Technical Memorandum

To: EPC Environmental, Inc. Ernest Perea

From: Kevin P. Carr, MS., KPC EHS Consultants

Date: January 24, 2024 – *Revised May 18, 2026*

Re: EPC 23-23- Temescal Canyon Office Project – Noise Assessment

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1.0 Purpose

The purpose of this memorandum is to document the impacts of construction, mobile, operational noise, and vibration as it relates to the potential environmental impacts associated with the construction and operation of the proposed Office Project on approximately 1.09 acres.

2.0 Project Location & Description

2.1 Project Location:

The proposed project site is located in the Unincorporated area of Corona, Riverside County, California on the west side of Temescal Canyon Road south of the intersection with Dos Lagos and north of the intersection with Foster Road and is referred to as APN: 282-121-011.

2.2 Description:

The Applicant is proposing a plot plan to construct an office building project that includes 24,712 square feet for offices, a 53-space enclosed parking structure, 40 space open parking lot with driveways, utilities, and landscaping on an approximately 1.09-acre parcel.

3.0 Noise Impacts

3.1 Ambient Noise:

The primary sources for existing ambient noise in the Project area is from traffic generated from Interstate 15 adjacent to the western boundary and Temescal Canyon Road adjacent to the eastern boundary, as well as commercial uses along Temescal Canyon Road.

3.1.1 Existing Ambient Noise Level Measurements: To assess the existing noise level environment short-term noise measurements were obtained from 4 locations in the Project study area. Exhibit 3-A Noise Monitoring Map, provides the locations of the noise level measurements. Table 3.1.1 Ambient Noise Level Measurements provides the noise measurements.

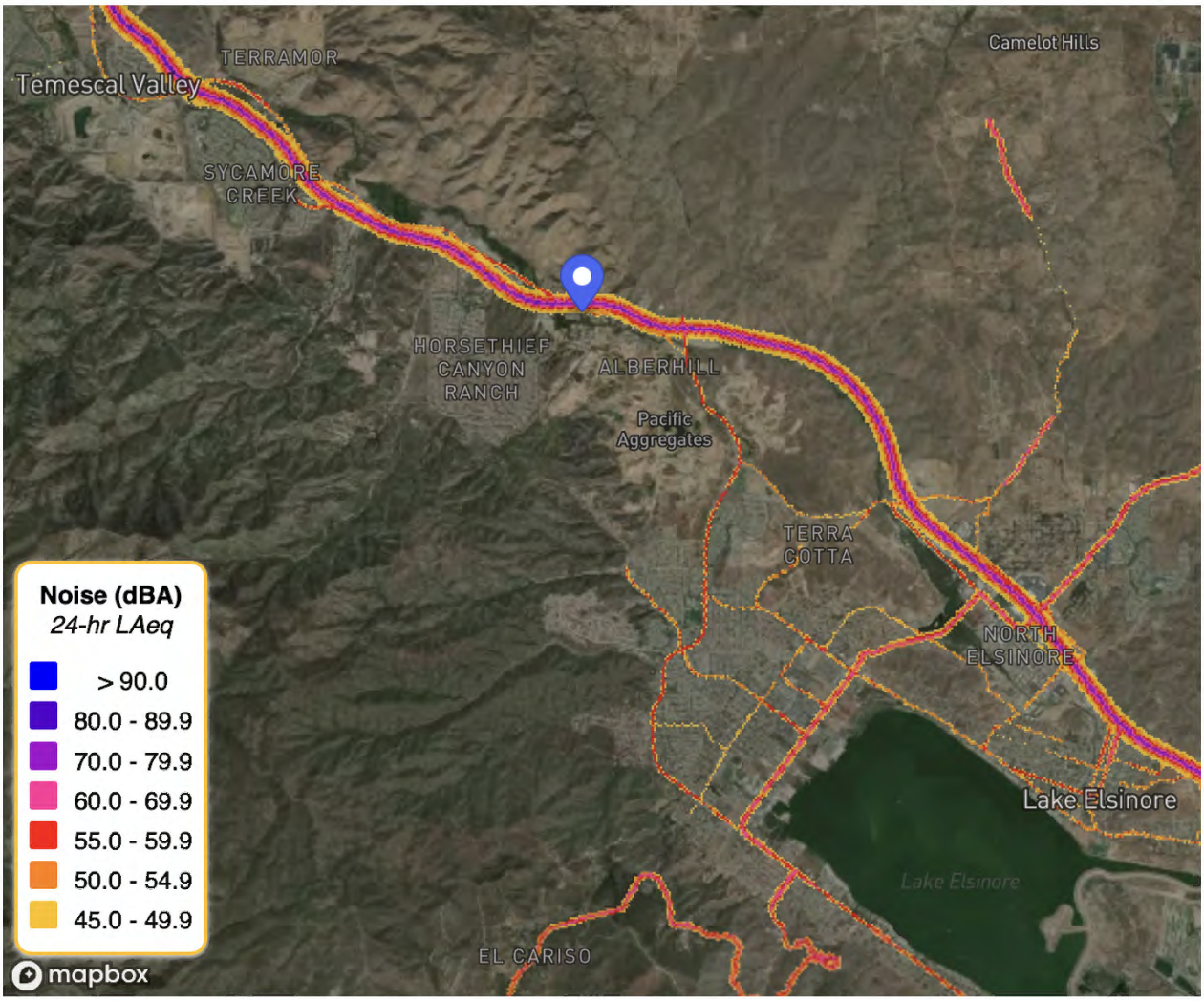
Exhibit 3-A Noise Monitoring Map

Table 3-1 Ambient Noise Level Measurements

Location	Distance to Project Center	Description	Average Noise Level dBA (Leq)	Maimum Noise Level (Lmax)
#1	140 ft.	Project Site (east side)	65.8	74.7
#2	680 ft	Residence North side Leroy St.	62.0	65.7
#3	1,850ft	Creekside Mobile Estates Gate	68.2	77.4
#4	1,100 ft	Terrano Apartments	54.3	61.2

The Bureau of Transportation Statistics provides the National Transportation Noise Map as a basis for understanding what-if scenarios and helping policy makers and planners to prioritize noise-related transportation investments.[1] The data on the noise map allows for viewing the potential exposure to aviation, highway, and rail noise. The current data for the Interstate 15 and Temescal Canyon Road Area near the Project site from the 2016 – 2018 noise map and is presented in Exhibit 3-B. The Noise Map contours are representative of the measured ambient noise measurements as presented in Table 3-1.

Exhibit 3-B National Transportation Noise Map: Adelanto Area



[1] Bureau of Transportation Statistics, National Transportation Noise Map: https://www.bts.gov/geospatial/national-transportation-noise-map accessed September 29, 2023.

3.1.2 Sensitive Receptors (Noise Sensitive Land Uses): Noise-sensitive land uses are locations where people reside or where the presence of unwanted sound could adversely affect the use of the land. Sensitive receptor locations are generally identified as facilities where it is possible that an individual could remain for 24 hours. Commercial and industrial facilities are not included in the definition of sensitive receptor because employees typically are present for shorter periods of time, such as eight hours.

Residences, schools, hospitals, guest lodging, libraries, churches, nursing homes, auditoriums, concert halls, amphitheaters, playgrounds, and parks are considered noise sensitive. The nearest sensitive receptors to the Project site are residences located adjacent to the north and south of the Project site, The north residence is approximately 108 feet north of the property center and approximately 45 feet from the northern boundary. The south residence is approximately 165 feet south of the property center and approximately 80 feet from the southern boundary.

The nearest schools are the Temescal Canyon Elementary School located approximately 1.4 miles to the south and Woodrow Wilson Elementary School located approximately 2 miles northwest.

Table 3-2 Sensitive Receptors Locations

Receptor	Distance from Project Site Boundary (feet)	Distance from Project Construction Center (feet)
Global Goods Clothing Store - South	80	165
Residencial Northeast (mobile home park)	165	320
Multi-family Residence – North	45	105

Source: Google Earth Pro, September 13, 2023

3.2 Construction Noise:

Construction activities that would create noise include: site preparation, grading, building construction, paving, and architectural coating. Noise levels associated with the construction will vary with the different types of construction equipment, the duration of the activity, and distance from the source. Construction noise will have a temporary or periodic increase in the ambient noise level above the existing levels within the Project vicinity. The nearest sensitive receptors to the Project site are residences located adjacent to the north and south of the Project site, The north residence is approximately 108 feet north of the property center and approximately 45 feet from the northern boundary. The south residence is approximately 165 feet south of the property center and approximately 80 feet from the southern boundary. To estimate the potential impact of construction noise at the nearest sensitive receptors, equipment that is expected to be used during construction was input into the Federal Highway Administration Roadway Construction Noise Model (RCNM) version 1.1 to generate anticipated noise levels. The RCNM generates the maximum noise levels (Lmax) and the equivalent continuous sound level (Leq). The Leq is a calculation of the anticipated steady sound pressure level which, over a given time period (day, evening, night) has the same total energy as the actual

fluctuating noise. The RCNM also uses an acoustical use factor in the noise calculations. The acoustical use factor is the percentage of time each piece of construction equipment is assumed to be operating at the full power level and is used to estimate the Leq values from the Lmax values. For example, typical operating cycles for these types of construction equipment may involve one or two minutes of full power operation followed by three to four minutes at lower power settings. Noise levels will be loudest during the site preparation and grading phases. Table 3-3, Construction Equipment Noise Levels at the Nearest Receptor, identifies the level of noise generated by construction equipment.

Table 3-3 Construction Equipment Noise Levels at the Nearest Sensitive Receptor (North Multi-Family Residence)

Source	Approximate Distance to Nearest Receptor [1] (Property Line to Construction Site) (feet)	Sound Level at Nearest Receptor		
		Lmax	Acoustical Use Factor (%)	Leq
Backhoe	45	78.5	40	74.5
Concrete Mixer Truck	45	79.7	40	75.7
Compressor (air)	45	78.6	40	74.6
Concrete Pump Truck	45	82.3	20	75.3
Crane	45	81.5	16	73.5
Dozer	45	82.6	40	78.6
Dump Truck	45	77.4	40	73.4
Excavator	45	81.6	40	77.6
Flat Bed Truck	45	80.0	40	76.0
Front End Loader	45	81.5	40	78.5
Generator	45	85.9	50	81.9
Grader	45	75.6	40	68.6
Man Lift	45	78.1	20	75.1
Paver	45	77.2	50	58.0
Pickup Truck	45	75.9	40	71.9
Pneumatic Tools	45	86.1	50	83.1
Roller	45	80.9	20	73.9
Scraper	45	84.5	40	80.9
Tractor	45	84.9	40	80.9
Welder / Torch	45	74.9	40	70.9

Source: FHWA – RCNM Version 1.1

Table 3-4 Construction Equipment Noise Levels at the Nearest Sensitive Receptor (South Commercial to Center and Mobile Home Park from Boundary)

Source	Approximate Distance to Nearest Receptor [1] (Property Line to Construction Site) (feet)	Sound Level at Nearest Receptor		
		Lmax	Acoustical Use Factor (%)	Leq
Backhoe	165	67.2	40	63.2
Concrete Mixer Truck	165	68.4	40	64.5
Compressor (air)	165	67.3	40	63.3
Concrete Pump Truck	165	71.0	20	64.0
Crane	165	70.2	16	62.2
Dozer	165	71.3	40	67.3
Dump Truck	165	66.1	40	62.1
Excavator	165	70.3	40	66.4
Flat Bed Truck	165	63.9	40	59.9
Front End Loader	165	68.7	40	64.8
Generator	165	70.3	50	67.2
Grader	165	74.6	40	70.7
Man Lift	165	64.3	20	57.3
Paver	165	66.8	50	63.8
Pickup Truck	165	64.6	40	60.7
Pneumatic Tools	165	74.8	50	71.8
Roller	165	69.6	20	62.6
Scraper	165	73.2	40	69.2
Tractor	165	73.6	40	69.7
Welder / Torch	165	63.6	40	59.7

Source: FHWA – RCNM Version 1.1

The highest anticipated construction noise levels would be from the use of pneumatic tools with a level of 86.1 dBA Lmax and 83.1 dBA Leq.

The County of Riverside has set restrictions to control noise impacts from construction activities. Code of Ordinances 9.52.020 Exemptions (J) restricts construction activities for projects located within one-quarter (1/4) mile from an inhabited dwelling construction does not occur between the hours of 6:00 p.m. and 6:00 a.m. during the months of June through September and between 6:00 p.m. and 7:00 a.m. during the months October through May.

With implementation of the above standard conditions of approval, construction noise impacts would be less than significant.

While the County establishes limits to the hours during which construction activity may take place, it does not identify specific noise level limits for construction noise levels. Therefore, to evaluate whether the Project will generate a substantial increase in the short-term noise levels at the offsite sensitive receptors (residences), the construction-related noise level threshold is based on the National Institute for Occupational Safety and Health (NIOSH) recommended exposure limit (REL) for occupation noise exposure at 85 dBA, as an 8-hour time-weighted average (85 dBA – 8-hr TWA). Using the equipment from the Air Quality GHG Technical Memorandum CalEEMod data for the Site Preparation and Grading Phases, each piece of equipment operating at the same time in the same location for a full 8-hour period was calculated with results provided in Table 3-5, Worse Case Construction Noise Levels (Site Preparation & Grading).

Table 3-5 Worse Case Construction Noise Levels (Site Preparation & Grading)

Phase	Equipment Type	Number of Units	Leq dBA/unit	Leq dBA Total
Site Preparation	Tractor/Loader/Backhoe	1	74.5	74.5
Site Preparation	Grader	1	68.6	68.6
Site Preparation	Rubber Tire Dozers	1	67.3	67.3
Site Preparation	**Total Noise Level**			**76.1**
Grading	Grader	1	68.6	68.6
Grading	Tractor/Loader/Backhoe	2	74.5	77.5
Grading	Rubber Tired Dozer	1	67.3	67.3
Grading	**Total Noise Level**			**78.4**

The highest individual equipment noise level at the nearest sensitive receptor as indicated in Table 3.3 will be at 86.1 dBA (Lmax) and 83.1 dBA (LEQ) from pneumatic tools. During the construction phase the noise levels will be the highest during site preparation and grading as heavy equipment pass along the Project site boundaries. During the site preparation and grading phases, which produce the highest noise levels, equipment will not be stationary, rather equipment will be moving throughout the site at varying speeds and power levels and as a result not operating at the maximum noise level for the entire workday. Using the default equipment type and number for the site preparation and grading phases from the CalEEMod AQ report the potential noise impacts of the equipment operating simultaneously and in the same area of the property closest to the closest residential uses the construction noise impacts would be 76.1 Leq dBA during site preparation and 78.4 Leq dBA during grading operations.

The levels of noise at the nearest sensitive receptor as indicated in Table 3-3, 3-4, and 3-5 are all below the NIOSH REL of 85 dBA 8-hour TWA and would be less than significant. Construction noise is of short-term duration and will not present any long-term impacts on the project site or the surrounding area.

3.3 Operational Noise:

3.3.1 Offsite Traffic Noise Impacts.

Vehicle noise is a combination of the noises produced by the engine, exhaust, and tires. The primary source of noise generated by the Project will be from the vehicle traffic generated by the vehicle ingress and egress to the Project site. Under existing conditions, the site does not generate any traffic noise that impacts the surrounding area.

According to the Federal Highway Administration*, Highway Traffic Noise Analysis and Abatement Policy and Guidance,* the level of roadway traffic noise depends on three things: (1) the volume of the traffic, (2) the speed of the traffic, and (3) the number of trucks in the flow of the traffic. Generally, the loudness of traffic noise is increased by heavier traffic volumes, higher speeds, and greater numbers of trucks. These factors are discussed below.

- *The Volume of the Traffic*

  Upon buildout, the proposed Project is expected to generate approximately 241 average daily vehicle trips (ADT) during the weekdays.

  The current average daily vehicle trips along Temescal Canyon Road in the Project area are approximately 11,811 ADT. [2]

  According to Caltrans, the human ear can begin to detect sound level increases of 3 decibels (dB) in typical noisy environments.[3] A doubling of sound energy (e.g., doubling the volume of traffic on a highway) that would result in a 3-dBA increase in sound, would generally be barely detectable. Implementation of the Project will increase traffic volumes in the area occurring along Inland Center Drive and Hillcrest Avenue but not to the extent that traffic volumes will be doubled creating a +3dBA noise increase or result in a perceivable noise increase. Therefore, operational noise impacts would be less than significant.

- *The Speed of Traffic*

  Temescal Canyon Road is a 4-lane road and has a posted speed limit of 45 mph.

- *The Number of Trucks in the Flow of the Traffic*

  The Project is an office building development in a mixed-use area consisting of commercial, residential, and industrial uses. The office building land use will not routinely generate noise from large trucks.

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[2] https://trans.rctlma.org/sites/g/files/aldnop401/files/migrated/Portals-7-documents-Traffic-2020-TRANS-WEB-COUNTS.PDF.pdf Accessed: September 28, 2023

[3] Caltrans, Traffic Noise Analysis Protocol, April 2020, p.7-1.

Future Traffic Noise Levels along Existing Roadways Segments

The roadway noise impacts from vehicular traffic were projected using a computer program that replicates the Federal Highway Administration (FHWA) Traffic Noise Prediction Model- FHWA-RD-77-108 (the "FHWA Model"). The FHWA Model arrives at a predicted noise level through a series of adjustments to the Reference Energy Mean Emission Level (REMEL). Adjustments are then made to the REMEL to account for: the roadway classification (e.g., collector, secondary, major or arterial), the roadway active width (i.e., the distance between the center of the outermost travel lanes on each side of the roadway), the total average daily traffic (ADT), the travel speed, the percentages of automobiles, medium trucks, and heavy trucks in the traffic volume, the roadway grade, the angle of view (e.g., whether the roadway view is blocked), the site conditions ("hard" or "soft" relates to the absorption of the ground, pavement, or landscaping), and the percentage of total ADT which flows each hour throughout a 24-hour period.

The Community Noise Equivalent Level (CNEL) is the 24-hour A-weighted average for sound, with corrections for evening and nighttime hours. The corrections require an addition of 5 decibels to sound levels in the evening hours between 7:00 p.m. and 10:00 p.m. and an addition of 10 decibels to sound levels at nighttime hours between 10:00 p.m. and 7:00 a.m. These additions are made to account for the increased sensitivity during the evening and nighttime hours when sound appears louder.

A vehicle's noise level is a combination of the noise produced by the engine, exhaust, and tires. The cumulative traffic noise levels along a roadway segment are based on three primary factors: the amount of traffic, the travel speed of the traffic, and the vehicle mix ratio or number of medium and heavy trucks. The intensity of traffic noise is increased by higher traffic volumes, greater speeds, and increased number of trucks.

Future construction of the proposed Project would increase the ADT by approximately 241 trips on weekdays.

Figure 3.3-1 is the noise contour map generated from the Federal Highway Administration (FHWA) Traffic Noise Model 3.5 showing the estimated traffic noise that will be generated with the current traffic along Temescal Canyon Road and with the Project. To determine the noise impacts traffic data from the County of Riverside Transportation Department Traffic Counts 2020 [4] were used which indicated a daily traffic volume of 11,811 vehicles per day. Average Daily Traffic counts were converted to peak hour estimates at a rate of 0.075 ADT. Traffic vehicle mix was estimated at 97 percent automobile, 2 percent light truck, and 1 percent heavy trucks at the posted 45 miles per hour roadway speed limit. Additionally, the highest number of trips generated by the proposed project 241 vehicle trips per day were included as all occurring at peak hour to provide for a worse case estimate the Project traffic noise impacts.

[4] https://trans.rctlma.org/sites/g/files/aldnop401/files/migrated/Portals-7-documents-Traffic-2020-TRANS-WEB-COUNTS.PDF.pdf Accessed: September 28, 2023

As indicated in Exhibit 3-C and 3-D the noise contours for Temescal Canyon Road shows the proposed Project's impacts do not increase the noise levels. As indicated in the noise contour exhibits and Table 3-6 impacts along Temescal Canyon Road in the Project Area will not result in new significant noise impacts.

Exhibit 3-C Existing Traffic Noise Contours

Exhibit 3-D Existing Plus Project Traffic Noise Contours

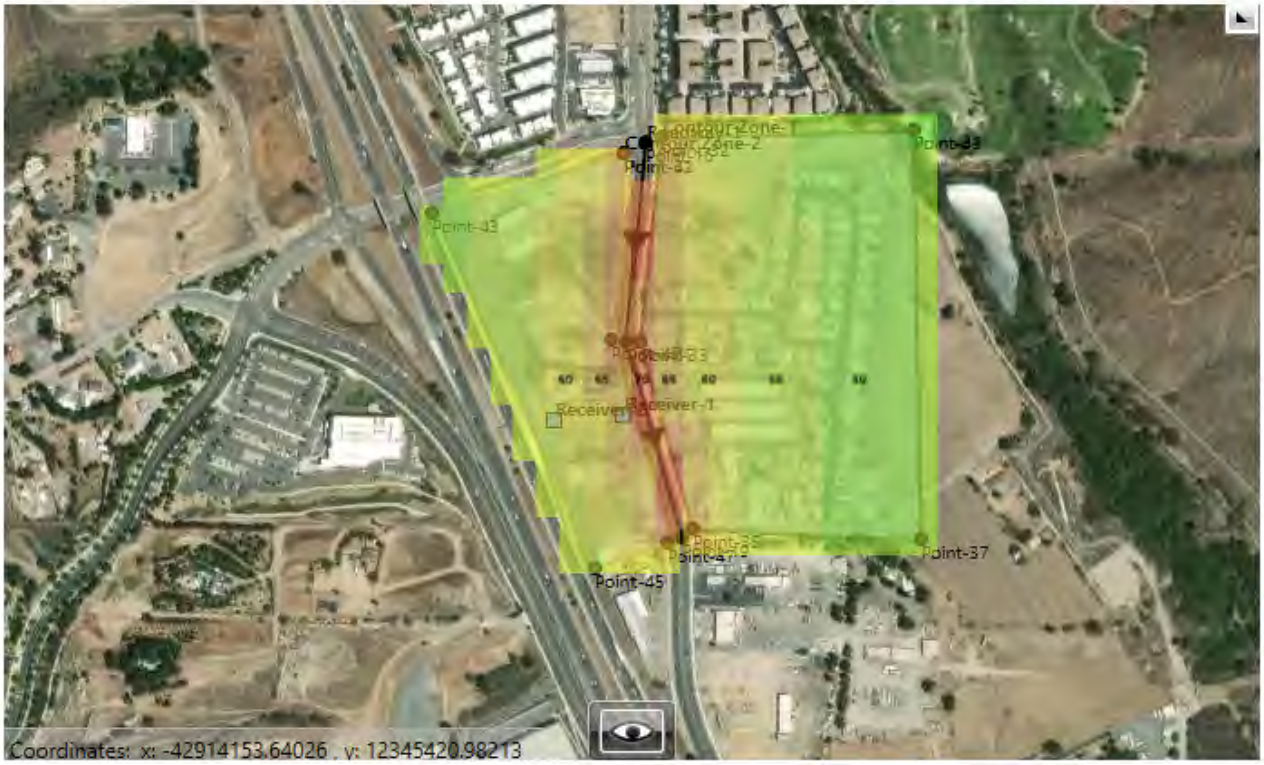


Table 3-6 Noise Level Comparison Existing vs. Existing Plus Project

Receptor	Existing Traffic Noise Level (dBA)	Existing Plus Project Noise Level (dBA)	Noise Level Difference (dBA)
Receptor 1	63.3	63.3	0
Receptor 2	54.7	54.7	0

3.3.2 Operations (Stationary Noise).

At the time this noise analysis was prepared, the future tenants of the proposed Project were unknown. The on-site Project-related noise sources are expected to include roof-top heating ventilation and air conditioning units (HVAC) and parking lot vehicle movements. This noise analysis is intended to describe noise level impacts associated with the expected typical operational (stationary source) activities at the Project site.

For a point source in free field conditions, sound decreases according to the inverse square law:

$$L_2 = L_1 - 20\log_{10}\left(\frac{r_2}{r_1}\right)$$

For the HVAC where:

- $L_1 = 88$ dBA
- $r_1 = 1$ ft
- $r_2 = 80$ ft

Using the equation:

$$L_2 = 88 - 20\log_{10}\left(\frac{80}{1}\right)$$

Since: $20\log_{10}(80) = 38.06$

Then: $L_2 = 88 - 38.06 = 49.94$ dBA

Additionally, the roof of the proposed Project has a parapet that is approximately 5 ½ foot high that will block the line of site form the residence to the north. According to the Federal Highway Administration Noise Barrier Design Handbook a simple barrier that blocks the line of site will provide approximately 5 dBA reduction. Therefore, the HVAC system noise level at the closest sensitive receptor north of the site will be 44.94 dBA.

For the Parking Lot Noise where:

- $L_1 = 54.4$ dBA
- $r_1 = 25$ ft
- $r_2 = 63$ ft

Using the equation:

$$L_2 = 88 - 20\log_{10}\left(\frac{63}{25}\right)$$

Since: $20\log_{10}(2.52) = 8.03$

Then: $L_2 = 54.4 - 8.036 = 46.4$ dBA

Therefore, the Parking Lot noise level at the closest sensitive receptor north of the site will be 46.4 dBA.

Table 3-7 Reference Noise Level Measurements

Noise Source	Reference Distance (feet)	Reference Noise Level (dBA)	Distance to Receptor (feet)	Noise Level (dBA)
Rooftop HVAC no barrier [1]	1 ‘	88	80 ‘	49.94
Rooftop HVAC w/ barrier [1]	1 ‘	88	80 ‘	44.94
Parking Lot Activity [2]	25 ‘	54.4	63 ‘	46.4

[1] Reference Level Lennox 10-ton air handler unit (AHU) manufacturer specifications.

[2] Reference Level collected at Amazon Fulfillment Center ONT-6 (24208 San Michele Rd., Moreno Valley)

Traffic associated with parking lots is typically not at a sufficient level to exceed the community noise standards. The total parking spaces estimated for the Project is for 93 vehicles, the reference noise levels were taken at a parking lot that can accommodate approximately 1,000 vehicles. The Project’s parking lots are substantially smaller, and no significant noise impacts offsite from the parking lot use would be anticipated.

The USEPA identifies noise levels affecting health and welfare as exposure levels over 70 dBA over a 24-hour period. Noise levels for various levels are identified according to the use of the area. Levels of 45 dBA are associated with indoor residential areas, hospitals, and schools, whereas 55 dBA is identified for outdoor areas where typical residential human activity takes place. According to the USEPA levels of 55 dBA outdoors and 45 dBA indoors are identified as levels of noise considered to permit spoken conversation and other activities such as sleeping, working, and recreation, which are part of the daily human condition.[5] Levels exceeding 55 dBA in a residential setting are normally short in duration and not significant in affecting health and welfare of residents. The Project site and surrounding properties are zoned for commercial and industrial use with existing commercial and industrialized use. However, the nearest exiting sensitive receptor is the multi-residential structure approximately 45 feet from the north project site boundary. According to the Riverside County General Plan Noise Element Table N-1 for Residential-Multiple Family land use category has a normally acceptable noise level of 45 to 65 dBA and a conditionally acceptable noise level of 60 to 70 dBA. The existing ambient noise level measured on the Project Site is 65.8 dBA and falls within the County’s conditionally acceptable noise level.

Noise estimates would represent a worse-case scenario as the HVAC system, and the majority of parking lot activity would be at a distance greater than 45 feet away. The Project also includes a 53-space enclosed parking structure which would limit parking lot noise to the 40 spaces located to on the west side of the office structure. According to the Project site plan the exterior HVAC systems will be on the western side of the structures roof approximately 80 feet and with a 5 ½ foot parapet wall that will block the line of site to the closet sensitive receptor located in the residential unit to the north. The parapet barrier according to the Federal Highway Administration Noise Barrier Design Handbook a simple barrier that blocks the line of site will provide minimally a 5 dBA reduction. The closet parking space is approximately will be the ADA

[5] USEPA “EPA Identifies Noise Levels Affecting Health and Welfare. https://www.epa.gov/archive/epa/aboutepa/epa-identifies-noise-levels-affecting-health-and-welfare.html Accessed September 28, 2023.

accessible space located 63 feet from the nearest sensitive receptor. As shown in Table 3.7 above, at the source the rooftop HVAC unit produces 88 dBA measured at 1-foot from the source, at 180 feet this attenuates to 49.94 dBA and with the parapet wall the HVAC system noise level at the closest sensitive receptor north of the site will be 44.94 dBA. The parking lot activity produces 54.4 dBA measured at 25 feet and at 63 feet this attenuates to 46.4 dBA. The combined operational sources at the closest sensitive receptor would be approximately 48.74 dBA (combined logarithmically), falling well below the existing ambient of 65.8 dBA. Adding the Project's operational noise level of 48.74 with the existing ambient level of 65.8 dBA would logarithmically produce a combined noise level of 65.88 dBA a 0.08 dBA increase. According to the Federal Highway Administration (FHWA) Noise Fundamentals a 3dB increase is barely perceptible/detectable to the human ear. The Project's 0.08 dB increase therefore would not be perceptible at the nearest sensitive receptor.

According to the Riverside County General Plan Noise Element Table N-1 for Residential-Multiple Family land use category has a normally acceptable noise level of 45 to 65 dBA and a conditionally acceptable noise level of 60 to 70 dBA. The existing ambient noise level of 65.8 dBA falls within the conditionally acceptable noise level and the Project's operational noise contribution of 0.08 dBA would not substantially or significantly increase the noise at the adjacent multi-family residence to the north.

3.4 Vibration

During construction the operation and movement of heavy equipment create seismic waves that radiate along the ground-surface in all directions. These waves are felt as ground vibrations. Vibrations from construction can result in effects ranging from annoyance to people to structure damage. Vibration levels are impacted by geology, distance, and frequencies. According to the Federal Transit Administration, *Transit Noise and Vibration Impact Assessment Manual*, September 2018[6], while ground vibrations from construction activities do not often reach the levels that can damage structures, construction vibration may result in building damage or prolonged annoyance from activities such as blasting, piledriving, vibratory compaction, demolition, and drilling or excavation near sensitive structures. The Project does not require these types of construction activities.

Vibration amplitude and impact decreases with distance and perceptible ground-borne vibration is generally limited to areas within one to two hundred feet of the construction activity.

The vibration standard used for to evaluate the Project's vibration impacts is taken from the Caltrans *Transportation and Construction Vibration Guidance Manual* (2020). Based on the Caltrans guidance construction vibration impacts would be considered significant if vibration levels exceed 0.2 in/sec. PPV, which is the limit at which vibration becomes distinctly perceptible.

[6] https://www.transit.dot.gov/research-innovation/transit-noise-and-vibration-impact-assessment-manual-report-0123

Table 3-8 Vibration Source Levels for Construction Equipment

Equipment	PPV (in/sec) at 25 feet
Small bulldozer	0.003
Jackhammer	0.035
Loaded Trucks	0.076
Large bulldozer	0.089

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

The closest sensitive receptor to the Project property line is minimally 45 feet from the property line. The estimated construction vibration level from a large bulldozer (worst case scenario) measured at 25-feet would create a vibration level of 0.089 in/sec which does not exceed the 0.2 in/sec threshold. Therefore, the vibrations at the nearest sensitive receptor will remain well below the strongly perceptible annoyance criteria and potential residential vibration damage criteria thresholds listed in the Caltrans Transportation and Construction Induced Vibration Guidance Manual at or beyond the lot line. The proposed Project therefore is not considered to result in exposure of people to excessive ground vibration.

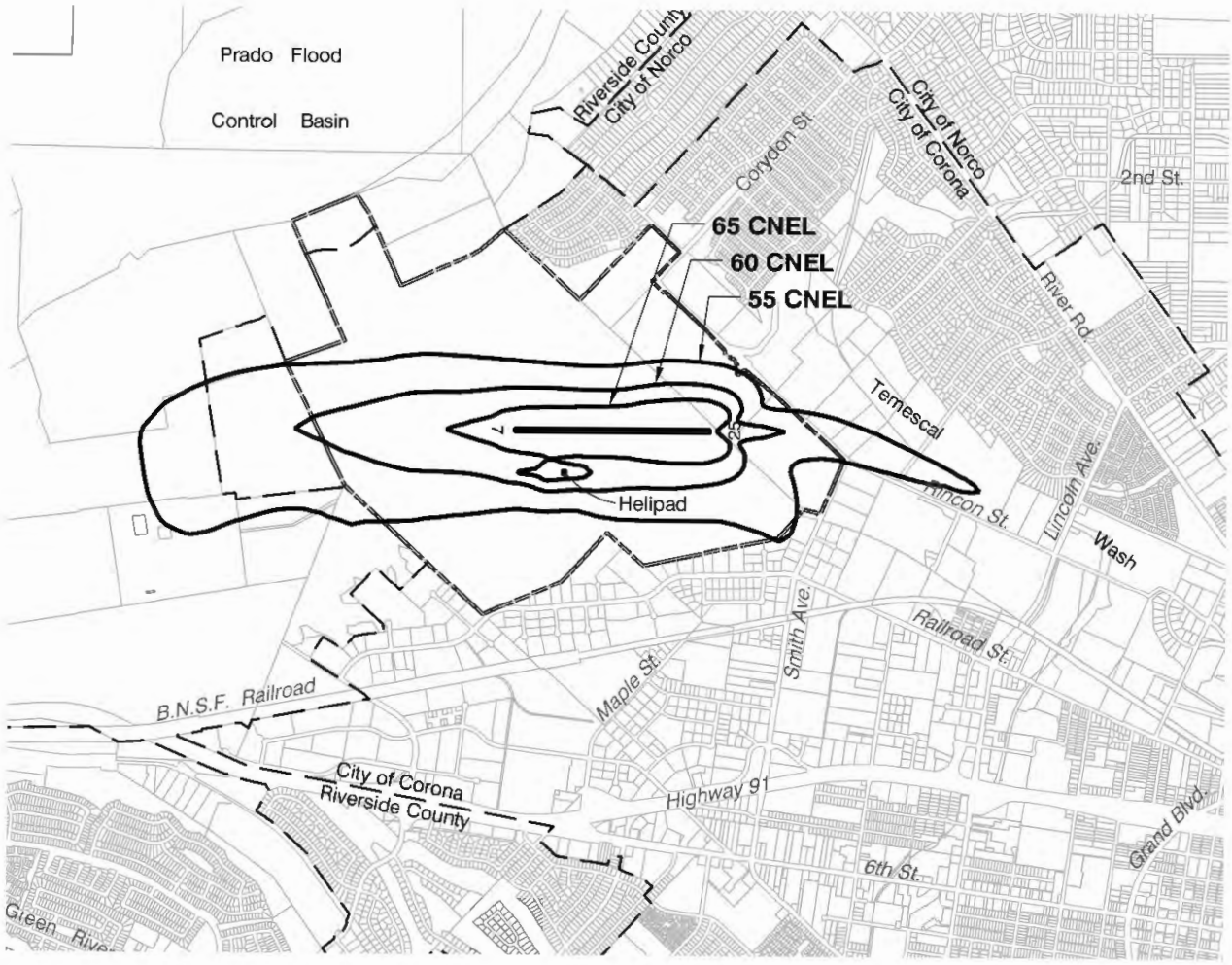
During operations of the Project following construction the primary source of vibration would be from vehicle traffic. Traffic vibration levels are dependent on vehicle characteristics, load, speed, and pavement conditions. Typical vibration levels from heavy truck activity at normal traffic speeds are in the order of 0.004 in/sec PPV at 25 feet based on the FTA's Transit Noise Impact and Vibration Assessment (2018). As the proposed Project is a Worship Center truck traffic which would create the largest vibration impact will be limited. Traffic once on site will be travelling at very low speeds and it is expected that traffic and any truck vibration impacts off site would not exceed the 0.2 in/sec PPV threshold.

Ground-borne vibration levels from automobile traffic are generally overshadowed by vibration generated by heavy trucks that roll over the same uneven roadway surfaces. However, 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 would cause annoyance to people or damage to buildings in the vicinity.

3.5 Airport Noise

The closest airport to the Project site is the Corona Municipal Airport approximately 8 miles north/northwest. As shown in Exhibit 3-E the Project site is located outside the Corona Municipal Airport noise contour 55 CNEL boundary and as such there will be less than significant airport noise impacts.

Exhibit 3-E



4.0 Conclusion

Based on the assessment in Section 3.0 through compliance with mandatory County requirements and ordinances to reduce noise during construction, the Project's construction noise impacts will not result in the generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project. In addition, the Project's construction and operations vibration impacts as well as operational noise for mobile and operational noise impacts to the environment are less than significant.