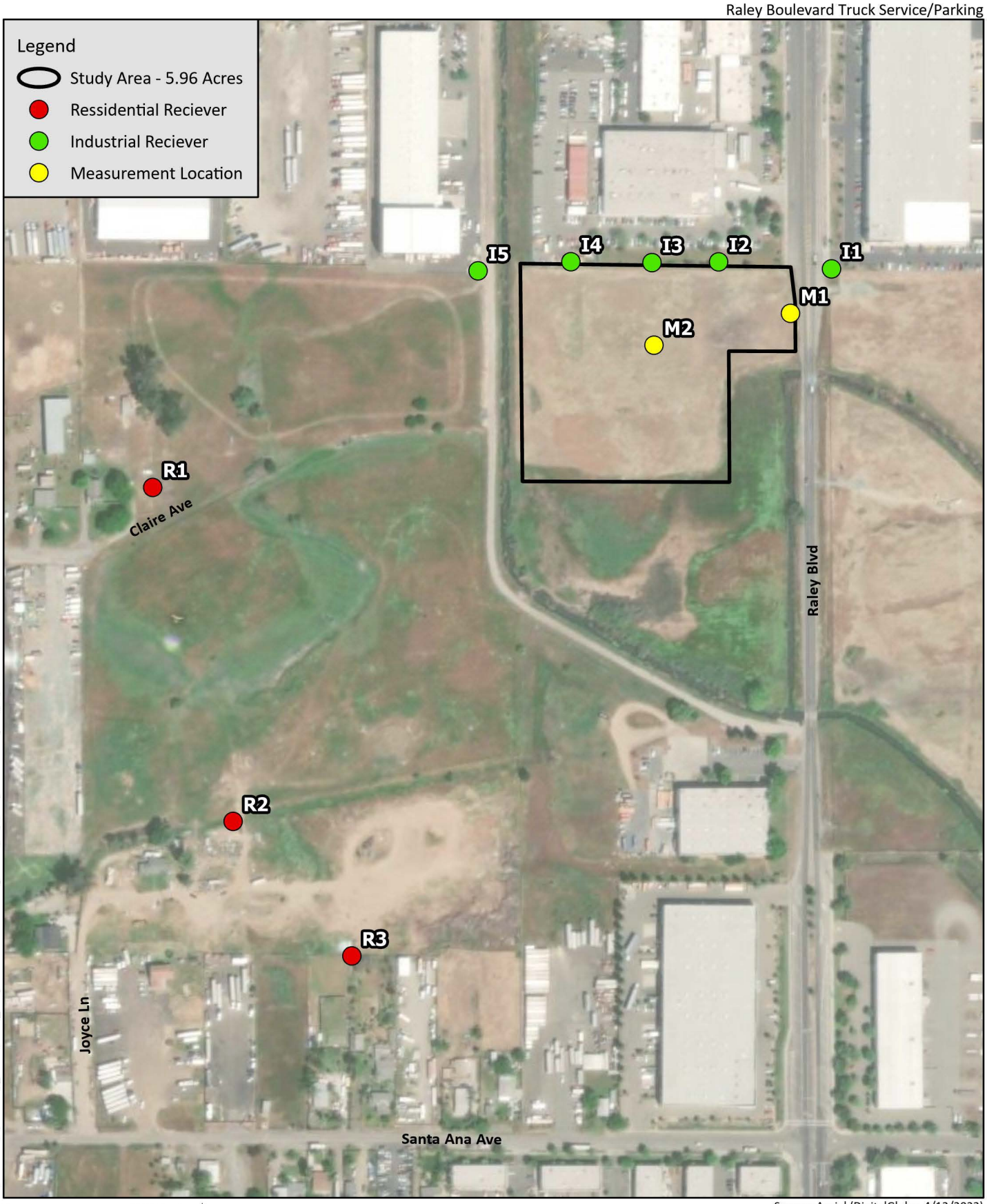
T:\PROJECTS\S\SHKGroup_08951\00001_RaleyBlvdTruckServiceParking\SMND\Map\Fig3_Siteplan.indd

Source: CWee, 2023

HELIX Environmental Planning

Site Plan

Figure 3



Source: Aerial (DigitalGlobe, 4/12/2022)

HELIX Environmental Planning

Receiver and Measurement Locations

Figure 4

Attachment A

Noise Survey Sheets

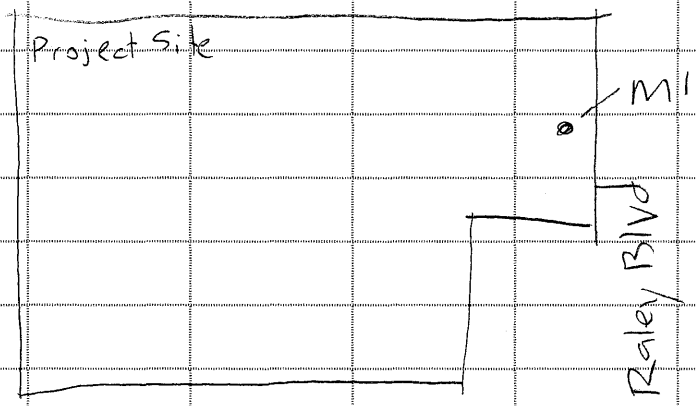
M1

Site Survey

Job #	Project Name: Raley Blvd. Truck		
Date: 4/29/24	Site #:	Engineer: M. Rolph	
Address:			
Meter: Piccolo II	Serial #: P0221031711	Calibrator: CAL150	Serial #: 5529

Notes: Aircraft from McClellan Airport and Rio Linda Airport
Noise from shooting range east of project

Sketch:



Temp: 62° F	Wind Spd: 10 mph	Humidity: 54 %
Start of Measurement: 10:20 a.m.	End of Measurement: 10:35 a.m.	70.1 dBA L_{EQ}

Cars (tally per 5 cars)	Medium Trucks (MT)	Heavy Trucks (HT)
140	4	13

Noise Measurement for Information Only

No Through Roadways

No Calibration Analysis Will Be Provided

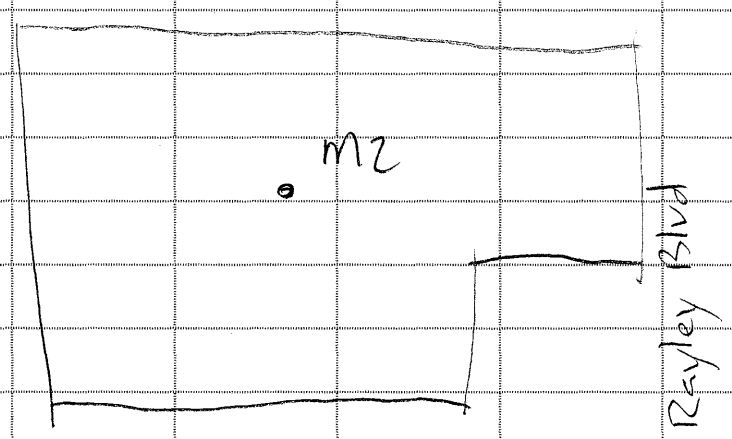
M2

Site Survey

Job #	Project Name: Raley Blvd Truck		
Date: 4/29/24	Site #:	Engineer: M. Ralph	
Address:			
Meter: Piccolo II	Serial #: P0221031711	Calibrator: CAL150	Serial #: 5529

Notes: Aircraft Taking Off/Landing at McClellan Airport and Rio Linda Airport

Sketch:



Temp:	62	Wind Spd:	9 mph	Humidity:	54 %
Start of Measurement:	10:39 a.m.	End of Measurement:	10:54 a.m.	68.9	dBA L_{EQ}

Cars (tally per 5 cars)	Medium Trucks (MT)	Heavy Trucks (HT)

Noise Measurement for Information Only

No Through Roadways

No Calibration Analysis Will Be Provided

Attachment B

Trip Generation Calculations

Raley Boulevard Truck Service and Parking Trip Generation

From the City of San Diego Trip Generation Manual

Truck Parking Facility: 60 trips per acre

Truck Repair Service: 140 trips per site + 2.5 trips per ksf administrative office

Trip Generation

	Units	Area	Rate	Per Site	Daily Trips
Truck Parking Facility	acre	4.62	60	0	277.2
Truck Repair Service	ksf	2.396	2.5	140	146.0
				Total Trips	424
				Employee Commute Trips (assumes 6 office employees and 9 shop employees)	30
				Truck Trips	255
				Truck Driver Commute Trips	139

Peak Hour Truck Trips

	% of Daily	Peak Hour Trucks
Daytime Peak Hour		
Truck Repair Service	11%	13
Truck Parking Facility	9%	13
Daytime Peak Hour Total		26
Nighttime Peak Hour		
Truck Repair Service	0%	0
Truck Parking Facility	4.5%	7
Nighttime Peak Hour Total		7

Truck repair service daytime peak hour % from the City of San Diego Trip Generation Manual for an Auto Repair Service.

Truck parking facility daytime peak hour % from the City of San Diego Trip Generation Manual for a Truck Terminal.

Repair shop assumed to not operate at night; truck parking nighttime peak hour assumed to be 50% of peak daytime hour.

Attachment D

CadnaA Output

Report date: 6/21/2024
Case Description: Raley Blvd Truck Repar and Parking

		Baselines (dBA)		---- Receptor #1 ----
Description	Land Use	Daytime	Evening	Night
Residential	Residential	60	60	60

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Backhoe	No	40		77.6	870	0
Dozer	No	40		81.7	870	0
Grader	No	40	85		870	0

Calculated (dBA)

Equipment	*Lmax	Leq
Backhoe	52.7	48.8
Dozer	56.9	52.9
Grader	60.2	56.2
Total	60.2	58.4

*Calculated Lmax is the Loudest value.