CITY OF PASADENA

CLASS 32 CATEGORICAL EXEMPTION EVALUATION REPORT

270-282 North Los Robles Project, Pasadena, CA 91101

May 24, 2022

This report is provided as confirmation that the 270-282 North (N.) Los Robles Project (project/proposed project) is exempt from the provisions of the California Environmental Quality Act (CEQA) pursuant to CEQA Guidelines, Article 19, Categorical Exemptions, Section 15332, Infill Development Projects.

PROJECT LOCATION

The proposed project is located in the city of Pasadena (Pasadena) approximately 0.02 mile south of Interstate (I) 210 and 0.2 mile southeast of State Route (SR) 134; refer to **Attachment A, Project Vicinity**. More specifically, the proposed project is situated on two existing parcels located on 270 N. Los Robles and 282 N. Los Robles (project site); refer to **Attachment B, Project Site**. The project site is 39,181 square feet, or 0.898 acres, and includes Assessor's Parcel Numbers (APN) 5723-005-029 and APN 5723-005-044.

PROJECT BACKGROUND

Both parcels in the project site were included in the boundaries identified as the "Project Site" in the Environmental Impact Report (EIR) prepared for the Fuller Theological Seminary Master Development Plan in 2006. The EIR was certified by the City of Pasadena (City) in 2006; at the same time, the City adopted the Findings of Fact, Statement of Overriding Considerations, and Mitigation Monitoring and Reporting Plan. The Fuller Theological Seminary Master Development Plan included a plan to develop the parcel at 282 N. Los Robles Avenue by constructing 196 dwelling units and 216 parking spaces but did not include a plan to develop the parcel at 270 N. Los Robles Avenue. Since that time, the parcel at 282 N. Los Robles Avenue was sold by Fuller Theological Seminary to a developer who subsequently sold it to the current property owner.

ENVIRONMENTAL SETTING

The southern parcel of the project site, 270 N. Los Robles Avenue, is a vacant lot. The northern parcel, 282 N. Los Robles Avenue, has been developed with a surface parking lot at the southeast corner of Los Robles Avenue and Corson Street. The project site currently includes 16,394 square feet of undeveloped and landscaped area, and 22,787 square feet of paved area.

There are a total of 21 trees on-site; five of these trees are located in the City's right-of-way (ROW). The trees located in the City's ROW would be preserved and protected by standard fencing during construction. Of the sixteen remaining trees, two are protected by the City. The protected trees are one Canary Island Date Palm (*Phoenix canariensis)* and one Redwood (*Sequoia sempervirens*). The Redwood tree (*Sequoia sempervirens*) is standing dead and is recommended for removal (Carlberg Associates 2019). The Canary Island Date Palm (*Phoenix canariensis)* has a trunk height of 40 feet, and the Redwood (*Sequoia sempervirens*) has a diameter at breast height (dbh) of 29.4 inches (the threshold for protection is 25 inches). The topography of the project site is relatively flat, with an average slope of less than 15 percent.

The project site is in an area designated as Medium Mixed Use in the City's General Plan; refer to **Attachment C, General Plan Land Use**. This designation allows for a maximum of 2.25 floor-area ratio (FAR), up to 87 dwelling units per acre, and is intended to support the development of multi-story buildings with a variety of compatible commercial (retail and office) and residential uses (City of Pasadena 2016). Based on the size of the project site, 78 residential units would be allowed where a density bonus is not proposed. According to the City's Municipal Code Section 17.43. 040, the City can grant a density bonus up to 35 percent based on the number of inclusionary units provided. Inclusionary units consist of very low, low, and moderate income units.

The project site is located in a Central District Specific Plan area identified as Walnut Housing (CD-3). According to the City's General Plan Land Use Element, the vision for the Central District is to build upon the existing strengths as a vibrant downtown with a mix of uses, walkable areas with shopping, entertainment, restaurants, offices, and housing connected by multiple modes of transit. The project site is located in a Transit-Oriented Development (TOD) area near bus stops and light rail stations for the Metro, Los Angeles Department of Transportation (LADOT) (Commuter Express), Pasadena Transit, and Foothill Transit. Land uses surrounding the project site include multi-family uses to the north (across the I-210), east, and south. To the west across N. Los Robles Avenue are commercial offices.

PROJECT CHARACTERISTICS

Building Components

The proposed project would include demolition of existing improvements on-site. Following removal of existing improvements, the project site would be constructed with a multi-family residential development, including 102,611 square feet of total residential gross square footage, including all amenities. The multi-family residential development includes construction of a six-story multi-family residential building containing a leasing office, lobby, gym, 105 dwelling units, underground parking garage, landscaping, and open spaces throughout the development. The lot coverage is proposed at 75.87 percent and the maximum building height is proposed at 72 feet. The proposed mixed-use building would range from two stories to six stories at various locations.

The proposed project must comply with the 2019 California Green Building Standards Code (CalGreen), which is codified in Section 14.04, Building Code and Related Codes of the City's Municipal Code. The Heating, Ventilation, and Air Conditioning (HVAC) system is expected to meet the Title 24 requirements through the use of filters with a minimum efficiency value of MERV 13. In addition, all improvements would be constructed in compliance with the Americans with Disabilities Act.

Residential Dwelling Units

The project would include a total of 105 residential apartment units over 102,611 square feet of total residential gross square footage, including all amenities. The unit mix includes 15 studios, 38 one-bedroom, 49 two-bedroom, and 3 three-bedroom, for a total of 160 bedrooms within the building. Eighty-nine dwelling units would be rented at market rate and 16 units would be affordable under the City's Inclusionary Housing Ordinance.

A residential lobby leasing office and amenity space located in a building on the west side of the project site are also proposed. Access to two elevators would be provided on the northeast and southern portion of the project site; access to stairways would be provided in multiple locations throughout the project site.

Open Space/Landscaping

The proposed project includes several open space areas to serve the residential units. Seven open space areas are proposed on four levels of the building. The ground floor would include two open space areas, a landscaped area (or "garden"), and an entry plaza. The garden would border the eastern and southern portions of the building (3,815.3 square feet). The entry plaza would be located at the western portion of the ground floor (1,231.6 square feet). The second floor would include two open space areas, a main courtyard, and a small courtyard; the main courtyard would be located at the northern portion of the site (3,779.4 square feet), and the small courtyard at the southeast portion of the site (186.9 square feet). A pool deck area is proposed within the main courtyard to serve the residents. The sixth floor would include two open space areas, the northern terrace and southern terrace; the northern terrace would be located at the northwest portion of the site (691.3 square feet) and the southern terrace would be located at the southwest portion of the site (1,464.4 square feet). The roof would include one open space area, a roof terrace; the roof terrace would be located in the center of the site (7,275.1 square feet). In addition, the proposed project includes 5,047 square feet of landscaping and 8,914 square feet of private balconies and patios.

Access/Parking

The proposed project includes one level of on-grade parking and one and a half levels of underground parking. A total of 161 vehicle parking spaces would be provided; 44 on the ground level, 73 on the P-1 level, and 44 on the P-2 level. In addition, a bicycle storage area is located at the northwest portion of the ground floor.

Access to the underground parking garage is proposed via a driveway from Corson Street on the northeast corner of the site. No changes are proposed to current street access or circulation.

Lighting

The City's Municipal Code Section 17.40.080 governs outdoor lighting standards for development within Pasadena. Specifically, exterior lighting on private property should be energy-efficient and shielded; no lights shall blink, flash or be of high intensity or brightness; and lighting shall be appropriate in scale, intensity, and height. Exterior lighting associated with the proposed project would include pedestrian safety lighting and landscape lighting. All lighting would be provided by light-emitting diode (LED) fixtures with occupancy sensors and full lighting control systems integrated into residential areas.

Short-Term Construction

Construction would be accomplished in a single phase over an approximate 19-month period. Construction is anticipated to initiate in September 2022 and be completed in April 2024; refer to **Table 1 Construction Activities**. Many of the construction activities would overlap in order to reduce the overall construction period. The construction activities planned during the 19-month period are used in consideration of short-term construction related impacts.

Table 1 Construction Activities

Activity	Start Date (Month/Year)	Duration (Months)
Demolition	September 2022	0.25
Grading	September 2022	1
Parking Garage Construction	December 2022	3
Residential Building Construction	March 2023	13
Landscaping, Construction of Podium Courtyard, and On-grade Sidewalk Improvements	April 2024	2

Construction would commence with the demolition of the existing on-grade parking lot. Demolition is anticipated to last approximately 0.25 month, at which time grading and trenching activities would initiate. In order to accommodate the underground parking garage, 17,635 cubic yards of grading is proposed, all of which would be exported from the site. The maximum vertical limits of grading would 20 feet from the existing ground surface. Wet and dry utilities would be installed during the one-month grading duration. Once grading has been completed, construction of the concrete underground parking garage would initiate and last approximately three months. Construction of the residential building would initiate following construction of the underground parking garage. Construction of the residential building is expected to last approximately 13 months and would include framing floors two through six; mechanical, electrical, and plumbing installation; completion of the exterior and interior building finishes. Finally, following construction of the residential building, construction of the podium courtyard, installation of landscaping, and on-grade sidewalk improvements would commence and last approximately two months.

During the entire construction process, dust control measures would be incorporated to prevent fugitive dust. Water spraying would be implemented three times per day to control dust, and trucks/trailers exporting materials from the site would be covered. Off-haul would require approximately 110 trips per day and 30 round trips to the disposal site. The haul routes are paved; the use of the haul routes would not require any improvements to accommodate the trips. Construction activities would take place Monday to Friday between 7:00 a.m. and 7:00 p.m. and Saturday between 8:00 a.m. to 5:00 p.m., per the City Noise Ordinance, Section 9.36.070 of the City's Municipal Code.

DISCRETIONARY ACTIONS

The following permits and approvals are required for development of the proposed project:

Master Plan Amendment

Amendment to the Fuller Theological Seminary Master Development Plan would be needed to remove the project site from the Master Plan.

Development Agreement Amendment

Amendment to the Fuller Theological Seminary Master Development Plan Development Agreement would be needed to remove the project site from the Development Agreement.

Private Tree Removal Permit

Per City Ordinance 6896, the proposed project requires a Private Tree Removal Permit because two specimen trees, a Canary Island Date Palm (*Phoenix canariensis*) and a Redwood(*Sequoia sempervirens*) would need to be removed to complete the project. The Redwood tree (*Sequoia sempervirens*) is standing dead and recommended for removal (Carlberg Associates 2019). The Canary Island Date Palm (*Phoenix canariensis)* has a trunk height of 40 feet (the threshold for protection is 20 feet), and the Redwood (*Sequoia sempervirens*) has a dbh of 29.4 inches (the threshold for protection is 25 inches).

Concept Design Review

Concept Design Review would be needed for the project, should the Fuller Theological Seminary Master Development Plan and Development Agreement Amendments be approved.

CATEGORICAL EXEMPTION

According to CEQA Guidelines, Article 19, Categorical Exemptions, Section 15332, Infill Development Projects, a project characterized as infill development qualifies for this exemption if the following criteria is met:

a) The project is consistent with the applicable general plan designation and all applicable general plan policies as well as with applicable zoning designation and regulations.
b) The proposed development occurs within city limits on a project site of no more than five acres substantially surrounded by urban uses.
c) The project site has no value as habitat for endangered, rare or threatened species.
d) Approval of the project would not result in any significant effects relating to traffic, noise, air quality, or water quality.
e) The site can be adequately served by all required utilities and public services.

The following sections describe the project's consistency with the criteria for Class 32, Infill Development Projects.

The project is consistent with the applicable general plan designation and all applicable general plan policies as well as with applicable zoning designation and regulations.

The project site is in an area designated as Medium Mixed Use in the City's General Plan. This designation is intended to support the development of multi-story buildings with a variety of compatible commercial (retail and office) and residential uses (City of Pasadena 2016). The project would include the construction of a multi-family residential development; therefore, the project would be consistent with the allowed uses under a Medium Mix-Use designation. In addition, the project site is located in a Central District Specific Plan area, where, based on Figure 3-6 - Central District Maximum Residential Density and Figure 3-9 - Central District Maximum Floor Area Ratio and , the maximum residential density is 87 dwelling units per acre and the maximum FAR is 2.25. Based on the size of the project site, 78 residential units would be allowed based on the maximum allowable General Plan density of 87 dwelling units per acre.

Based on a lot size of 39,181 square feet, this results in a maximum of 78 units where a density bonus is not proposed. The project would include 89 dwelling units that would be rented at market rate and 16 units would be affordable under the City's Inclusionary Housing Ordinance. Since a density bonus is proposed, the maximum base residential density is 79 units (not including units granted as a density bonus); in accordance with State Density Bonus Law maximum density requirements are rounded up to the next whole number when calculating a density bonus. Based on the number

of inclusionary units proposed, a 32.5 percent (maximum of 105 residential units total) density bonus would be permitted per City's Municipal Code Section 17.43.040. Further, according to Municipal Code Section 17.43.055, projects that utilize Density Bonus are eligible for up to two pre-identified concessions. In this case, the project is eligible for a 0.5 increase in FAR; up to 2.75, or 107,748 square feet. The proposed project would have a total size of 102,611 square feet, or a 2.62 FAR.

According to the City's Municipal Code Section 17.30.040, Figure 3-8 - Central District Maximum Height and Section 17.30.050, the maximum allowed height of structures on this site is 60 feet, or 75 feet utilizing height averaging. However, according to Municipal Code Section 17.43.055, projects that utilize Density Bonus are eligible for up to two pre-identified concessions. In this case, the project is eligible for a height increase in the average height of up to 12 feet, over no more than 60 percent of the proposed footprint. The building height for the residential structure is proposed at 72 feet; therefore, the project would be consistent with the allowable concession of height.

The City's Municipal Code Section 17.50.350 states a minimum of 30 percent of the net floor area of a residential development project structure shall be provided as open space; therefore, a minimum of 25,375 square feet of open space is required. The proposed project includes 27,358 square feet of open space, which exceeds the City's open space requirements.

Based on the City's Zoning Code and taking into consideration the mix of unit sizes, the project is required to include 150 parking spaces to support the number of residential units proposed plus 11 guest parking spaces. The proposed project would meet this requirement through the construction of an underground parking garage that would provide a total of 161 vehicle parking spaces.

Therefore, the project would be consistent with the Class 32 criteria related to consistency with the general plan and zoning.

The proposed development occurs within city limits on a project site of no more than five acres substantially surrounded by urban uses.

The project site is located within the city limits of Pasadena. The project site is 39,181 square feet, or 0.898 acres. Land uses surrounding the project site include multi-family uses to the north (across the I-210), east, and south. To the west across N. Los Robles Avenue are commercial offices. Therefore, the project would be consistent with the Class 32 criteria related to project location and size.

The project site has no value as habitat for endangered, rare or threatened species.

The project site includes a vacant, unpaved lot and surface parking lot that is bordered by commercial and residential properties. The project site contains ornamental vegetation and a total of 21 trees on-site.

According to the California Department of Fish and Wildlife (CDFW) California Natural Diversity Database, National Marine Fisheries Service (NMFS) Species List, and the U.S. Fish and Wildlife Service (USFWS) Official Species List, multiple federally and state threatened or endangered species have been recorded in the geographical vicinity of the project site (California Department of Fish and Wildlife, 2020; National Marine Fisheries Service, 2021; U.S. Fish and Wildlife Service, 2021a). The project site is developed and does not contain suitable habitat to support special-status species. Since trees within the project site would be removed there is a possibility

that nesting migratory birds would be affected, although no endangered, rare, or threatened bird species are anticipated to nest onsite given the lack of native vegetation. Nonetheless, the project would need to comply with the Migratory Bird Treaty Act, the California Fish and Game Code, and a Private Tree Removal Permit (City Ordinance 6896) which outlines tree removal guidelines and requirements. The project is expected to have no effect on federally threatened or endangered species; therefore, Section 7 consultation with the USFWS or NMFS would not be needed. In addition, the project is expected to have no adverse impacts on state-listed species, and consultation with CDFW would not be required. Therefore, the project would be consistent with the Class 32 criteria related to habitat for special status species.

Approval of the project would not result in any significant effects relating to traffic, noise, air quality, or water quality.

Traffic

The following discussion incorporates the results of the Transportation Impact Analysis (TIA) that was prepared for this project (Iteris 2022).

There are several performance measures that were analyzed in the TIA. These performance measures assess the quality of walking, biking, transit, and vehicular activity in Pasadena:

- Vehicle Miles Traveled (VMT) per Capita
- Vehicle Trips (VT) per Capita
- Proximity and Quality of the Bicycle Network
- Proximity and Quality of the Transit Network
- Pedestrian Accessibility

The City's CEQA thresholds of significance were used to determine project impacts; refer to **Table 2 City of Pasadena CEQA Thresholds**.

Table 2 City of Pasadena CEQA Thresholds

Metric	Description	Impact Threshold
VMT Per Capita	VMT in the City of Pasadena per service population (population + jobs/employees)	Net change in VMT per capita is 16.8% below Citywide average baseline **2017 Baseline: 35.6** **16.8% Below Baseline Threshold: 29.6**
VT Per Capita	VT in the City of Pasadena per service population	Net change in VT per service population is 16.8% below Citywide average baseline **2017 Baseline: 4.2** **16.8% Below Baseline Threshold: 3.5**
Proximity and Quality of the Bicycle Network	Percent of service population within a ¼ mile of bicycle facility types.	Any decrease in baseline Citywide service population within a ¼ mile of Level 1 or 2 bike facilities. **2017 Baseline: 32.3%**
Proximity and Quality of the Transit Network	Percent of service population located within a ¼ mile of transit facility	Any decrease in baseline Citywide service population within a ¼ miles of Level 1 or 2 transit facilities. **2017 Baseline: 66.8%**
Pedestrian Accessibility	The Pedestrian Accessibility Score uses the mix of destinations and a	Any decrease in the Citywide Pedestrian Accessibility Score

	network-based walkshed to evaluate walkability	**2017 Baseline: 3.9**

Source: (Iteris 2022)

VMT per Capita and VT per Capita are analyzed using the City's travel demand model which uses TransCAD to simulate travel volumes and patterns for Pasadena. The results of the project's VMT and VT impacts on the transportation system were determined using the travel demand model and performance measure module; refer to **Table 3 VMT and VT Performance Measures Analysis Results**. The results are based on a project's motorized and non-motorized travel patterns, trip length, surrounding land uses, and the City's transportation network. As summarized in **Table 3**, the project would not exceed the VMT and VT thresholds set by the City (i.e., 16.8% below baseline values). Therefore, the project would result in less than significant impacts related to VMT and VT performance (Iteris 2022).

Table 3 VMT and VT Performance Measures Analysis Results

Transportation Performance Measures	**16.8% Baseline Value**	**Project-related Incremental Change**	**Impact?**
VMT per Capita	29.6 VMT per Capita	+13 VMT per Capita	No
VT per Capita	3.5 VT per Capita	+2.6 VT per Capita	No

Source: (Iteris 2022)

The project would increase the service population on the site as compared to the existing use. As such, citywide service population in the existing plus project scenario would be greater than the citywide service population in the existing scenario. **Table 4 Proximity and Quality of Bicycle and Transit Network Performance Measures Analysis Results** summarizes the existing and existing plus project evaluation of the proximity and quality of bicycle and transit networks. As indicated in **Table 4**, the project does not exceed the proximity and quality of bicycle and transit network thresholds. Therefore, the project would result in a less than significant impact related to bicycle and transit network performance (Iteris 2022).

Table 4 Proximity and Quality of Bicycle and Transit Network Performance Measures Analysis Results

Transportation Performance Measures	**Existing Value**	**Existing Plus Project Value**	**Impact?**
Proximity and Quality of Bicycle Network	32.3% of population and Jobs	≥ 32.3% of population and jobs	No
Proximity and Quality of Transit Network	66.8% of population and Jobs	≥ 66.8% of population and jobs	No

Source: (Iteris 2022)

Given the average walkability in the zone with the number of land use types accessible to the service population, the pedestrian accessibility score would not be decreased. As indicated in **Table 5**, the project would not exceed the pedestrian accessibility threshold. Therefore, the

project would result in a less than significant impact related to pedestrian accessibility performance (Iteris 2022).

Table 5 Pedestrian Accessibility Analysis Results

Transportation Performance Measures	Existing Value	Existing Plus Project Value	Impact?
Pedestrian Accessibility	C-3.9 Land Use Types	C-3.9 Land Use Types	No

Source: (Iteris 2022)

The project would not exceed any performance measures thresholds. Therefore, the project would result in a less than significant impact related to traffic.

Noise

The following discussion incorporates the results of the Noise Technical Memorandum that was prepared for this project (Michael Baker International 2022a).

Land uses in the project vicinity include residential and commercial. The primary sources of stationary noise in the project vicinity are urban-related activities (i.e., mechanical equipment and parking areas). The noise associated with these sources may represent a single-event noise occurrence, short-term, or long-term/continuous noise (Michael Baker International 2022a).

The majority of the existing noise in the project vicinity is generated from traffic along surrounding roadways including I-210, Corson Street, and Los Robles Avenue. Mobile source noise was modeled using the Federal Highway Administration's (FHWA) Highway Noise Prediction Model (FHWA RD-77-108), which incorporates several roadway and site parameters. The model does not account for ambient noise levels. Noise projections are based on modeled vehicular traffic as derived from the TIA. Mobile source noise levels in the vicinity of the project site range from 43.6 A-weight decibels (dBA) to 54.8 dBA at 100 feet from the roadway centerline (Michael Baker International 2022a); refer to **Table 6 Existing Traffic Noise Levels**.

Table 6 Existing Traffic Noise Levels

Roadway Segment	Existing Without Project Conditions				
	ADT	dBA at 100 Feet from Roadway Centerline	Distance from Roadway Centerline (Feet)		
			70 CNEL Noise Contour	65 CNEL Noise Contour	60 CNEL Noise Contour
Euclid Avenue					
Between Corson Street and Walnut Street	1,010	47.9	-	-	-
Oakland Avenue					
Between Corson Street and Walnut Street	531	43.6	-	-	-
Madison Avenue					
Between Corson Street and Walnut Street	1,559	48.3	-	-	-
El Molino Avenue					

Between Corson Street and Walnut Street	6,921	54.8	-	-	45

Source: (Michael Baker International 2022a)
Notes: ADT = average daily trips; dBA = A-weighted decibels; CNEL = community noise equivalent level; Blank cells = Contour located within the roadway right of way.

In order to quantify existing ambient noise levels in the project vicinity, three short-term noise measurements in the project vicinity were recorded on November 4, 2021. Meteorological conditions were clear skies, warm temperatures (70 degrees), and low wind speeds. The monitoring equipment used for the ambient noise survey complies with applicable requirements of the American National Standards Institute for precision sound level meters. The noise measurement locations were representative of typical existing noise exposure within and immediately adjacent to the project site; refer to **Attachment D, Noise Measurement Locations**. The 10-minute measurements were taken between 11:00 a.m. and 12:00 p.m. Short-term equivalent sound level (L_{eq}) measurements are considered representative of the noise levels throughout the day. The noise measurements were taken during "off-peak" (9:00 a.m. through 3:00 p.m.) traffic noise hours as this provides a more conservative baseline. During rush hour traffic, vehicle speeds and heavy truck volumes are often low. Free-flowing traffic conditions just before or after rush hour often yield higher noise levels. Measured noise levels during the daytime measurements ranged from 59.1 to 69.0 dBA L_{eq} (Michael Baker International 2022a); refer to **Table 7 Noise Measurements**.

Table 7 Noise Measurements

Site No.	Location	L_{eq} (dBA)	L_{min} (dBA)	L_{max} (dBA)	Peak (dBA)	Start Time
1	Next to the southern project boundary line and adjacent to 262 North Los Robles Avenue, along North Los Robles Avenue.	69.0	57.2	87.4	103.0	11:14 AM
2	Southeast corner of the Walnut Street and North Los Robles Avenue intersection, in front of 454 East Walnut Street.	68.7	56.7	82.4	101.7	11:29 AM
3	In front of 275 Oakland Avenue.	59.1	55.9	73.8	91.9	11:48 AM

Source: (Michael Baker International 2022a)

The following environmental analysis for noise is patterned after the Initial Study Checklist recommended by the CEQA Guidelines. The issues presented in the Initial Study Checklist have been utilized as thresholds of significance (Michael Baker International 2022a).

Temporary increases in ambient noise levels as a result of the project would predominantly be associated with construction activities. Typical noise levels generated by construction equipment expected to be used by the project were identified assuming the maximum sound level (L_{max}), meaning the highest individual sound occurring at an individual time period; refer to **Table 8 Maximum Noise Levels Generated by Construction Equipment**. 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. Other primary sources of acoustical disturbance would be due to random incidents, which would last less than one minute (such as dropping large pieces of equipment or the hydraulic movement of machinery lifts) (Michael Baker International 2022a).

Table 8 Maximum Noise Levels Generated by Construction Equipment

Type of Equipment	Acoustical Use Factor	Reference L_{max} at 50 Feet (dBA)	L_{max} at 100 Feet (dBA)
Air Compressor	40	80	74
Backhoe	40	80	74
Concrete Mixer	50	80	74
Crane	16	85	79
Dozer	40	85	79
Generator	50	73	67
Grader	40	85	79
Loader	40	80	74
Paver	50	85	79
Roller	20	85	79
Saw	20	90	84
Truck	40	84	78

Source: (Michael Baker International 2022a)
Notes: Acoustical Use Factor (percent): Estimates the fraction of time each piece of construction equipment is operating at full power (i.e., its loudest condition) during a construction operation

The nearest sensitive receptors are the multi-family residences located adjacent to the south and east of the project site. These sensitive receptors may be exposed to elevated noise levels during project construction. However, the project would adhere to the City's Noise Ordinance governing hours of construction and noise levels generated by construction equipment (Municipal Code Chapter 9.36). In accordance with these regulations, construction noise would be limited to normal working hours (7:00 a.m. to 7:00 p.m. Monday through Friday and 8:00 a.m. to 5:00 p.m. on Saturday; construction activities are not allowed on Sundays or holidays) (Michael Baker International 2022a).

The City's Municipal Code Section 9.36.080 prohibits any person to operate any powered construction equipment if the operation of such equipment emits noise at a level in excess of 85 dBA when measured within a radius of 100 feet from such equipment. Due to geometric spreading, these noise levels would decrease with distance from the construction site at a rate of approximately 6 dBA per doubling of distance. As depicted in **Table 8**, the loudest piece of equipment would operate at a maximum noise level of 84 dBA at 100 feet from the source. Construction noise levels would not exceed the City's Noise Ordinance threshold of 85 dBA at 100 feet. Therefore, the project would result in a less than significant impact related to construction noise (Michael Baker International 2022a).

Future development generated by the project would result in some additional traffic on adjacent roadways, thereby potentially increasing vehicular noise in the vicinity of existing and proposed land uses. The most prominent source of mobile traffic noise in the project vicinity is along I-210. In community noise assessments, a 3 dBA increase is considered "barely perceptible," and increases over 5 dBA are generally considered "readily perceptible". As traffic noise levels at sensitive uses likely approach or exceed the applicable land use compatibility standard (refer to **Table 9 City of Pasadena Land Use Compatibility Matrix**), a 3 dBA increase as a result of the project is used as the increase threshold for the project. Thus, a project would result in a significant noise impact when a permanent increase in ambient noise levels of 3 dBA occur upon project implementation and the resulting noise level exceeds the applicable exterior standard at a noise sensitive use (Michael Baker International 2022a).

Table 9 City of Pasadena Land Use Compatibility Matrix

Land Use Category	Community Noise Exposure (Ldn or CNEL, dBA)			
	Clearly Acceptable	Normally Acceptable	Conditionally Acceptable	Normally Unacceptable
Residential – Low Density Single Family, Duplex, Mobile Homes	50 – 60	55 – 70	70 – 75	75 – 85
Residential – Multiple Family and Mixed Commercial/Residential Use	50 – 65	60 – 70	70 – 75	70 – 85
Transient Lodging – Motels, Hotels	50 – 65	60 – 70	70 – 80	80 – 85
Schools, Libraries, Churches, Hospitals, Nursing Homes	50 – 65	60 – 70	70 – 80	80 – 85
Auditoriums, Concert Halls, Amphitheaters	NA	50 - 70	65 – 85	NA
Sports Arenas, Outdoor Spectator Sports	NA	50 - 75	70 - 85	NA
Playgrounds, Neighborhood Parks	50 - 70	NA	67.5 – 75	72.5 - 85
Golf Courses, Riding Stables, Water Recreation, Cemeteries	50 - 75	NA	70 – 80	80 - 85
Office Buildings, Business Commercial and Professional	50 - 70	67.5 – 77.5	75 - 85	NA
Industrial, Manufacturing, Utilities, Agriculture	50 - 75	70 - 80	80 - 85	NA

According to the TIA, the proposed project would generate a net increase of 514 daily trips, including 34 trips during the a.m. peak hour and 41 trips during the p.m. peak hour (Iteris 2022). Based upon the TIA, the "Existing Without Project" and "Existing Plus Project" scenarios were compared for future noise conditions along roadway segments in the project vicinity (Michael Baker International 2022a).

Under the "Existing Without Project" scenario, noise levels at a distance of 100 feet from the roadway centerline would range from approximately 43.6 dBA to 54.8 dBA, with the highest noise level occurring along El Molino Avenue. Under the "Existing Plus Project" scenario, noise levels at a distance of 100 feet from the roadway centerline would range from approximately 44.2 dBA to 54.8 dBA, with the highest noise level occurring along the same roadway segment; refer to **Table 10 Existing Plus Project Traffic Noise Levels**. As shown in **Table 10**, none of the roadway segments would exceed the City's applicable land use compatibility standard. Further, the highest noise level increase would be 0.6 dBA along Oakland Avenue (between Corson Street and Walnut Street). Therefore, existing noise conditions along roadway segments in the project vicinity would not exceed the 3.0 dBA increase threshold and the applicable normally acceptable land use compatibility standard simultaneously. Additionally, the project would be consistent with the City's General Plan Noise Element Policy 2b through Policy 2d that aim to reduce the effects of traffic-generated noise. Therefore, the project would result in a less than significant impact related to mobile traffic noise (Michael Baker International 2022a).

Table 10 Existing Plus Project Traffic Noise Levels

Roadway Segment	Existing Land Uses Located along Roadway Segment	Existing Without Project Traffic Noise (dBA)	Existing Plus Project					Normally Acceptable Land Use Compatibly Standard Threshold (dBA)	Project Noise Level	Both Thresholds Exceeded?
			dBA at 100 Feet from Roadway Centerline	ADT	Distance from Roadway Centerline (Feet)					
					70 CNEL Noise Contour	65 CNEL Noise Contour	60 CNEL Noise Contour			
Euclid Avenue										
Between Corson Street and Walnut Street	Residential/ School/ Commercial	47.9	47.9	1,010	-	-	-	60	0.0	No
Oakland Avenue										
Between Corson Street and Walnut Street	Residential/ Commercial	43.6	44.2	608	-	-	-	60	0.6	No
Madison Avenue										
Between Corson Street and Walnut Street	Residential/ School/Comm ercial	48.3	48.3	1,559	-	-	-	60	0.0	No
El Molino Avenue										
Between Corson Street and Walnut Street	Residential/ Commercial/ Professional	54.8	54.8	6,985	-	-	45	60	0.0	No

Source: (Michael Baker International 2022a)
Notes: Notes: ADT = average daily trips; dBA = A-weighted decibels; CNEL = community noise equivalent level, Blank cells = Contour located within the roadway right of way.

Stationary noise sources associated with the project would include the operation of mechanical equipment, parking activities, and outdoor gathering area activities (Michael Baker International 2022a).

The HVAC units would be installed on the roof of the proposed building. HVAC systems can result in noise levels of approximately 52 dBA L_{eq} at 50 feet from the source (Berger, Neitzel and Kladden 2010). The nearest sensitive receptors to the project site are multi-family residences located adjacent to the south and east of the project site. However, the multi-family residences located adjacent to the south would be located closest to the roof-mounted HVAC units. As a result, HVAC units may be located as close as 25 feet from the nearest sensitive receptors to the south. The roof level height difference between the proposed project and nearest sensitive receptors would be approximately 42 feet. By using the Pythagorean theorem, HVAC units would be located as close as 48 feet from the nearest sensitive receptor. Sound levels would decrease by 6 dBA for each doubling of distance from the source. At a distance of 48 feet, noise levels from the HVAC units would be approximately 52 dBA, which would not exceed the City's 60 dBA community noise equivalent level (CNEL) normally acceptable exterior noise compatibility standard for multi-family residences. In addition, the proposed HVAC units would not generate noise levels in excess of 5 dBA over the existing ambient noise levels of 69.0 dBA L_{eq}, in compliance with the City's Municipal Code Section 9.36.090. Therefore, the project would result in a less than significant impact related to mechanical equipment noise (Michael Baker International 2022a).

Traffic associated with parking lots is typically not of sufficient volume to exceed community noise standards, which are based on a time-averaged scale such as the CNEL scale. However, the instantaneous maximum sound levels generated by a car door slamming, engine starting up, and car pass-bys may be an annoyance to adjacent noise-sensitive receptors. Conversations in parking areas may also be an annoyance to adjacent sensitive receptors. Sound levels of speech typically range from 33 dBA at 48 feet for normal speech to 50 dBA at 50 feet for very loud speech (Michael Baker International 2022a).

Parking activities can result in noise levels up to 61 dBA at a distance of 50 feet; refer to **Table 11 Typical Noise Levels Generated by Parking Lots**. It is noted that parking activity noises are instantaneous noise levels compared to noise standards in the CNEL scale, which are averaged over time. As a result, actual noise levels over time resulting from parking activities would be far lower than what is identified in **Table 11**. Parking activities in the subterranean parking garage would have intermittent parking related noise due to the movement of vehicles. However, noise generated in the subterranean parking garage would be inaudible at off-site uses as the structure would be enclosed. Vehicles may idle at the access driveway to the subterranean parking garage, which would be located in the northeastern corner of the project site. The closest sensitive receptors to the access driveway are the multi-family residences located approximately 55 feet to the east, along Corson Street. At this distance, noise levels from car idling would be approximately 52 dBA, which would not exceed the City's 60 dBA CNEL normally acceptable exterior noise compatibility standard for multi-family residences and would not generate noise levels in excess of 5 dBA over the existing ambient noise levels of 69.0 dBA L_{eq} and 59.1 dBA L_{eq}, in compliance with the City's Municipal Code Section 9.36.050. Parking related noise associated with the project is not expected to exceed the City's noise standards (Michael Baker International 2022a). Therefore, the project would result in a less than significant related to parking activity noise.

Table 11 Typical Noise Levels Generated by Parking Lots

Noise Source	Maximum Noise Levels at 50 Feet from Source (dBA L_{eq})
Car door slamming	61
Car starting	60
Car idling	53

Source: (Michael Baker International 2022a)

The project would include a pool level courtyard on the second floor in the west-central portion of the project site and a roof terrace. The roof terrace would be located closest to off-site sensitive receptors. The roof terrace has the potential to be accessed by groups of people intermittently. Noise generated by groups of people (i.e., crowds) is dependent on several factors including vocal effort, impulsiveness, and the random orientation of the crowd members. Crowd noise is estimated at 60 dBA at 3.28 feet away for raised normal speaking (Rumble, Hayne and Mee 2006). This noise level would have a 5 dBA increase adjustment for the impulsiveness of the noise source, and a 3 dBA decrease adjustment for the random orientation of the crowd members. Therefore, crowd noise would be approximately 62 dBA at 3.28 feet from the source (i.e., the roof terrace) (Michael Baker International 2022a).

The closest sensitive receptors to the roof terrace are the multi-family residences located approximately 60 feet to the east. At this distance, crowd noise would be reduced to approximately 37 dBA, which would not exceed the City's 60 dBA CNEL normally acceptable exterior noise compatibility standard for multi- family residences and would not generate noise levels in excess of 5 dBA over the existing ambient noise levels of 69.0 dBA L and 59.1 dBA, in compliance with the City's Municipal Code Section 9.36.050. As such, the proposed outdoor gathering areas would not generate noise levels that would exceed the City's noise standards at the closest sensitive receptors (Michael Baker International 2022a). Therefore, the project would result in a less than significant impact related to outdoor gathering area activity noise.

Project construction can generate varying degrees of groundborne vibration, depending on the construction procedure and the construction equipment used. Operation of some heavy-duty construction equipment generates vibrations that spread through the ground and diminish in amplitude with distance from the source. The effect on buildings located in the vicinity of the construction site often varies depending on soil type, ground strata, and construction characteristics of the receiver building(s). The results from vibration can range from no perceptible effects at the lowest vibration levels, to low rumbling sounds and perceptible vibration at moderate levels, to slight damage at the highest levels. Groundborne vibrations from construction activities rarely reach levels that damage structures (Michael Baker International 2022a).

The Federal Transit Administration (FTA) has published standard vibration velocities for construction equipment operations. Construction vibration impact is assessed by the potential for building damage. Building damage can be cosmetic or structural. As the nearest structures are the multi-family residential buildings located adjacent to the east and south of the project site, the architectural damage criterion of 0.2 inch/second peak particle velocity (PPV) is utilized (Federal Transit Administration 2018). Vibration velocities from typical heavy construction equipment would range from 0.089 to 0.035 inch/second PPV at 25 feet from the source of activity (Michael Baker International 2022a); refer to **Table 12 Typical Vibration Levels for Construction Equipment.**

Table 12 Typical Vibration Levels for Construction Equipment

Equipment	Approximate peak particle velocity at 25 feet (inches/second)
Large Bulldozer	0.089
Loaded Trucks	0.076
Small Bulldozer	0.003
Jackhammer	0.035

Source: (Michael Baker International 2022a)

Although construction could occur up to the project boundary line, a Vibration Management Plan was submitted by the project applicant that indicated vibration-generating construction equipment would operate at tiered distances from the adjacent residential buildings. The majority of construction activities would not involve equipment that would generate excessive vibration impacts to the nearby sensitive receptors. In addition, construction activities would occur throughout the project site and would not be concentrated at the point closest to the sensitive receptors (Michael Baker International 2022a).

Construction vibration levels do not exceed the architectural damage criterion of 0.2 inch/second PPV; refer to **Table 13 Construction Buffer Zone Vibration Levels**. As part of the Vibration Management Plan submitted by the project applicant, vibration-generating construction equipment (i.e., hoe rams, large bulldozers, caisson drilling, loaded trucks, rock breakers, jackhammers, and small bulldozers) would only operate up to the referenced distance. With the project applicant's Vibration Management Plan in place, groundborne vibration levels would remain below the structural damage criterion (0.2 inch/second PPV). Additionally, prior to construction, the project applicant would install a vibration monitoring system with the potential to measure low levels of vibration (i.e., 0.2 inch/second PPV) to ensure structural damage does not occur (Michael Baker International 2022a). Therefore, the project would result in a less than significant impact related to construction groundborne vibration.

Table 13 Construction Buffer Zone Vibration Levels

Equipment	Nearest Distance of Vibration-Generating Construction Equipment Activity to Adjacent Residential Buildings (Feet)	Peak Particle Velocity (inch/second)
Hoe Ram	15	0.191
Large Bulldoze	15	0.191
Caisson Drilling	15	0.191
Loaded Trucks	51	0.164
Rock Breakers	12	0.177
Jackhammers	8	0.193
Small Bulldozer	2	0.133

Source: (Michael Baker International 2022a)

Operation of the project would not include or require equipment, facilities, or activities that would result in perceptible groundborne vibration. According to the FTA, it is unusual for vibration from sources such as buses and trucks to be perceptible, even in locations close to major roads. As such, it can be reasonably inferred that project operations would not create perceptible vibration impacts to the nearest sensitive receptors. The project would result in a less than significant impact related to operational groundborne vibration (Michael Baker International 2022a).

The nearest public use airport to the project site is the San Gabriel Valley Airport (previously known as El Monte Airport) which lies approximately 7.5 miles to the southeast of the project site. According to the Airport Influence Area of El Monte Airport, the project site is not located within the San Gabriel Valley Airport CNEL contours. The project site is not in the vicinity of a private airstrip. Therefore, the project would result in no impact related to an airport land use plan (Michael Baker International 2022a).

The project would not exceed noise or vibration thresholds. Therefore, the project would result in a less than significant impact related to noise and vibration.

Air Quality

The following discussion incorporates the results of the Air Quality Technical Memorandum that was prepared for the project (Michael Baker International 2022b).

Pasadena is located within the South Coast Air Basin (Basin). The South Coast Air Quality Management District (SCAQMD) has jurisdiction in the Basin, which has a history of recorded air quality violations and is an area where both state and federal ambient air quality standards are exceeded. Areas that meet ambient air quality standards are classified as attainment areas, while areas that do not meet these standards are classified as nonattainment areas. The SCAQMD is required, pursuant to the Federal Clean Air Act, to reduce emissions of the air pollutants for which the Basin is in nonattainment (Michael Baker International 2022b).

In order to reduce emissions, the SCAQMD adopted the 2016 Air Quality Management Plan (AQMP) which establishes a program of rules and regulations directed at reducing air pollutant emissions and achieving state and federal air quality standards. The 2016 AQMP is a regional and multi-agency effort including the SCAQMD, California Air Resources Board (CARB), the Southern California Association of Governments (SCAG), and the United States Environmental Protection Agency (EPA) (Michael Baker International 2022b).

The 2016 AQMP pollutant control strategies are based on the latest scientific and technical information and planning assumptions, including the 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), updated emission inventory methodologies for various source categories, and SCAG's latest growth forecasts. SCAG's latest growth forecasts were defined in consultation with local governments and with reference to local general plans. The SCAQMD considers projects that are consistent with the Air Quality Management Plan (AQMP), which is intended to bring the Basin into attainment for all criteria pollutants, to also have less than significant cumulative impacts. While SCAG has recently adopted the 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy (2020-2045 RTP/SCS), SCAQMD has not released an updated AQMP that utilizes information from the 2020-2045 RTP/SCS. SCAQMD is planning to release the updated AQMP in 2022. As such, the following analysis is based off consistency with the 2016 AQMP and 2016-2040 RTP/SCS (Michael Baker International 2022b).

Land use planning strategies set forth in the 2016 AQMP are primarily based on the 2016-2040 RTP/SCS. The project is an infill development and is located less than 0.2-mile from transit stations. Further, the project would provide bicycle parking spaces and electric vehicle charging stations on-site to promote alternative transportation options. Therefore, the project would be consistent with the actions and strategies of the 2016-2040 RTP/SCS. In addition, as discussed in the Land Use Criteria section above, the project would be consistent with the City's General Plan land use designation. Furthermore, project consistency with the SCAG RTP/SCS and the 2016

AQMP would promote the City's goal to protect air quality by incorporating Pasadena Open Space and Conservation Element policies and objectives (Michael Baker International 2022b).

A project is consistent with the 2016 AQMP in part if it is consistent with the population, housing, and employment assumptions that were used in the development of the 2016 AQMP. In the case of the 2016 AQMP, four sources of data form the basis for the projections of air pollutant emissions: the City's General Plan, the Central District Specific Plan, SCAG's regional growth forecast, and the SCAG RTP/SCS. The RTP/SCS also provides socioeconomic forecast projections of regional population growth (Michael Baker International 2022b).

Pasadena's population estimate as of January 1, 2021, is 145,306 persons. The project would induce population growth directly through the construction of 105 residential units. Based on an average household size of 2.43, the project would result in an indirect population increase of approximately 255 persons. While it is likely that at least some future residents already live in Pasadena this analysis conservatively assumes all 255 future residents would move into Pasadena. SCAG growth forecasts estimate Pasadena's population to reach 150,700 persons by 2040, representing a total increase of 10,400 persons between 2012 and 2040. The project's potential indirect population growth (255 persons) represents 2.5 percent of Pasadena's anticipated growth by 2040, and only 0.2 percent of Pasadena's total projected 2040 population. Therefore, the project would not cause the City's General Plan buildout population forecast to be exceeded. The population and housing forecasts, which are adopted by SCAG's Regional Council, are based on the local plans and policies applicable to the City. Additionally, as the SCAQMD has incorporated these same projections into the 2016 AQMP, it can be concluded that the project would be consistent with the projections (Michael Baker International 2022b).

The project involves construction activities associated with demolition, grading, building construction, paving, and architectural coating applications. Exhaust emission factors for typical diesel-powered heavy equipment are based on the program defaults of the most recent version of the California Emissions Estimator Model (CalEEMod), version 2020.4.0. Variables factored into estimating the total construction emissions include the level of activity, length of construction period, number of pieces and types of equipment in use, site characteristics, weather conditions, number of construction personnel, and the amount of materials to be transported on- or off-site. The analysis of daily construction emissions has been prepared using CalEEMod (Michael Baker International 2022b); refer to **Table 14 Short-Term Construction Emissions.**

Table 14 Short-Term Construction Emissions

Emissions Source	**Maximum Daily Emissions (Pounds/Day)**					
	ROG	**NO_X**	**CO**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**
Construction Related Emissions						
Year 1	2.77	46.16	21.72	0.12	6.03	2.95
Year 2	1.97	15.62	20.21	0.04	1.77	0.96
Year 3	15.86	14.65	19.88	0.04	1.68	0.88
Maximum Daily Emissions	**15.86**	**46.16**	**21.72**	**0.12**	**6.03**	**2.95**
SCAQMD Thresholds	75	100	550	150	150	55
Is Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

Source: (Michael Baker International 2022b)

Notes: Emissions were calculated using CalEEMod, version 2020.4.0. Winter emissions represent the worst-case scenario; Modeling assumptions include compliance with SCAQMD Rule 403 which requires: properly maintain mobile and other construction equipment; replace ground cover in disturbed areas quickly; water exposed surfaces three times daily; cover stockpiles with tarps; water all haul roads twice daily; and limit speeds on unpaved roads to 15 miles per hour.

Construction activities would comply with SCAQMD Rules 403 and 1113. Rule 403 which requires that excessive fugitive dust emissions be controlled by regular watering or other dust prevention measures. Rule 1113 provides specifications on painting practices as well as regulates the reactive organic gas (ROG) content of paint. Adherence to SCAQMD Rules 403 and 1113 would greatly reduce PM_{10}, fine particulate matter ($PM_{2.5}$), and ROG concentrations. It should be noted that these reductions were applied in CalEEMod. As depicted in **Table 14**, total construction emissions would not exceed the SCAQMD thresholds during construction. Therefore, the project would result in a less than significant impact related to short-term construction emissions (Michael Baker International 2022b).

Asbestos is a term used for several types of naturally occurring fibrous minerals that are a human health hazard when airborne. Asbestos is classified as a known human carcinogen by state, federal, and international agencies and was identified as a toxic air contaminant by the CARB in 1986. Asbestos can be released from serpentinite and ultramafic rocks when the rock is broken or crushed. These rocks have been commonly used for unpaved gravel roads, landscaping, fill projects, and other improvement projects in some localities. According to the Department of Conservation Division of Mines and Geology, A General Location Guide for Ultramafic Rocks in California – Areas More Likely to Contain Naturally Occurring Asbestos Report, serpentinite and ultramafic rocks are not known to occur within the project site. Therefore, the project would result in no impact related to asbestos (Michael Baker International 2022b).

Mobile sources are emissions from motor vehicles, including tailpipe and evaporative emissions. Depending upon the pollutant being discussed, the potential air quality impact may be of either regional or local concern. For example, ROG, nitrogen oxides (NO_X), sulfur dioxide (SO_X), PM_{10}, and $PM_{2.5}$ are all pollutants of regional concern (NOX and ROG react with sunlight to form ozone [photochemical smog], and wind currents readily transport SO_X, PM_{10}, and $PM_{2.5}$); however, carbon monoxide (CO) tends to be a localized pollutant, dispersing rapidly at the source (Michael Baker International 2022b).

Project-generated vehicle emissions have been estimated using CalEEMod. Based on the TIA prepared for the project, the project would generate approximately 514 net new daily vehicle trips (Iteris 2022). Area source emissions would be generated from consumer products, architectural coatings, and landscaping. Energy source emissions would be generated as a result of electricity and natural gas (non-hearth) usage associated with the proposed project. The primary use of electricity and natural gas by the project would be for space heating and cooling, water heating, ventilation, lighting, appliances, and electronics. Emissions generated by area, energy, and mobile sources associated with the project would not exceed established SCAQMD thresholds; refer to **Table 15 Long-Term Operational Air Emissions**. Therefore, the project would result in a less than significant impact related to operational emissions (Michael Baker International 2022b).

Table 15 Long-Term Operational Air Emissions

Emissions Source	Maximum Daily Thresholds (Pounds/Day)					
	ROG	**NO_X**	**CO**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**
Proposed Project Winter Emissions						
Area Source	2.76	1.67	9.34	0.01	0.17	0.17
Energy Source	0.03	0.29	0.13	0.00	0.02	0.02
Mobile	1.53	1.70	15.55	0.03	3.73	1.01
Total Emissions	**4.32**	**3.66**	**25.02**	**0.05**	**3.93**	**1.12**
SCQAMD Regional Threshold	55	55	550	150	150	55
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**
Proposed Project Summer Emissions						
Area Source	2.76	1.67	9.34	0.01	0.17	0.17
Energy Source	0.03	0.29	0.13	0.00	0.02	0.02
Mobile	1.55	1.58	15.91	0.04	3.73	1.01
Total Emissions	**4.35**	**3.54**	**25.38**	**0.05**	**3.93**	**1.21**
SCQAMD Regional Threshold	55	55	550	150	150	55
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

Source: (Michael Baker International 2022b)
Notes: Emissions were calculated using CalEEMod, version 2020.4.0. The numbers may be slightly off due to rounding

With respect to the proposed project's air quality emissions and cumulative Basin-wide conditions, the SCAQMD has developed strategies to reduce criteria pollutant emissions outlined in the 2016 AQMP pursuant to Federal Clean Air Act mandates. As such, the project would comply with SCAQMD Rule 403 requirements and the adopted 2016 AQMP emissions control measures. Rule 403 requires that fugitive dust be controlled with the best available control measures in order to reduce dust so that it does not remain visible in the atmosphere beyond the property line of the proposed project. Per SCAQMD rules and mandates, as well as the CEQA requirement that significant impacts be mitigated to the extent feasible, these same requirements (i.e., Rule 403 compliance, the implementation of all feasible mitigation measures, and compliance with adopted 2016 AQMP emissions control measures) would also be imposed on development projects throughout the Basin, which would include related projects (Michael Baker International 2022b).

The SCAQMD's guidance on applying CalEEMod to Localized Significance Thresholds (LST) specifies the number of acres a particular piece of equipment would likely disturb per day. The grading phase would take approximately 22 days to complete. As the project site is slightly less than an acre is size, the LST screening criteria for one acre was utilized for the construction LST analysis per SCAQMD guidance. According to SCAQMD LST Methodology, projects with boundaries located

closer than 25 meters to the nearest receptor should use the LST screening criteria for receptors located at 25 meters. As the nearest sensitive uses are adjoining the project site to the south, the LST values for 25 meters (82 feet) were used. **Table 16 Localized Significance Thresholds of Construction Emissions**, shows the localized construction-related emissions. It is noted that the localized emissions presented in **Table 16** are less than those in **Table 14** because localized emissions include only on-site emissions (i.e., from construction equipment and fugitive dust). As seen in **Table 16**, emissions would not exceed the LST mass rate screening criteria for Source Receptor Area (SRA) 8 (Michael Baker International 2022b). Therefore, the project would result in a less than significant impact related to localized construction emissions.

Table 16 Localized Significance Thresholds of Construction Emissions

Maximum Emissions	**Maximum Daily Emissions (Pounds/Day)**			
	NO_X	**CO**	**PM_{10}**	**$PM_{2.5}$**
Year 1	25.72	20.59	3.60	2.14
Year 2	14.38	16.24	0.70	0.66
Year 3	13.44	16.17	0.61	0.58
Maximum Daily Emissions	25.72	20.59	3.60	2.14
Localized Significance Threshold Mass Rate Screening Criteria	69	535	4	3
Thresholds Exceeded?	No	No	No	No

Source: (Michael Baker International 2022b)
Notes: Maximum on-site daily emissions would occur during the demolition phase for NO_X and CO, and during the grading phase for PM_{10} and $PM_{2.5}$ in Year 1. Maximum on-site daily emissions would occur during the building construction phase for NO_X, CO, PM_{10}, and $PM_{2.5}$ in Year 2. Maximum on-site daily emissions would occur during the building construction phase for NO_X, CO, PM_{10}, and $PM_{2.5}$ in Year 3. Modeling assumptions include compliance with SCAQMD Rule 403 which requires: properly maintain mobile and other construction equipment; replace ground cover in disturbed areas quickly; water exposed surfaces three times daily; cover stockpiles with tarps; water all haul roads twice daily; and limit speeds on unpaved roads to 15 miles per hour. The Localized Significance Threshold Mass Rate Screening Criteria was determined using Appendix C of the SCAQMD Final Localized Significant Threshold Methodology guidance document for pollutants NO_X, CO, PM_{10}, and $PM_{2.5}$. The Localized Significance Threshold Mass Rate Screening Threshold was based on the anticipated daily acreage disturbance for construction (one acre), the distance to sensitive receptors (25 meters), and the source receptor area (SRA 8).

According to SCAQMD LST methodology, LSTs would apply to the operational phase of a proposed project if the project includes stationary sources or attracts mobile sources that may spend extended periods queuing and idling at the site (e.g., warehouse or transfer facilities). The project does not include such uses. Due to the lack of such emissions, no long-term localized significance threshold analysis is necessary. Therefore, the project would result in no impact related to operational localized emissions (Michael Baker International 2022b).

CO emissions are a function of vehicle idling time, meteorological conditions, and traffic flow. Under certain extreme meteorological conditions, CO concentrations near a congested roadway or intersection may reach unhealthful levels (i.e., adversely affecting residents, school children, hospital patients, the elderly, etc.) (Michael Baker International 2022b).

The SCAQMD recommends a quantified assessment of CO hotspots when a project increases the volume- to-capacity ratio by two percent for any intersection with an existing level of service

(LOS) D or worse. Because traffic congestion is highest at intersections where vehicles queue and are subject to reduced speeds, these hot spots are typically produced at intersections (Michael Baker International 2022b).

The Basin is designated as an attainment/maintenance area for the federal CO standards and an attainment area for state standards. Three major control programs have contributed to the reduced per-vehicle CO emissions: exhaust standards, cleaner burning fuels, and motor vehicle inspection/maintenance programs. A detailed CO analysis was conducted in the Federal Attainment Plan for Carbon Monoxide (CO Plan) for the SCAQMD's 2003 Air Quality Management Plan, which is the most recent AQMP that addresses CO concentrations. The locations selected for microscale modeling in the CO Plan are worst-case intersections in the Basin and would likely experience the highest CO concentrations. Thus, CO analysis within the CO Plan is utilized in a comparison to the proposed project, since it represents a worst-case scenario with heavy traffic volumes within the Basin (Michael Baker International 2022b).

Of these locations, the Wilshire Boulevard/Veteran Avenue intersection in Los Angeles County experienced the highest CO concentration (4.6 parts per million [ppm]), which is well below the 35-ppm one-hour CO federal standard. The Wilshire Boulevard/Veteran Avenue intersection is one of the most congested intersections in Southern California with an ADT volume of approximately 100,000 vehicles per day. As the CO hotspots were not experienced at the Wilshire Boulevard/Veteran Avenue intersection, it can be reasonably inferred that CO hotspots would not be experienced at any intersections within Pasadena near the project site due to the comparatively low volume of traffic (a net increase of 514 average daily trips, including 34 trips during the a.m. peak hour and 41 trips during the p.m. peak hour) that would occur as a result of project implementation. Therefore, the project would result in a less than significant impact related to CO hotspots (Michael Baker International 2022b).

According to the SCAQMD CEQA Air Quality Handbook, land uses associated with odor complaints typically include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. The project does not include any uses identified by the SCAQMD as being associated with odors (Michael Baker International 2022b).

Construction activities associated with the project may generate detectable odors from heavy-duty equipment exhaust and architectural coatings. However, construction-related odors would be short-term in nature and cease upon project completion. In addition, the project would be required to comply with the California Code of Regulations, Title 13, Sections 2449(d)(3) and 2485, which minimizes the idling time of construction equipment either by shutting it off when not in use or by reducing the time of idling to no more than five minutes. This would further reduce the detectable odors from heavy-duty equipment exhaust. The project would also comply with the SCAQMD Rule 1113, which would minimize odor impacts from ROG emissions during architectural coating. Therefore, the project would result in a less than significant impact related to odors (Michael Baker International 2022b).

The determination of 2016 AQMP consistency is primarily concerned with the long-term influence of a project on air quality in the Basin. The proposed project would not result in a long-term impact on the region's ability to meet state and federal air quality standards. Also, the proposed project would be consistent with the goals and policies of the 2016 AQMP for control of fugitive dust. The proposed project's long-term influence would also be consistent with the SCAQMD and SCAG's goals and policies and is, considered consistent with the 2016 AQMP. Therefore, the project would result in a less than significant impact related to air quality (Michael Baker International 2022b).

Water Quality

The project site is located in an urban area bordered by commercial and residential properties The project site includes a vacant, unpaved lot and surface parking lot. The project would result in an increase of approximately 8,335 square feet of impervious area. The project would comply with Chapter 8.70 of the City's Municipal Code which outlines the City's Stormwater Management and Discharge Control Ordinance. Section 8.70.90 of the City's Municipal Code prohibits litter from being thrown into the municipal stormwater system. In addition, this section identifies any occupant, tenant, owner, lessee, and proprietor of a property adjacent to paved sidewalks as responsible for maintaining the sidewalk free of litter and dirt to the maximum extent feasible. Best Management Practices (BMP) outlined in Section 8.70.090 of the City's Municipal Code describes proper sediment and construction waste storage practices. In addition, this section prohibits the washing of construction equipment adjacent to the project site to prevent runoff of pollutants.

Because the project includes redevelopment of the existing parking lot and result in an increase of more than 5,000 square feet of impervious surface, a County of Los Angeles' Municipal Separate Storm Sewer System (MS4) Permit would be required. Per MS4 Permit requirements, a Low Impact Development (LID) Plan would be developed for the project to minimize impervious surface area and control runoff from impervious surfaces that could result in pollutants, pollutant loads, and runoff volume from being released. The LID Plan would need to include applicable plans, water quality notes, BMPs, soil investigation, infiltration or biotreatment feasibility findings, an operation and Maintenance Plan, and a Master Covenant Agreement. In addition, the LID Plan would require the project site to retain onsite stormwater runoff volume caused by the 85th Percentile Storm Event, which would generate 1.0-1.2 inches of runoff per hour. Therefore, with the implementation of BMPs and compliance with MS4 permit requirements, the project would result in a less than significant impact related to water quality.

Therefore, the project would be consistent with the Class 32 criteria related to traffic, noise, air quality, and water quality.

The site can be adequately served by all required utilities and public services.

The existing project site does not use electric, natural gas, trash, water, or wastewater services. The project would construct connections to electricity, water, wastewater, and natural gas services to service residents during project operation.

During project operation, electricity and water services would be supplied from Pasadena Department of Water and Power (PWP). The PWP developed an Urban Water Management Plan (UWMP) that includes an analysis of long-term water supply and demand planning for PWP. The UWMP utilizes the Land Use Element of the City's General Plan to project Pasadena's future growth and water demand. As discussed in the Air Quality Criteria section above, the project would not cause the City's General Plan buildout population forecast to be exceeded. The UWMP included an assessment of water supply and demand under a reasonable prediction for normal or dry year supplies. It was concluded that under both scenarios there would not be a deficit in water supplies. Therefore, the project would be sufficiently serviced by PWP (Pasadena Water and Power 2021).

The PWP receives power from a variety of energy sources including hydropower, natural-gas-fired generators, solar and wind power, and power purchased through the wholesale market. Pasadena plans to further diversify energy resources through the acquisition of solar, wind, geothermal and storage resources. A diversity of energy resources minimizes the overreliance on one or two technologies. The PWP developed an Integrated Resource Plan in 2018 to establish a framework for meeting Pasadena's power supply goals through energy efficiency measures, demand-side management, renewable energy policies, and expanding supply. The Integrated

Resource Plan was updated in 2021 to revise PWP's power supply projections considering current laws, regulations, and energy market conditions (Pasadena Water and Power 2021). The updated Integrated Resource Plan developed a forecast of future energy consumption; it was determined that the annual peak load of energy consumed would not exceed the energy reserve margin. Therefore, with implementation of strategies and polices in the updated Integrated Resource Plan the PWP would support the electrical service demands for the project.

Wastewater services would be provided by the Los Angeles County Sanitation District and the City's Public Works Department. The City's Sewer Division of the Public Works Department operates and maintains the Pasadena sanitary sewer system. The sanitary sewer system conveys wastewater to trunk sewers operated by the Los Angeles County Sanitation District for treatment and discharge. The City's Sewer Master Plan developed in 2007, utilized the City's General Plan Land Use Element to evaluate and plan Pasadena's existing and future sewer service capacity (City of Pasadena 2007). The project is consistent with allowed uses for its General Plan land use and zoning designation; thus, the project's use of sewer infrastructure has been taken into account in Pasadena's future sewer service capacity. Therefore, the project would be sufficiently serviced by the Los Angeles County Sanitation District and the Sewer Division of the Public Works Department.

Natural Gas Services would be provided from Southern California Gas Company (SoCalGas). According to the 2020 California Gas Report, statewide natural gas demand is projected to decrease at an average rate of 1.0 percent each year through 2035. This decrease is due to energy efficiency programs, statewide efforts to minimize greenhouse gas emissions, and reduced gas demand in the major market segment areas which include residential, electric generation, commercial, and industrial. In addition, SoCalGas' natural gas capacity is projected to increase while gas supply used is projected to decrease through 2035 (California Gas and Electric Utilities 2020); therefore, the project would be sufficiently serviced by SoCalGas.

Solid waste collection services would be provided by the City or a City approved hauler. The City does not provide solid waste collection services for commercial units, estate-type residential units, or multiple family residential units with five or more family residential units, unless a written request is submitted by the property owner or a duly authorized agent (City of Pasadena Department of Public Works n.d.). There are 18 public landfills located in Los Angeles County.

The closest public landfills are Scholl Canyon Landfill, Burbank Landfill Site Number Three, Peck Road Gravel Pit, Durbin Inert Debris Engineered Fill Site, and United Rock Products Pit Number Two. The Scholl Canyon Landfill is located in Glendale, CA. The Burbank Landfill Site Number Three is located in Burbank, CA. The Peck Road Gravel Pit is located in Monrovia, CA. The Durbin Inert Debris Engineered Fill Site and United Rock Products Pit Number Two are located in Irwindale, CA.

The Scholl Canyon Landfill has a remaining capacity of 9,900,000 cubic yards and is expected to stop operating in 2030 (CalRecycle 2011). The Burbank Landfill Site Number Three has a remaining capacity of 5,174,362 cubic yards and is expected to stop operating in 2053 (CalRecycle 2010). The Peck Road Gravel Pit has a remaining capacity of 3,500,00 cubic yards (CalRecycle 2009). Durbin Inert Debris Engineered Fill Site does not have a known remaining capacity, but this facility has a maximum of capacity of 1,248,000 cubic yards of waste and is expected to stop operating in 2034 (CalRecycle n.d.). United Rock Products Pit Number Two does not have a known remaining capacity, but this facility has a maximum of capacity of 1,200,000 cubic yards of waste and is expected to stop operating in 2061 (CalRecycle n.d.). There are several landfill options to service the project; therefore, there are sufficient solid waste disposal services to serve the project.

The project would induce population growth to the area through the construction of a multi-family residential development. The project is consistent with its land use designation, zoning designation, and the City's growth and development vision outlined in the Housing Element of the City's General Plan (City of Pasadena 2014). With an increase of population to the area the demand for public services such as fire protection, police protection, schools, parks, and libraries would increase as well.

Population growth resulting from the development of new residential units throughout Pasadena was analyzed in the City's General Plan EIR. The City's General Plan EIR identified that with the growth of population, additional staffing and resources would be needed to meet the growth in demand of emergency services, schools, and libraries. The City's General Fund, property taxes, and sales taxes would ensure that these public services and facilities would be adequately resourced and funded (City of Pasadena 2015). Therefore, the project's impact on emergency services, schools, and libraries demand has been planned for and the project would be adequately serviced.

Relative to park and recreation facilities, as well as open space land, the project would adhere to Chapter 4.17 of the City's Municipal Code which requires a Residential Impact Fee to be paid for each new residential unit. The City expends revenue collected from Residential Impact Fees to fund land acquisition and projects listed in the City's Parks and Recreation Capital Improvement Program (CIP). Projects listed in the City's Parks and Recreation CIP include replacing playground and other recreational equipment, construction of new facilities at parks, and upgrading existing facilities.

The City has planned for population growth resulting from new development. In addition, with impact fees, other sources of funding, and several options to receive services, the project would be adequately served. Therefore, the project would be consistent with the Class 32 criteria related to utilities and public services.

EXCEPTIONS TO THE USE OF A CATEGORICAL EXEMPTION

As specified in CEQA Guidelines, Article 19, Categorical Exemptions, Section 15300.2, the exemption is negated by an exception under any of the following circumstances:

a) **Location.** Classes 3, 4, 5, 6, and 11 are qualified by consideration of where the project is to be located – a project that is ordinarily insignificant in its impact on the environment may in a particularly sensitive environment, be significant. Therefore, these classes are considered to apply in all instances, except where the project may impact an environmental resource of hazardous or critical concern where designated, precisely mapped, and officially adopted pursuant to law by federal, state, or local agencies.
b) **Cumulative Impact.** All exemptions for these classes are inapplicable when the cumulative impact of successive projects of the same type in the same place, over time, is significant.
c) **Significant Effect.** A categorical exemption shall not be used for an activity where there is a reasonable possibility that the activity will have a significant effect on the environment due to unusual circumstances.
d) **Scenic Highways.** A categorical exemption shall not be used for a project which may result in damage to scenic resources, including but not limited to, trees, historic buildings, rock outcroppings, or similar resources, within a highway officially designated as a state scenic highway. This does not apply to improvements which are required as mitigation by an adopted negative declaration or certified EIR.

e) **Hazardous Waste Sites.** A categorical exemption shall not be used for a project located on a site which is included on any list compiled pursuant to Section 65962.5 of the Government Code.
f) **Historical Resources.** A categorical exemption shall not be used for a project which may cause a substantial adverse change in the significance of a historical resource.

Location

As described in the section above, this project meets the criteria for the Class 32 Infill Development Projects (CEQA Guidelines, Article 19, Categorical Exemptions, Section 15332). Therefore, this exception would not be applicable because the project is not a Class 3, 4, 5, 6, or 11 exemption.

Cumulative Impact

This exception applies when, although a particular project may not have a significant impact, the cumulative impact of successive projects of the same type in the same place, over time is significant. **Table 17** provides a summary of multi-family residential projects within the Walnut Housing subdistrict of the Central District Specific Plan, which was used for this cumulative impact analysis.

Table 17 Projects Within the Walnut Housing Subdistrict Area

Project	Project Description	Project Location in Relation to Project Site	Project Status
Olivewood Village Project	This project includes the construction of three mixed-use buildings on two properties; two buildings would be located on one property and one building would be located on the second property. One building would include commercial space on the first floor, office space on the second floor, and residential space on the next three floors. A total of four residential units would be provided in this building. The second building would include six floors of residential space with a total of 82 residential units. The third building would include commercial and residential space. A total of 55 residential units would be provided in this building. The project would include the construction of subterranean parking garages. In addition, the project would include the demolition of the existing building within the project site and removal of all surface parking.	This project is located 0.4 mile southeast of the project site.	This project is currently under construction.
127 and 141 N. Madison Avenue Mixed-Use Project	This project includes the construction of a five-story, mixed-use building. The project would include 49 residential units, two office spaces, open space areas, and a subterranean parking lot. In addition, the project would include the demolition of all existing on-site buildings and features.	This project is located 0.4 mile southeast of the project site.	A building permit has not yet been issued. Construction of the project has not been determined.
Union Street Court	This project includes the construction of a mixed-use building and subterranean parking. A total of 70 residential units are proposed	This project is located 0.5 mile southeast	This project is currently under construction.

	within the building. In addition, the project would include the demolition of the existing building within the project site and removal of all surface parking.	of the project site.	
Pasadena Studios Project	This project includes the construction of a 181 unit residential building. In addition, the project would include the demolition of the existing project site improvements.	This project is located 0.2 mile west of the project site.	A building permit has not yet been issued. Construction of the project has not been determined.

Source: (City of Pasadena Planning and Community Development Department n.d., Dudek 2018, City of Pasadena Planning and Community Development Department 2021, ESA 2019, Michael Baker International 2017)

There are four related projects within the subdistrict, the Olivewood Village Project, 127 and 141 N. Madison Avenue Mixed-Use Project, Union Street Court, and Pasadena Studios Project. Construction of the Olivewood Village Project would be completed prior to the start of construction for the project; therefore, the Olivewood Village Project would not contribute to potential cumulative impacts during project construction. Union Street Court is currently under construction. The construction period for the 127 and 141 N. Madison Avenue Mixed-Use Project and Pasadena Studios Project has not been determined. Therefore, there is the potential for the project to be cumulatively considerable if construction were to occur concurrently with Union Street Court, 127 and 141 North Madison Avenue Mixed-Use Project, and Pasadena Studios Project.

Multiple projects under construction simultaneously could result in cumulative impacts on traffic, air, noise, and vibration. Cumulative impacts on traffic would occur if the projects required road closures, detours, and/or impacted access to bicycle, pedestrian, and transit facilities. Construction of the project would not require any road closures or detours. In addition, access to pedestrian, bicycle, and transit facilities would not be impacted by the project; therefore, the project would not have a cumulatively considerable impact on traffic. As discussed, in the Class 32 Criteria Consistency section, the project was determined to not have a cumulatively considerable impact related to air quality.

Union Street Court is located 0.5 mile from the project site. According to the Environmental Noise Report conducted for Union Street Court, construction noise and vibration impacts would be less than significant and primarily affect areas immediately adjacent to this project. In addition, construction noise and vibration impacts were determined to not be cumulatively considerable (Michael Baker International 2017).

127 and 141 North Madison Avenue Mixed-Use Project is located 0.4 mile from the project site. According to the Noise Technical Report prepared for 127 and 141 North Madison Avenue Mixed-Use Project, construction noise and vibration impacts from this project would not be cumulatively considerable (ESA 2019). Pasadena Studios Project is located 0.2 mile from the project site. According to the environmental document prepared for Pasadena Studios Project, this project would result in a less than significant impact related to construction noise. In addition, construction noise impacts would not be cumulatively considerable (City of Pasadena Planning and Community Development Department 2021). Vibration impacts were not analyzed for the Pasadena Studios Project; however, it is unlikely that maximum construction vibration impacts from the project would occur simultaneously as related projects in the subdistrict. In addition, all projects would be required to adhere to requirements outlined in the Noise Ordinance and the City's General Plan Noise Element. Therefore, with the distance between the projects, the use of a vibration monitoring system, and all projects adhering to the noise ordinance, noise and vibration impacts during construction of the project would not be cumulatively considerable.

The operation of all related projects within the subdistrict could result in cumulative impacts related to growth, energy, and noise. As discussed, in the Class 32 Criteria Consistency section, the project's impacts related to growth and energy have been planned for; therefore, growth and energy related impacts would not be cumulatively considerable. The project's impacts related to operational noise were determined to be less than significant. According to a Noise and Vibration Assessment Technical Report prepared for the Olivewood Village Project, operational noise levels from mechanical equipment would not exceed noise level thresholds established in the City's Municipal Code; therefore, operational noise impacts would be less than cumulatively considerable (Dudek 2018). The Environmental Noise Report prepared for Union Street Court determined that this project would not have a cumulatively considerable impact related to operational noise (Michael Baker International 2017). According to the Noise Technical Report prepared for 127 and 141 North Madison Avenue Mixed-Use Project, the operation of this project would result in a minor noise level increase during operation and would be less than cumulatively considerable (ESA 2019). The operation of Pasadena Studios Project would adhere to the City's General Plan Noise Element policies related to stationary noise; thus, this project's operational noise impacts would be less than cumulatively considerable (City of Pasadena Planning and Community Development Department 2021). Therefore, this exception would not apply.

Significant Effect Due to Unusual Circumstances

This exception applies when, although the project may otherwise be exempt, there is a reasonable possibility that the project would have a significant effect due to unusual circumstances. In this case, there are no unusual circumstances. The project is a multi-family development project in an urbanized area of the City of Pasadena. As a normal course of business, the City regularly processes applications for multi-family residential projects of a similar scale in various parts of the City. There is nothing that distinguishes this project from others in the exempt class and, therefore, there are no unusual circumstances.

Scenic Highways

A categorical exemption shall not be used for a project which may result in damage to scenic resources, including but not limited to, trees, historic buildings, rock outcroppings, or similar resources, within a highway officially designated as a state scenic highway. The project includes the construction of a multi-family residential development that would be consistent with the visual character of the surrounding area. The Los Angeles County and City's General Plan do not identify the project site as a scenic vista or containing a scenic resource (City of Pasadena 2012, Los Angeles County 2015). Additionally, the project is not within the state or county scenic highways system. The nearest officially designated scenic highway is State Route 2 located approximately eight miles northwest of the project site (California Department of Transportation, 2021). Therefore, this exception would not apply.

Hazardous Waste Sites

This exception applies when a project is located on a site listed as a hazardous waste site under Government Code Section 65962.5. According to the State Water Resources Control Board GeoTracker database and the California Department of Toxic Substance Control, there are no hazardous waste sites located within the project site. While three Leaking Underground Storage Tank cleanup sites are located within a half-mile of the project site, all three cleanup site cases have been closed (State Water Resources Control Board 2022, Department of Toxic Substance Control 2022). The project would not require the acquisition of ROW, a temporary construction easement (TCE), or encroach on any parcels adjacent to the project site containing hazardous

waste/materials sites or permitted underground storage tank sites. Because hazardous waste sites are not located within the project site, this exception would not apply.

Historical Resources

This exception applies when a project may cause a substantial adverse change in the significance of a historical resource. The project is not located within a historic or landmark district (City of Pasadena 2019). According to the Central District Specific Plan, no historical resources are located within or adjacent to the project site (City of Pasadena Planning and Development Department 2004). In addition, a records search was conducted for the Historic Resources Report prepared for the Fuller Theological Seminary Master Plan. The records search included a review of listings in the National Register of Historic Places, California Historical Resources Inventory database, and the City's historic resource inventories. The records search identified 20 properties within a half mile radius of the Fuller Theological Seminary project site considered to be historical resources per CEQA Guidelines Section 15064.5(a). None of the historic resources were located within the project site (PCR Services Corporation 2005). In addition, GPA's architectural historians reviewed the Historical Resources Technical Report and ages of adjacent built resources. There is no indication that the project would cause any new or increased adverse change to historical resources. The project would not have the potential to impact any known historical resources because the project would not require the acquisition of ROW, TCE, or encroach on any parcels adjacent to the project site.

In accordance with Mitigation Measure 4-1 in the City's General Plan EIR Mitigation Monitoring and Reporting Program, if previously unidentified cultural materials are encountered or unearthed during construction, work would be halted in that area until a qualified archaeologist can assess the nature and significance of the find (City of Pasadena 2015). In addition, in the event of the accidental discovery or recognition of any human remains in any location other than a dedicated cemetery, steps would be taken in compliance with the California Code of Regulations (CCR) Section 15064.5. Per 14 CCR Section 15064.5(e), all construction activities would cease, and the City Coroner would be contacted if any human remains are discovered. If the coroner determines that the human remains are of Native American origin, the National American Heritage Commission would be notified to determine the Most Likely Descendant (MLD) from the area. The MLD would make recommendations for the arrangements for the human remains per Public Resources Code (PRC) Section 5097.98. Because the project would include improvements where the ground has been previously disturbed, the project is not expected to result in disturbance of any buried resources; however, if unknown resources are discovered they would be handled in accordance with CCR Section 15064.5 and PRC 5097.98. Therefore, this exception would not apply.

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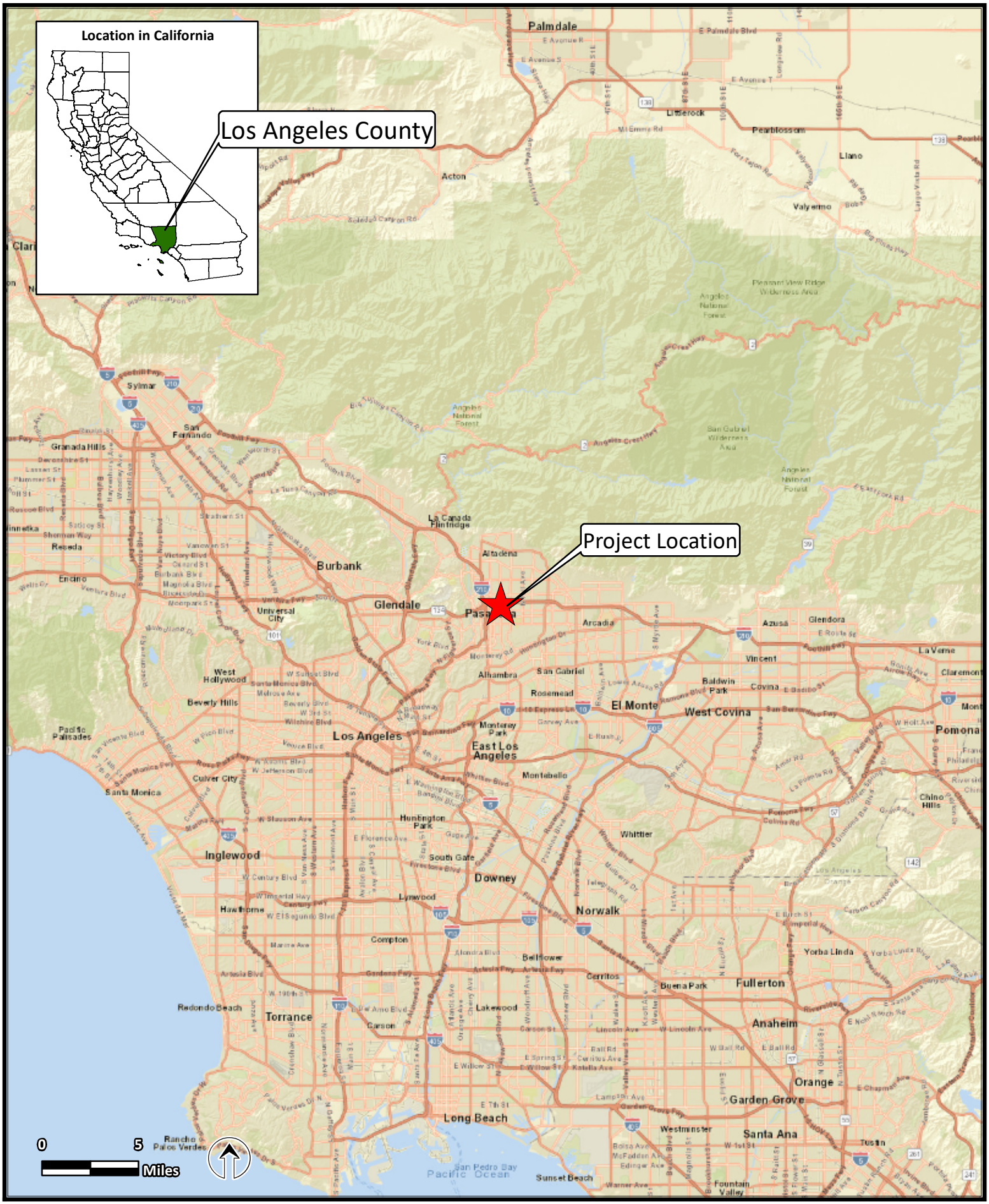
Attachment A
Project Vicinity



Source: ESRI 2021.

PASADENA

ATTACHMENT A. PROJECT VICINITY
270 and 282 N Los Robles Avenue

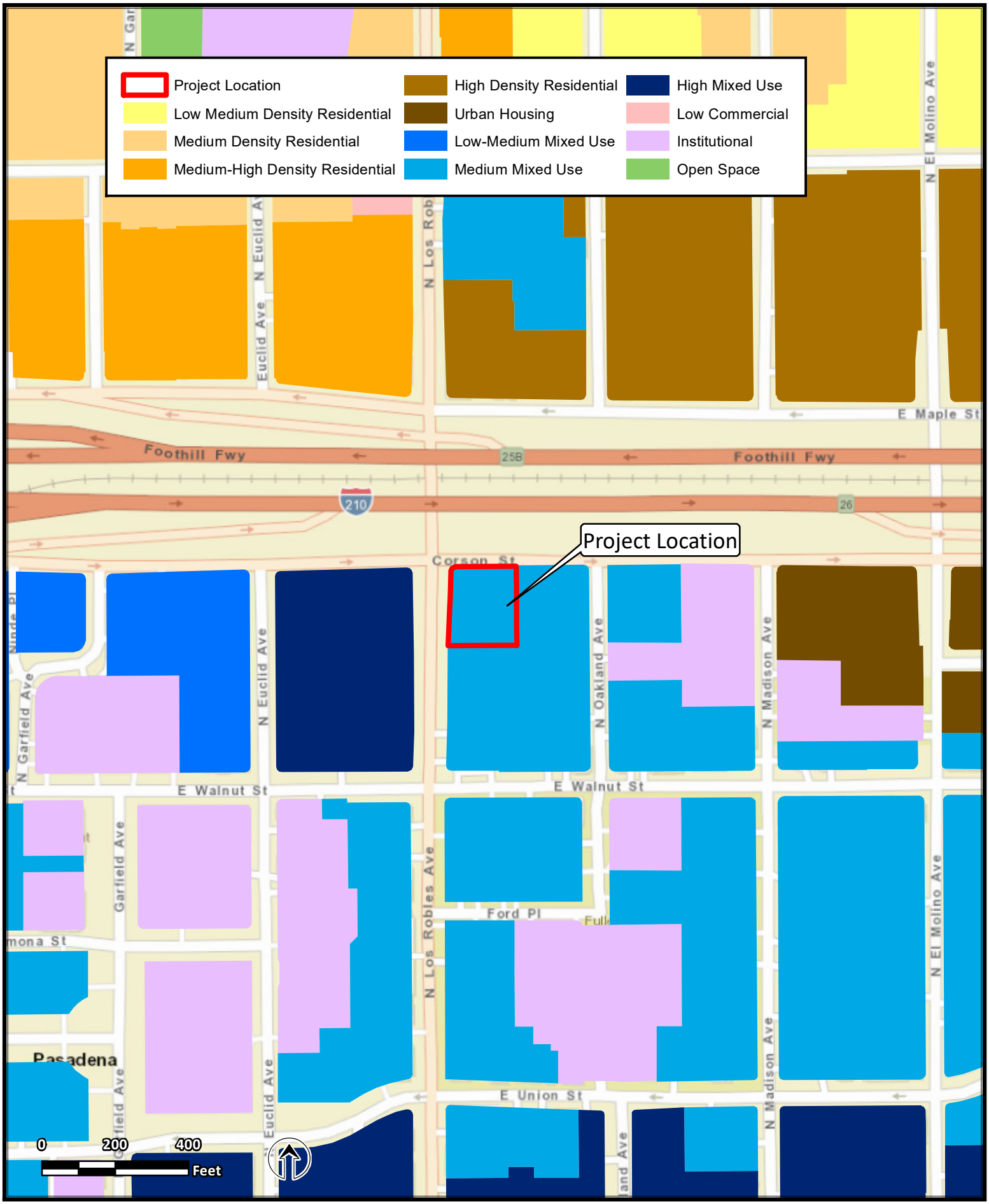
Attachment B
Project Site

Source: ESRI 2021.

PASADENA

ATTACHMENT B. PROJECT SITE MAP
270 and 282 N Los Robles Avenue

Attachment C
General Plan Land Use

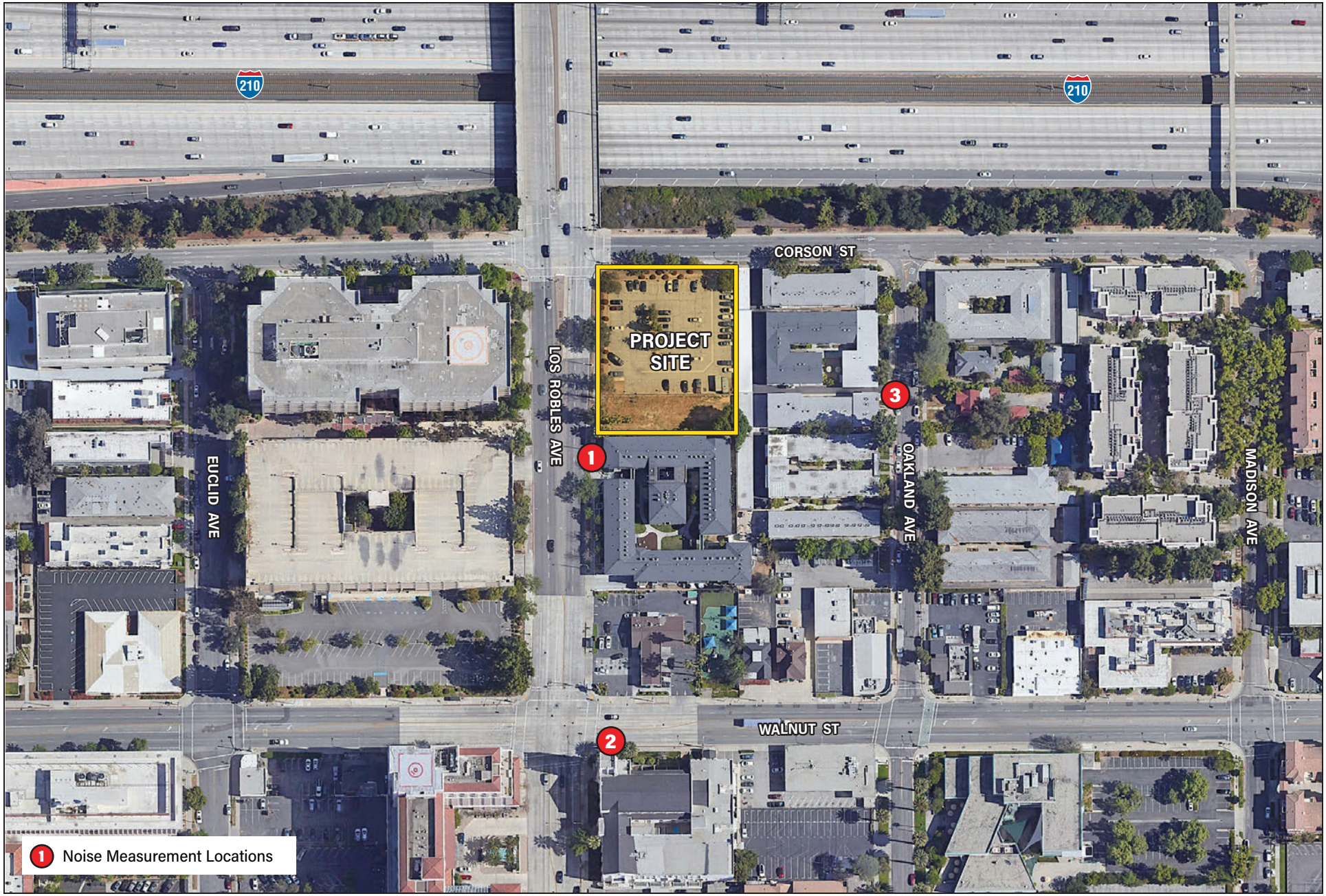


Sources: City of Pasadena 2016; ESRI 2021.

PASADENA

ATTACHMENT C. GENERAL PLAN LAND USE
270 and 282 N Los Robles Avenue

Attachment D
Noise Measurement Locations



Source: Google Earth Pro, March 2022

Michael Baker INTERNATIONAL

NOT TO SCALE

03/2022 • JN 186794

270-282 NORTH LOS ROBLES AVENUE PROJECT

Noise Measurement Locations

Exhibit 1

Michael Baker INTERNATIONAL

We Make a Difference

MEMORANDUM

To: Erinn Silva, GPA Consulting

From: Danielle Regimbal, Michael Baker International

Date: April 13, 2022

Subject: 270-282 North Los Robles Avenue Project – Air Quality Technical Memorandum

PURPOSE

The purpose of this technical memorandum is to evaluate potential short- and long-term air quality impacts resulting from the construction and operation of the proposed 270-282 North Los Robles Avenue Project (project/proposed project), located in the City of Pasadena (City), California.

PROJECT LOCATION

The project site is located at 270-282 North Los Robles Avenue (Accessor Parcel Numbers [APNs] 5723-005-029 and 5723-005-044) at the southeast corner of Los Robles Avenue and Corson Street in Pasadena, California. Regional access to the site is available via Interstate 210 (I-210) located approximately 100 feet to the north of the site and Interstate 710 (I-710) located approximately 0.8-mile to the west of the site. The project site is currently occupied by a surface parking lot and vacant land.

EXISTING SITE CONDITIONS

The southern parcel of the project site, 270 N. Los Robles Avenue, is a vacant lot (APN 5723-005-029). The northern parcel, 282 N. Los Robles Avenue (APN 5723-005-044), has been developed with a surface parking lot at the southeast corner of Los Robles Avenue and Corson Street. The topography of the project site is relatively flat with an elevation of approximately 262 feet. According to the *City of Pasadena General Plan* (General Plan), the project site is designated as Medium Mixed-Use. According to the City's Zoning Map, the project site is located in a Central District Specific Plan area identified as Walnut Housing (CD-3). The project site is surrounded by multi-family residential uses to the east and south, as well as Corson Street to the north and Los Robles Avenue to the west.

PROJECT DESCRIPTION

The proposed project would consist of a six-story, 102,611 gross square foot multi-family residential building. The proposed development would include 105 dwelling units, a lobby/mail room, leasing office, gym, and amenity space. Seven common areas are proposed on four levels of the building. The ground floor would include two common areas, a landscaped area (or "garden"), and an entry plaza. The second floor would include two common areas, a main courtyard, and a small courtyard. A pool deck area is proposed within the main courtyard to serve the residents. The sixth floor would include two common

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spaces, the northern terrace, and southern terrace. The roof would include one common area, a roof terrace. A total of 161 parking spaces would be provided in a subterranean parking garage. Vehicle access to the subterranean parking garage would be provided at the northeastern end of the project site, along Corson Street.

Project construction would occur over approximately 21 months, beginning in September 2022. Construction of the project would require approximately 17,635 cubic yards of soil export and include the following phases: demolition, grading, paving, building construction, and architectural coatings. It is anticipated that the project would be completed and operational in 2024.

ENVIRONMENTAL SETTING

Regional Topography

The State of California is divided geographically into 15 air basins. The project site is located within the South Coast Air Basin (Basin), a 6,600-square mile area bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and the San Jacinto Mountains to the north and east. The Basin includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties, in addition to the San Gorgonio Pass area of Riverside County.

The extent and severity of the air pollution problem in the Basin is a function of the area's natural physical characteristics (weather and topography), as well as man-made influences (development patterns and lifestyle). Factors such as wind, sunlight, temperature, humidity, rainfall, and topography all affect the accumulation and dispersion of air pollutants throughout the Basin.

Climate

The general region lies in the semi-permanent high-pressure zone of the eastern Pacific. As a result, the climate is mild, tempered by cool sea breezes. The climate consists of a semi-arid environment with mild winters, warm summers, moderate temperatures, and comfortable humidity. Precipitation is limited to a few winter storms. The usually mild climatological pattern is interrupted infrequently by periods of extremely hot weather, winter storms, or Santa Ana winds.

The average annual temperature varies little throughout the Basin, averaging 75 degrees Fahrenheit (°F). However, with a less-pronounced oceanic influence, the eastern inland portions of the Basin show greater variability in annual minimum and maximum temperatures. All portions of the Basin have had recorded temperatures over 100°F in recent years.

Although the Basin has a semi-arid climate, the air near the surface is moist due to the presence of a shallow marine layer. Except for infrequent periods when dry, continental air is brought into the Basin by offshore winds, the ocean effect is dominant. Periods with heavy fog are frequent, and low stratus clouds, occasionally referred to as "high fog," are a characteristic climate feature. The annual average relative humidity is 70 percent at the coast and 57 percent in the eastern part of the Basin. Precipitation in the Basin is typically nine to 14 inches annually and is rarely in the form of snow or hail due to typically warm weather. The frequency and amount of rainfall are greater in the coastal areas of the Basin.

The height of the inversion is important in determining pollutant concentration. When the inversion is approximately 2,500 feet above sea level, the sea breezes carry the pollutants inland to escape over the

mountain slopes or through the passes. At a height of 1,200 feet, the terrain prevents the pollutants from entering the upper atmosphere, resulting in a settlement in the foothill communities. Below 1,200 feet, the inversion puts a tight lid on pollutants, concentrating them in a shallow layer over the entire coastal Basin. Usually, inversions are lower before sunrise than during the day. Mixing heights for inversions are lower in the summer and more persistent, being partly responsible for the high levels of ozone (O_3) observed during the summer months in the Basin. Smog in southern California is generally the result of these temperature inversions combining with coastal day winds and local mountains to contain the pollutants for long periods of time, allowing them to form secondary pollutants by reacting with sunlight. The Basin has a limited ability to disperse these pollutants due to typically low wind speeds.

Criteria Air Pollutants

Carbon Monoxide (CO). CO is an odorless, colorless toxic gas that is emitted by mobile and stationary sources as a result of incomplete combustion of hydrocarbons or other carbon-based fuels. In cities, automobile exhaust can cause as much as 95 percent of all CO emissions. CO replaces oxygen in the body's red blood cells. Individuals with a deficient blood supply to the heart, patients with diseases involving heart and blood vessels, fetuses (unborn babies), and patients with chronic hypoxemia (oxygen deficiency) as seen in high altitudes are most susceptible to the adverse effects of CO exposure. People with heart disease are also more susceptible to developing chest pains when exposed to low levels of CO.

Ozone (O_3). O_3 occurs in two layers of the atmosphere. The layer surrounding the earth's surface is the troposphere. The troposphere extends approximately 10 miles above ground level, where it meets the second layer, the stratosphere. The stratospheric (the "good" O_3 layer) extends upward from about 10 to 30 miles and protects life on earth from the sun's harmful ultraviolet rays. "Bad" O_3 is a photochemical pollutant, and needs volatile organic compounds (VOCs), nitrogen oxides (NO_X), and sunlight to form; therefore, VOCs and NO_X are O_3 precursors. To reduce O_3 concentrations, it is necessary to control the emissions of these O_3 precursors. Significant O_3 formation generally requires an adequate amount of precursors in the atmosphere and a period of several hours in a stable atmosphere with strong sunlight. High O_3 concentrations can form over large regions when emissions from motor vehicles and stationary sources are carried hundreds of miles from their origins.

While O_3 in the upper atmosphere (stratosphere) protects the earth from harmful ultraviolet radiation, high concentrations of ground-level O_3 (in the troposphere) can adversely affect the human respiratory system and other tissues. O_3 is a strong irritant that can constrict the airways, forcing the respiratory system to work hard to deliver oxygen. Individuals exercising outdoors, children, and people with pre-existing lung disease such as asthma and chronic pulmonary lung disease are considered to be the most susceptible to the health effects of O_3. Short-term exposure (lasting for a few hours) to O_3 at elevated levels can result in aggravated respiratory diseases such as emphysema, bronchitis and asthma, shortness of breath, increased susceptibility to infections, inflammation of the lung tissue, increased fatigue, as well as chest pain, dry throat, headache, and nausea.

Nitrogen Dioxide (NO_2). NO_X are a family of highly reactive gases that are a primary precursor to the formation of ground-level O_3 and react in the atmosphere to form acid rain. NO_2 (often used interchangeably with NO_X) is a reddish-brown gas that can cause breathing difficulties at elevated levels. Peak readings of NO_2 occur in areas that have a high concentration of combustion sources (e.g., motor vehicle engines, power plants, refineries, and other industrial operations). NO_2 can irritate and damage the lungs and lower resistance to respiratory infections such as influenza. The health effects of short-term exposure are still unclear. However, continued or frequent exposure to NO_2 concentrations that are

typically much higher than those normally found in the ambient air may increase acute respiratory illnesses in children and increase the incidence of chronic bronchitis and lung irritation. Chronic exposure to NO_2 may aggravate eyes and mucus membranes and cause pulmonary dysfunction.

Coarse Particulate Matter (PM_{10}). PM_{10} refers to suspended particulate matter, which is smaller than 10 microns or ten one-millionths of a meter. PM_{10} arises from sources such as road dust, diesel soot, combustion products, construction operations, and dust storms. PM_{10} scatters light and significantly reduces visibility. In addition, these particulates penetrate into lungs and can potentially damage the respiratory tract. On June 19, 2003, the California Air Resources Board (CARB) adopted amendments to the statewide 24-hour particulate matter standards based upon requirements set forth in the Children's Environmental Health Protection Act (Senate Bill 25).

Fine Particulate Matter ($PM_{2.5}$). Due to recent increased concerns over health impacts related to fine particulate matter (particulate matter 2.5 microns in diameter or less), both State and Federal $PM_{2.5}$ standards have been created. Particulate matter impacts primarily affect infants, children, the elderly, and those with pre-existing cardiopulmonary disease. In 1997, the U.S. Environmental Protection Agency (EPA) announced new $PM_{2.5}$ standards. Industry groups challenged the new standard in court and the implementation of the standard was blocked. However, upon appeal by the EPA, the United States Supreme Court reversed this decision and upheld the EPA's new standards.

On January 5, 2005, the EPA published a Final Rule in the Federal Register that designates the Basin as a nonattainment area for Federal $PM_{2.5}$ standards. On June 20, 2002, CARB adopted amendments for statewide annual ambient particulate matter air quality standards. These standards were revised/established due to increasing concerns by CARB that previous standards were inadequate, as almost everyone in California is exposed to levels at or above the current State standards during some parts of the year, and the statewide potential for significant health impacts associated with particulate matter exposure was determined to be large and wide-ranging. On July 8, 2016, EPA made a finding that the South Coast has attained the 1997 24-hour and annual $PM_{2.5}$ standards based on 2011-2013 data. However, the Basin remains in nonattainment as the EPA has not determined that California has met the Federal Clean Air Act requirements for redesignating the Basin nonattainment area to attainment.

Sulfur Dioxide (SO_2). Sulfur dioxide (SO_2) is a colorless, irritating gas with a rotten egg smell; it is formed primarily by the combustion of sulfur-containing fossil fuels. Sulfur dioxide is often used interchangeably with SO_X. Exposure of a few minutes to low levels of SO_2 can result in airway constriction in some asthmatics.

Volatile Organic Compounds (VOC). VOCs are hydrocarbon compounds (any compound containing various combinations of hydrogen and carbon atoms) that exist in the ambient air. VOCs contribute to the formation of smog through atmospheric photochemical reactions and/or may be toxic. Compounds of carbon (also known as organic compounds) have different levels of reactivity; that is, they do not react at the same speed or do not form O_3 to the same extent when exposed to photochemical processes. VOCs often have an odor, and some examples include gasoline, alcohol, and the solvents used in paints. Exceptions to the VOC designation include: carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate. VOCs are a criteria pollutant since they are a precursor to O_3, which is a criteria pollutant. The terms VOC and reactive organic gases (ROG) (see below) are often used interchangeably.

Reactive Organic Gases (ROG). Similar to VOCs, ROGs are also precursors in forming O_3 and consist of compounds containing methane, ethane, propane, butane, and longer chain hydrocarbons, which are typically the result of some type of combustion/decomposition process. Smog is formed when ROG and NO_X react in the presence of sunlight. ROGs are a criteria pollutant since they are a precursor to O_3, which is a criteria pollutant. The terms ROG and VOC are often used interchangeably.

Local Ambient Air Quality

CARB monitors ambient air quality at approximately 250 air monitoring stations across the State. Air quality monitoring stations usually measure pollutant concentrations ten feet above ground level; therefore, air quality is often referred to in terms of ground-level concentrations. The project site is located within Source Receptor Area (SRA) 8, West San Gabriel Valley. The closest air monitoring station to the project site is the Pasadena-South Wilson Avenue Monitoring Station. Local air quality data from 2018 to 2020 is provided in Table 1, *Summary of Air Quality Data*. This table lists the monitored maximum concentrations and number of exceedances of Federal/State air quality standards for each year.

Table 1
Summary of Air Quality Data

Pollutant	California Standard	Federal Primary Standard	Year	Maximum Concentration[1]	Days (Samples) State/Federal Std. Exceeded
Ozone (O_3) (1-hour)[2]	0.09 ppm for 1 hour	NA[6]	2018 2019 2020	0.112 ppm 0.120 ppm 0.163 ppm	8 / 0 11 / 0 41 / 9
Ozone (O_3) (8-hour)[2]	0.070 ppm for 8 hours	0.070 ppm for 8 hours	2018 2019 2020	0.090 ppm 0.098 ppm 0.115 ppm	20 / 19 29 / 24 61 / 60
Carbon Monoxide (CO) (1-hour)[2]	20 ppm for 1 hour	35 ppm for 1 hour	2018 2019 2020	1.954 ppm 1.509 ppm 2.635 ppm	0 / 0 0 / 0 0 / 0
Nitrogen Dioxide (NO_2)[2]	0.180 ppm for 1 hour	0.100 ppm for 1 hour	2018 2019 2020	0.068 ppm 0.059 ppm 0.061 ppm	0 / 0 0 / 0 0 / 0
Fine Particulate Matter ($PM_{2.5}$)[2, 4]	No Separate Standard	35 µg/m^3 for 24 hours	2018 2019 2020	32.5 µg/m^3 41.8 µg/m^3 67.7 µg/m^3	0 / 0 0 / 1 0 / 2
Particulate Matter (PM_{10})[3, 4, 5]	50 µg/m^3 for 24 hours	150 µg/m^3 for 24 hours[6]	2018 2019 2020	81.2 µg/m^3 93.9 µg/m^3 185.2 µg/m^3	31 / 0 15 / 0 34 / 0

ppm = parts per million; PM_{10} = particulate matter 10 microns in diameter or less; µg/m^3 = micrograms per cubic meter; $PM_{2.5}$ = particulate matter 2.5 microns in diameter or less; NA = not applicable; * = insufficient data available to determine the value

Notes:
1. Maximum concentration is measured over the same period as the California standards.
2. Data collected from the Pasadena-South Wilson Avenue Monitoring Station located at 752 South Wilson Avenue, Pasadena CA 91702.
3. Data collected from the Los Angeles-North Main Street Monitoring Station located at 1630 North Main Street, Los Angeles, California 90012 as this is the nearest station that collects particulate matter data.
4. PM_{10} and $PM_{2.5}$ exceedances are derived from the number of samples exceeded, not days.
5. PM_{10} exceedances are based on State thresholds established prior to amendments adopted on June 20, 2002.
6. The Federal standard for 1-hour ozone was revoked in June 2005.
7. The Federal standard for average PM_{10} was revoked in December 2006.

Sources:
California Air Resources Board, *ADAM Air Quality Data Statistics*, http://www.arb.ca.gov/adam/, accessed January 12, 2022.
California Air Resources Board, *AQMIS2: Air Quality Data*, https://www.arb.ca.gov/aqmis2/aqdselect.php, accessed January 12, 2022.

The EPA has identified and established groundlevel concentration criteria for air pollutants known to have detrimental human health impacts. Under the federal Clean Air Act (FCAA), the EPA is charged with establishing National Ambient Air Quality Standards (NAAQS) for each criteria pollutant based on the concentration required to protect public health and welfare. In addition, the State of California has implemented the California Ambient Air Quality Standards (CAAQS). The six criteria pollutants are ozone (O_3) (precursor emissions include NOx and reactive organic gases (ROG), CO, particulate matter (PM), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), and lead. The CARB coordinates and oversees both State and federal air pollution control programs in the State. The CARB oversees activities of local air quality management agencies and maintains air quality monitoring stations throughout the State in conjunction with the EPA and local air quality districts. The CARB has divided the State into 15 air basins based on meteorological and topographical factors of air pollution. The South Coast Air Basin is designated as a nonattainment area for the federal O_3 and $PM_{2.5}$ standards and is also a nonattainment area for the state standards for O_3, PM_{10}, and $PM_{2.5}$.

REGULATORY SETTING

South Coast Air Quality Management District

Air Quality Thresholds

Under the California Environmental Quality Act (CEQA), the South Coast Air Quality Management District (SCAQMD) is an expert commenting agency on air quality within its jurisdiction or impacting its jurisdiction. Under the Federal Clean Air Act, the SCAQMD has adopted Federal attainment plans for O_3 and PM_{10}. The SCAQMD provides guidance to lead agencies on how to evaluate project air quality impacts related to the following criteria: (1) cause or contribute to any new violation of any air quality standard; (2) increase the frequency or severity of any existing violation of any air quality standard; or (3) delay timely attainment of any air quality standard or any required interim emission reductions or other milestones of any Federal attainment plan.

The SCAQMD's *CEQA Air Quality Handbook* also provides significance thresholds for both construction and operation of projects within the SCAQMD jurisdictional boundaries. If the SCAQMD thresholds are exceeded, a potentially significant impact could result. However, ultimately the lead agency determines the thresholds of significance for impacts. If a project generates emissions in excess of the established mass daily emissions thresholds, as outlined in Table 2, *South Coast Air Quality Management District Mass Daily Emissions Thresholds*, a significant air quality impact may occur and additional analysis is warranted to fully assess the significance of impacts. In addition, SCAQMD establishes odor threshold, which identifies that project creating an odor nuisance pursuant to SCAQMD Rule 402 would cause a significant impact.

Table 2
South Coast Air Quality Management District Mass Daily Emissions Thresholds

Phase	Pollutant (lbs/day)					
	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Construction	75	100	550	150	150	55
Operational	55	55	550	150	150	55
ROG = reactive organic gases; NO_X = nitrogen oxides; CO = carbon monoxide; SO_X = sulfur oxides; PM_{10} = particulate matter up to 10 microns; $PM_{2.5}$ = particulate matter up to 2.5 microns; lbs = pounds						
Source: South Coast Air Quality Management District, *CEQA Air Quality Handbook,* November 1993.						

Localized Significance Thresholds

Localized Significance Thresholds (LSTs) were developed in response to SCAQMD Governing Boards' Environmental Justice Enhancement Initiative (I-4). The SCAQMD provided the *Final Localized Significance Threshold Methodology* (dated July 2008) for guidance. The LST methodology assists lead agencies in analyzing localized impacts associated with project-specific level proposed projects. The SCAQMD provides the LST lookup tables for one-, two-, and five-acre projects emitting CO, NO_X, PM_{10}, or $PM_{2.5}$. The LST methodology and associated mass rates are not designed to evaluate localized impacts from mobile sources traveling over the roadways.

Cumulative Emissions Thresholds

The SCAQMD's *2016 Air Quality Management Plan* (2016 AQMP) was prepared to accommodate growth, meet State and Federal air quality standards, and minimize the fiscal impact that pollution control measures have on the local economy. According to the SCAQMD *CEQA Air Quality Handbook*, project-related emissions that fall below the established construction and operational thresholds should be considered less than significant unless there is pertinent information to the contrary. If a project exceeds these emission thresholds, the SCAQMD *CEQA Air Quality Handbook* states that the significance of a project's contribution to cumulative impacts should be determined based on whether the rate of growth in average daily trips exceeds the rate of growth in population.

City of Pasadena

General Plan Update

The *City of Pasadena General Plan Update Open Space and Conservation Element* (Pasadena Open Space and Conservation Element) outlines the goals and objectives for establishing Pasadena as a national and international leader on energy and water conservation and environmental stewardship efforts, including air quality protection, energy efficiency requirements, renewable energy standards, natural resource conservation, and greenhouse gas emission standards in the areas of energy, water, air and land.[1] The Pasadena Open Space and Conservation Element includes the following goals and objectives applicable to maintaining healthy air quality:

[1] City of Pasadena, *City of Pasadena General Plan Update Open Space and Conservation Element*, January 2012, https://www.cityofpasadena.net/planning/wp-content/uploads/sites/30/General-Plan-Open-Space-and-Conservation-Element-2012.pdf, accessed April 4, 2022.

- Protect and conserve natural resources.
- Improve the quality of the natural environment through increased conservation and sustainable practices.
- Improve the quality of the urban environment through increased conservation and sustainable practices.
- Effectively manage environmental health and reduce solid waste utilizing best practices and the most current technologies.
- Increase public, private, and governmental awareness of the natural environment and environmental health.
- Develop criteria, prioritize and plan to acquire additional open space.
- Create additional open spaces through reclamation and restoration.

Green City Action Plan

The City adopted the Green City Action Plan[2] in 2006, which identifies means to conserve energy and water, reduce waste, address global warming, tailor urban design, protect natural habitats, improve transportation options, and reduce risks to human health. The following actions help improve air quality and are applicable to the proposed project:

- **Action 8**: Adopt urban planning principles and practices that advance higher density, mixed use, walkable, bikeable and disabled accessible neighborhoods which coordinate land use and transportation with open space systems for recreation and ecological restoration.

THRESHOLDS OF SIGNIFICANCE

The environmental analysis in this memorandum is patterned after the Initial Study Checklist recommended by the *CEQA Guidelines*, as amended. The issues presented in the Initial Study Checklist have been utilized as thresholds of significance in this section. Accordingly, a project would have a significant environmental impact if it causes one or more of the following to occur:

- Conflict with or obstruct implementation of the applicable air quality plan (refer to Impact AQ-1);
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in nonattainment under an applicable Federal or State ambient air quality standard (refer to Impact AQ-2);
- Expose sensitive receptors to substantial pollutant concentrations (refer to Impact AQ-3); and/or
- Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people (refer to Impact AQ-4).

[2] City of Pasadena, *Green City Action Plan*, 2006, https://ww5.cityofpasadena.net/planning/wp-content/uploads/sites/56/2017/07/Green-City-Action-Plan.pdf, accessed January 13, 2022.

IMPACT ANALYSIS

Impact AQ-1: Would the project conflict with or obstruct implementation of the applicable air quality plan?

Less Than Significant Impact. The City is located within the South Coast Air Basin. The SCAQMD has jurisdiction in the Basin, which has a history of recorded air quality violations and is an area where both State and Federal ambient air quality standards are exceeded. Areas that meet ambient air quality standards are classified as attainment areas, while areas that do not meet these standards are classified as nonattainment areas. The SCAQMD is required, pursuant to the Federal Clean Air Act, to reduce emissions of the air pollutants for which the Basin is in nonattainment.

In order to reduce emissions, the SCAQMD adopted the 2016 AQMP which establishes a program of rules and regulations directed at reducing air pollutant emissions and achieving State and Federal air quality standards. The 2016 AQMP is a regional and multi-agency effort including the SCAQMD, CARB, the Southern California Association of Governments (SCAG), and the EPA.

The 2016 AQMP pollutant control strategies are based on the latest scientific and technical information and planning assumptions, including the *2016-2040 Regional Transportation Plan/Sustainable Communities Strategy* (RTP/SCS), updated emission inventory methodologies for various source categories, and SCAG's latest growth forecasts. SCAG's latest growth forecasts were defined in consultation with local governments and with reference to local general plans. The SCAQMD considers projects that are consistent with the AQMP, which is intended to bring the Basin into attainment for all criteria pollutants, to also have less than significant cumulative impacts. While SCAG has recently adopted the *2020-2045 Regional Transportation Plan/Sustainable Communities Strategy* (2020-2045 RTP/SCS), SCAQMD has not released an updated AQMP that utilizes information from the 2020-2045 RTP/SCS. SCAQMD is planning to release the updated AQMP in 2022. As such, this consistency analysis is based off the 2016 AQMP and 2016-2040 RTP/SCS.

Criteria for determining consistency with the AQMP are defined by the following indicators:

Criterion 1:

With respect to the first criterion, SCAQMD methodologies require that an air quality analysis for a project include forecasts of project emissions in relation to contributing to air quality violations and delay of attainment.

a) *Would the project result in an increase in the frequency or severity of existing air quality violations?*

Since the consistency criteria identified under the first criterion pertain to pollutant concentrations, rather than to total regional emissions, an analysis of a project's pollutant emissions relative to localized pollutant concentrations is used as the basis for evaluating project consistency. As discussed under Impact Statements AQ-2 and AQ-3, the project's short-term construction emissions, long-term operational emissions, and localized concentrations of CO, NO_X, PM_{10}, and $PM_{2.5}$ would result in less than significant impacts during project construction and operations. Therefore, the project would not result in an increase in the frequency or severity of existing air quality violations. Because VOCs are not a criteria pollutant, there is no ambient standard or localized threshold for VOCs. Due to the role VOC plays in O_3 formation, it is classified

as a precursor pollutant and only a regional emissions threshold has been established. As such, the project would not cause or contribute to localized air quality violations or delay the attainment of air quality standard or interim emissions reductions specified in the 2016 AQMP.

b) *Would the project cause or contribute to new air quality violations?*

As discussed below in Impact Statements AQ-2 and AQ-3, the proposed project would result in emissions that would be below the SCAQMD's thresholds for regional and localized emissions. Therefore, the proposed project would not have the potential to cause or contribute to a violation of the ambient air quality standards.

c) *Would the project delay timely attainment of air quality standards or the interim emissions reductions specified in the AQMP?*

As discussed in Impact Statements AQ-2 and AQ-3, the proposed project would result in less than significant impacts with regard to localized concentrations during project construction and operation. As such, the proposed project would not delay the timely attainment of air quality standards or 2016 AQMP interim emissions reductions.

Criterion 2:

With respect to the second criterion for determining consistency with SCAQMD and SCAG air quality policies, it is important to recognize that air quality planning within the Basin focuses on attainment of ambient air quality standards at the earliest feasible date. Projections for achieving air quality goals are based on assumptions regarding population, housing, and growth trends. Thus, the SCAQMD's second criterion for determining project consistency focuses on whether or not the proposed project exceeds the assumptions utilized in preparing the forecasts presented in the 2016 AQMP. Determining whether or not a project exceeds the assumptions reflected in the 2016 AQMP involves the evaluation of the three criteria outlined below. The following discussion provides an analysis of each of these criteria.

a) *Would the project be consistent with the population, housing, and employment growth projections utilized in the preparation of the AQMP?*

A project is consistent with the 2016 AQMP in part if it is consistent with the population, housing, and employment assumptions that were used in the development of the 2016 AQMP. In the case of the 2016 AQMP, four sources of data form the basis for the projections of air pollutant emissions: the City's General Plan, the *Central District Specific Plan* (Specific Plan), SCAG's regional growth forecast, and the SCAG RTP/SCS. The RTP/SCS also provides socioeconomic forecast projections of regional population growth.

The project site is classified as CD-3 (Walnut Housing) by the Pasadena Zoning Code (Section 17.30), which indicates that the project site is located within the Specific Plan Area. Per the City's zoning code, the purpose of the Walnut Housing subdistrict is to promote the development of a high-density residential area north of Colorado Boulevard and in close proximity to the Lake Avenue Light Rail Station, as well as to balance the institutional growth and historic preservation activities of Fuller Seminary, prominently located within the subdistrict. Per Table 3-1, *Allowed Uses and Permit Requirements for CD Zoning Districts*, of the City's zoning regulations for the Central District (Section 17.30.030), housing is permitted on the project site. The project site has

a maximum residential density of 87 dwelling units per acre and a maximum FAR of 2.25, per Section 17.30.040, *CD General Development Standards*.

Additionally, Pasadena's Zoning Code provides density bonuses, waivers, and incentives, per Chapter 17.43, which establishes procedures to implement the State Density Bonus Law in Government Code Section 65915. To qualify for the 35 percent residential density bonus, a project must include 11 percent very low-income units or 20 percent low-income units. The proposed project includes 11 percent very low-income units. With a density bonus, the number of allowable units would increase from 87 units per acre to 117 units per acre. As the project proposes to construct 105 units on a 0.90-acre site, the project would be consistent with the allowable density in the zoning code. Further, as the proposed project would include 11 percent very low-income units, the project qualifies for an increase of 0.5 FAR beyond the allowable 2.25 FAR pursuant to Municipal Code Section 17.43.055. Therefore, the maximum FAR allowed would be 2.75. With a proposed gross floor area of 102,611 square feet, the project would have a FAR of 2.62, which would be below the 2.75 FAR maximum.[3] Thus, the proposed project is considered consistent with the General Plan, and is consistent with the types, intensity, and patterns of land use envisioned for the site vicinity.

The City's population estimate as of January 1, 2021 is 145,306 persons.[4] The project would induce population growth directly through the construction of 105 residential units. Based on an average household size of 2.43, the project would result in an indirect population increase of approximately 255 persons.[5] While it is likely that future residents already live in the City, this analysis conservatively assumes all 255 future residents would move into the City. SCAG growth forecasts estimate the City's population to reach 150,700 persons by 2040, representing a total increase of 10,400 persons between 2012 and 2040.[6] The project's potential indirect population growth (255 persons) represents 2.5 percent of the City's anticipated growth by 2040, and only 0.2 percent of the City's total projected 2040 population. Therefore, the project would not cause the City's General Plan buildout population forecast to be exceeded. The population and housing forecasts, which are adopted by SCAG's Regional Council, are based on the local plans and policies applicable to the City. Additionally, as the SCAQMD has incorporated these same projections into the 2016 AQMP, it can be concluded that the proposed project would be consistent with the projections.

b) *Would the project implement all feasible air quality mitigation measures?*

The proposed project would result in less than significant air quality impacts. Compliance with all feasible emission reduction rules and measures identified by the SCAQMD would be required as identified in Impact Statements AQ-2 and AQ-3. As such, the proposed project meets this 2016 AQMP consistency criterion.

c) *Would the project be consistent with the land use planning strategies set forth in the AQMP?*

[3] FAR is calculated as the gross floor area (inside face of exterior walls) / total area of a project site. For the project, FAR is calculated as 102,611 square feet / 0.90 acres (39,181 square feet) = 2.62.

[4] California Department of Finance, *Population and Housing Estimates for Cities, Counties, and the State, 2011-2021 with 2010 Census Benchmark*, http://www.dof.ca.gov/Forecasting/Demographics/Estimates/E-5/, accessed March 21, 2022.

[5] Ibid.

[6] Southern California Association of Governments, *2016-2040 RTP/SCS Final Growth Forecast by Jurisdiction*, https://scag.ca.gov/sites/main/files/file-attachments/f2016rtpscs_demographicsgrowthforecast.pdf?1606073557, accessed March 21, 2022.

Land use planning strategies set forth in the 2016 AQMP are primarily based on the 2016-2040 RTP/SCS. The project is an infill development and is located less than 0.2-mile from transit stations. Further, the project would provide bicycle parking spaces and electric vehicle charging stations on-site to promote alternative transportation options. Therefore, the project would be consistent with the actions and strategies of the 2016-2040 RTP/SCS. In addition, as discussed above, the project would be consistent with the General Plan land use designation. Furthermore, project consistency with the SCAG RTP/SCS and the 2016 AQMP would promote the City's goal to protect air quality by incorporating Pasadena Open Space and Conservation Element policies and objectives. As such, the proposed project meets this AQMP consistency criterion.

In conclusion, the determination of 2016 AQMP consistency is primarily concerned with the long-term influence of a project on air quality in the Basin. The proposed project would not result in a long-term impact on the region's ability to meet State and Federal air quality standards. Also, the proposed project would be consistent with the goals and policies of the 2016 AQMP for control of fugitive dust; refer to Impact Statement AQ-2. As discussed above, the proposed project's long-term influence would also be consistent with the SCAQMD and SCAG's goals and policies and is, therefore, considered consistent with the 2016 AQMP.

Mitigation Measures: No mitigation is required.

Impact AQ-2: Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable Federal or State ambient air quality standard?

Less Than Significant Impact.

Short-Term Construction

The project involves construction activities associated with demolition, grading, building construction, paving, and architectural coating applications. The project would be constructed over approximately 21 months. Exhaust emission factors for typical diesel-powered heavy equipment are based on the program defaults of the most recent version of the California Emissions Estimator Model (CalEEMod), version 2020.4.0. Variables factored into estimating the total construction emissions include the level of activity, length of construction period, number of pieces and types of equipment in use, site characteristics, weather conditions, number of construction personnel, and the amount of materials to be transported on- or off-site. The analysis of daily construction emissions has been prepared using CalEEMod. Refer to Appendix A, *Air Quality Emissions Data*, for the CalEEMod outputs and results. Table 4, *Short-Term Construction Emissions*, presents the anticipated daily short-term construction emissions.

Table 4
Short-Term Construction Emissions

Emissions Source	Maximum Daily Emissions (pounds/day)[1]					
	ROG	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Construction Related Emissions[2]						
Year 1	2.77	46.16	21.72	0.12	6.03	2.95
Year 2	1.97	15.62	20.21	0.04	1.77	0.96
Year 3	15.86	14.65	19.88	0.04	1.68	0.88
Maximum Daily Emissions	**15.86**	**46.16**	**21.72**	**0.12**	**6.03**	**2.95**
SCAQMD Thresholds	*75*	*100*	*550*	*150*	*150*	*55*
Is Threshold Exceeded?	***No***	***No***	***No***	***No***	***No***	***No***

Notes:
1. Emissions were calculated using CalEEMod, version 2020.4.0. Winter emissions represent the worst-case scenario.
2. Modeling assumptions include compliance with SCAQMD Rule 403 which requires: properly maintain mobile and other construction equipment; replace ground cover in disturbed areas quickly; water exposed surfaces three times daily; cover stockpiles with tarps; water all haul roads twice daily; and limit speeds on unpaved roads to 15 miles per hour.

Source: Refer to Appendix A, for detailed model input/output data.

Fugitive Dust Emissions

Construction activities are a source of fugitive dust emissions that may have a substantial, temporary impact on local air quality. In addition, fugitive dust may be a nuisance to those living and working in the project area. Fugitive dust emissions are associated with land clearing, ground excavation, cut-and-fill, and truck travel on unpaved roadways. Fugitive dust emissions vary substantially from day to day, depending on the level of activity, specific operations, and weather conditions. Fugitive dust from demolition, grading, and construction is expected to be short-term and would cease upon project completion. It should be noted that most of this material is inert silicates, rather than the complex organic particulates released from combustion sources, which are more harmful to health.

Dust (larger than 10 microns) generated by such activities usually becomes more of a local nuisance than a serious health problem. Of particular health concern is the amount of PM_{10} generated as a part of fugitive dust emissions. PM_{10} poses a serious health hazard alone or in combination with other pollutants. $PM_{2.5}$ is mostly produced by mechanical processes. These include automobile tire wear, industrial processes such as cutting and grinding, and re-suspension of particles from the ground or road surfaces by wind and human activities such as construction or agriculture. $PM_{2.5}$ is mostly derived from combustion sources, such as automobiles, trucks, and other vehicle exhaust, as well as from stationary sources. These particles are either directly emitted or are formed in the atmosphere from the combustion of gases such as NO_X and SO_X combining with ammonia. $PM_{2.5}$ components from material in the earth's crust, such as dust, are also present, with the amount varying in different locations.

Construction activities would comply with SCAQMD Rule 403, which requires that excessive fugitive dust emissions be controlled by regular watering or other dust prevention measures. Adherence to SCAQMD Rule 403 would greatly reduce PM_{10} and $PM_{2.5}$ concentrations. It should be noted that these reductions were applied in CalEEMod. As depicted in Table 4, total PM_{10} and $PM_{2.5}$ emissions would not exceed the SCAQMD thresholds during construction. Thus, impacts would be less than significant.

Construction Equipment and Worker Vehicle Exhaust

Exhaust emissions (e.g., NO_x and CO) from construction activities include emissions associated with the transport of machinery and supplies to and from the project site, emissions produced on-site as the equipment is used, and emissions from trucks transporting materials to/from the site. As presented in Table 4, construction equipment and worker vehicle exhaust emissions would be below the established SCAQMD thresholds. Therefore, impacts would be less than significant.

ROG Emissions

In addition to gaseous and particulate emissions, the application of asphalt and surface coatings creates ROG emissions, which are O_3 precursors. As required, all architectural coatings for the proposed project structure would comply with SCAQMD *Regulation XI, Rule 1113 – Architectural Coating*. Rule 1113 provides specifications on painting practices as well as regulates the ROG content of paint. ROG emissions associated with the proposed project would be less than significant; refer to Table 4.

Total Daily Construction Emissions

In accordance with the SCAQMD Guidelines, CalEEMod was utilized to model construction emissions for ROG, NO_X, CO, SO_X, PM_{10}, and $PM_{2.5}$. As indicated in Table 4, criteria pollutant emissions during construction of the proposed project would not exceed the SCAQMD significance thresholds. Thus, total construction related air emissions would be less than significant.

Asbestos

Asbestos is a term used for several types of naturally occurring fibrous minerals that are a human health hazard when airborne. The most common type of asbestos is chrysotile, but other types such as tremolite and actinolite are also found in California. Asbestos is classified as a known human carcinogen by State, Federal, and international agencies and was identified as a toxic air contaminant by the CARB in 1986.

Asbestos can be released from serpentinite and ultramafic rocks when the rock is broken or crushed. At the point of release, the asbestos fibers may become airborne, causing air quality and human health hazards. These rocks have been commonly used for unpaved gravel roads, landscaping, fill projects, and other improvement projects in some localities. Asbestos may be released to the atmosphere due to vehicular traffic on unpaved roads, during grading for development projects, and at quarry operations. All of these activities may have the effect of releasing potentially harmful asbestos into the air. Natural weathering and erosion processes can act on asbestos bearing rock and make it easier for asbestos fibers to become airborne if such rock is disturbed. According to the Department of Conservation Division of Mines and Geology, *A General Location Guide for Ultramafic Rocks in California – Areas More Likely to Contain Naturally Occurring Asbestos Report*[7], serpentinite and ultramafic rocks are not known to occur within the project area. Thus, there would be no impact.

[7] Department of Conservation Division of Mines and Geology, *A General Location Guide for Ultramafic Rocks in California – Areas More Likely to Contain Naturally Occurring Asbestos Report*, August 2000, https://ww3.arb.ca.gov/toxics/asbestos/ofr_2000-019.pdf, accessed January 13, 2022.

Long-Term (Operational) Emissions

Mobile Source Emissions

Mobile sources are emissions from motor vehicles, including tailpipe and evaporative emissions. Depending upon the pollutant being discussed, the potential air quality impact may be of either regional or local concern. For example, ROG, NO_X, SO_X, PM_{10}, and $PM_{2.5}$ are all pollutants of regional concern (NO_X and ROG react with sunlight to form O_3 [photochemical smog], and wind currents readily transport SO_X, PM_{10}, and $PM_{2.5}$); however, CO tends to be a localized pollutant, dispersing rapidly at the source.

Project-generated vehicle emissions have been estimated using CalEEMod. Based on the *282 N Los Robles Avenue Transportation Impact Analysis Outside CEQA Evaluation Final Report* (Transportation Impact Analysis), prepared by Iteris, Inc. (dated January 31, 2022), the proposed project would generate approximately 514 net new daily vehicle trips. Table 5, *Long-Term Operational Air Emissions*, presents the anticipated mobile source emissions. As shown in Table 5, emissions generated by vehicle traffic associated with the project would not exceed established SCAQMD thresholds.

Area Source Emissions

Area source emissions would be generated from consumer products, architectural coatings, and landscaping. As shown in Table 5, area source emissions from the proposed project would not exceed SCAQMD thresholds for ROG, NO_X, CO, SO_X, PM_{10}, or $PM_{2.5}$.

Table 5
Long-Term Operational Air Emissions

Emissions Source	Maximum Daily Emissions (lbs/day)[1, 2]					
	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Proposed Project Winter Emissions						
Area Source	2.76	1.67	9.34	0.01	0.17	0.17
Energy Source	0.03	0.29	0.13	0.00	0.02	0.02
Mobile	1.53	1.70	15.55	0.03	3.73	1.01
Total Emissions	***4.32***	***3.66***	***25.02***	***0.05***	***3.93***	***1.21***
SCAQMD Regional Threshold	*55*	*55*	*550*	*150*	*150*	*55*
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**
Proposed Project Summer Emissions						
Area Source	2.76	1.67	9.34	0.01	0.17	0.17
Energy Source	0.03	0.29	0.13	0.00	0.02	0.02
Mobile	1.55	1.58	15.91	0.04	3.73	1.01
Total Emissions	***4.35***	***3.54***	***25.38***	***0.05***	***3.93***	***1.21***
SCAQMD Regional Threshold	*55*	*55*	*550*	*150*	*150*	*55*
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

Notes:
1. Emissions were calculated using CalEEMod, version 2020.4.0.
2. The numbers may be slightly off due to rounding.

Source: Refer to Appendix A, for detailed model input/output data.

Energy Source Emissions

Energy source emissions would be generated as a result of electricity and natural gas (non-hearth) usage associated with the proposed project. The primary use of electricity and natural gas by the project would be for space heating and cooling, water heating, ventilation, lighting, appliances, and electronics. As shown in Table 5, energy source emissions from the proposed project would not exceed SCAQMD thresholds for ROG, NO_X, CO, SO_X, PM_{10}, or $PM_{2.5}$.

Total Daily Operational Emissions

As indicated in Table 5, operational emissions from the proposed project would not exceed SCAQMD thresholds. Thus, operational air quality impacts would be less than significant.

Air Quality Health Impacts

Adverse health effects induced by criteria pollutant emissions are highly dependent on a multitude of interconnected variables (e.g., cumulative concentrations, local meteorology and atmospheric conditions, and the number and character of exposed individual [e.g., age, gender]). In particular, ozone precursors ROGs and NO_x affect air quality on a regional scale. Health effects related to ozone are therefore the product of emissions generated by numerous sources throughout a region. Existing models have limited sensitivity to small changes in criteria pollutant concentrations, and, as such, translating project-generated criteria pollutants to specific health effects or additional days of nonattainment would produce meaningless results. In other words, the project's less than significant increases in regional air pollution from criteria air pollutants would have nominal or negligible impacts on human health.

As noted in the Brief of Amicus Curiae by the SCAQMD,[8] the SCAQMD acknowledged that it would be extremely difficult, if not impossible to quantify health impacts of criteria pollutants for various reasons including modeling limitations as well as where in the atmosphere air pollutants interact and form. Further, as noted in the Brief of Amicus Curiae by the San Joaquin Valley Air Pollution Control District (SJVAPCD),[9] SJVAPCD has acknowledged that currently available modeling tools are not equipped to provide a meaningful analysis of the correlation between an individual development project's air emissions and specific human health impacts.

The SCAQMD acknowledges that health effects quantification from ozone, as an example is correlated with the increases in ambient level of ozone in the air (concentration) that an individual person breathes. SCAQMD's Brief of Amicus Curiae states that it would take a large amount of additional emissions to cause a modeled increase in ambient ozone levels over the entire region. The SCAQMD states that based on their own modeling in the SCAQMD's *2012 Air Quality Management Plan*, a reduction of 432 tons (864,000 pounds) per day of NO_X and a reduction of 187 tons (374,000 pounds) per day of VOCs would reduce ozone levels at highest monitored site by only nine parts per billion. As such, the SCAQMD concludes that it is not currently possible to accurately quantify ozone-related health impacts caused by NO_X or VOC emissions from relatively small projects (defined as projects with regional scope) due to photochemistry

[8] South Coast Air Quality Management District, *Application of the South Coast Air Quality Management District for Leave to File Brief of Amicus Curiae in Support of Neither Party and Brief of Amicus Curiae. In the Supreme Court of California. Sierra Club, Revive the San Joaquin, and League of Women Voters of Fresno v. County of Fresno*, 2014.

[9] San Joaquin Valley Air Pollution Control District, *Application for Leave to File Brief of Amicus Curiae Brief of San Joaquin Valley Unified Air Pollution Control District in Support of Defendant and Respondent, County of Fresno and Real Party In Interest and Respondent, Friant Ranch, L.P. In the Supreme Court of California. Sierra Club, Revive the San Joaquin, and League of Women Voters of Fresno v. County of Fresno*, 2014.

and regional model limitations. As such, for the purpose of this analysis, since the project would not exceed SCAQMD thresholds for construction and operational air emissions, air quality health impacts would be less than significant.

Cumulative Conclusion

With respect to the proposed project's air quality emissions and cumulative Basin-wide conditions, the SCAQMD has developed strategies to reduce criteria pollutant emissions outlined in the 2016 AQMP pursuant to Federal Clean Air Act mandates. As such, the proposed project would comply with SCAQMD Rule 403 requirements and the adopted 2016 AQMP emissions control measures. Rule 403 requires that fugitive dust be controlled with the best available control measures in order to reduce dust so that it does not remain visible in the atmosphere beyond the property line of the proposed project. Per SCAQMD rules and mandates, as well as the CEQA requirement that significant impacts be mitigated to the extent feasible, these same requirements (i.e., Rule 403 compliance, the implementation of all feasible mitigation measures, and compliance with adopted 2016 AQMP emissions control measures) would also be imposed on development projects throughout the Basin, which would include related projects.

According to the *SCAQMD CEQA Air Quality Handbook*, project-related emissions that fall below the established construction and operational thresholds should be considered less than significant unless there is pertinent information to the contrary. As discussed previously, the proposed project would not result in short- or long-term air quality impacts, as emissions would not exceed the SCAQMD adopted construction or operational thresholds. Additionally, adherence to SCAQMD rules and regulations would alleviate potential impacts related to cumulative conditions on a project-by-project basis. As a result, the proposed project would not contribute a cumulatively considerable net increase of any nonattainment criteria pollutant. Therefore, the project's incremental construction and operational impacts would be less than cumulatively considerable and impacts would be less than significant.

Mitigation Measures: No mitigation is required.

Impact AQ-3: Would the project expose sensitive receptors to substantial pollutant concentrations?

Less Than Significant Impact. Sensitive receptors are defined as facilities or land uses that include members of the population that are particularly sensitive to the effects of air pollutants, such as children, the elderly, and people with illnesses. Examples of these sensitive receptors are residences (including multi-family), schools, hospitals, and daycare centers. CARB has identified the following groups of individuals as the most likely to be affected by air pollution: the elderly over 65, children under 14, athletes, and persons with cardiovascular and chronic respiratory diseases such as asthma, emphysema, and bronchitis.

The closest sensitive receptors to the project site are the multi-family residences located adjacent to the east and south of the project site. In order to identify impacts to sensitive receptors, the SCAQMD recommends addressing LSTs for construction and operational impacts (area sources only). The CO hotspot analysis, following the LST analysis, addresses localized mobile source impacts.

Localized Significance Thresholds

LSTs were developed in response to SCAQMD Governing Boards' Environmental Justice Enhancement Initiative (I-4). The SCAQMD provided the Final Localized Significance Threshold Methodology (dated June 2003 [revised 2008])[10] for guidance. The LST methodology assists lead agencies in analyzing localized air quality impacts. The SCAQMD provides the LST screening lookup tables for one-, two-, and five-acre projects emitting CO, NO_X, $PM_{2.5}$, or PM_{10}. The LST methodology and associated mass rates are not designed to evaluate localized impacts from mobile sources traveling over the roadways. The project is located in SRA 8 (West San Gabriel Valley).

Construction

The SCAQMD's guidance on applying CalEEMod to LSTs specifies the number of acres a particular piece of equipment would likely disturb per day. The grading phase would take approximately 22 days to complete. As the project site is slightly less than an acre is size, the LST threshold for one acre was utilized for the construction LST analysis per SCAQMD guidance. The nearest sensitive receptors to the project site are the multi-family residences located adjacent to the east and south of the project site. According to SCAQMD LST Methodology, projects with boundaries located closer than 25 meters to the nearest receptor should use the LSTs for receptors located at 25 meters. As the nearest sensitive uses are adjoining the project site to the south, the LST values for 25 meters (82 feet) were used. Table 6, *Localized Significance of Construction Emissions*, shows the localized construction-related emissions. It is noted that the localized emissions presented in Table 6 are less than those in Table 4 because localized emissions include only on-site emissions (i.e., from construction equipment and fugitive dust). As seen in Table 6, emissions would not exceed the LST mass rate screening thresholds for SRA 8. Construction LST impacts would be less than significant in this regard.

Table 6
Localized Significance of Construction Emissions

Maximum Emissions	Maximum Daily Emissions (pounds/day)			
	NO_X	CO	PM_{10}	$PM_{2.5}$
Year 1[1,4]	25.72	20.59	3.60	2.14
Year 2[2,4]	14.38	16.24	0.70	0.66
Year 3[3,4]	13.44	16.17	0.61	0.58
Maximum Daily Emissions	**25.72**	**20.59**	**3.60**	**2.14**
Localized Significance Threshold Mass Rate Screening Criteria[3]	69	535	4	3
Thresholds Exceeded?	***No***	***No***	***No***	***No***

Note:
1. Maximum on-site daily emissions would occur during the demolition phase for NOx and CO, and during the grading phase for PM_{10} and $PM_{2.5}$ in Year 1.
2. Maximum on-site daily emissions would occur during the building construction phase for NOx, CO, PM_{10}, and $PM_{2.5}$ in Year 2.
3. Maximum on-site daily emissions would occur during the building construction phase for NOx, CO, PM_{10}, and $PM_{2.5}$ in Year 3.
4. Modeling assumptions include compliance with SCAQMD Rule 403 which requires: properly maintain mobile and other construction equipment; replace ground cover in disturbed areas quickly; water exposed surfaces three times daily; cover stockpiles with tarps; water all haul roads twice daily; and limit speeds on unpaved roads to 15 miles per hour.
5. The Localized Significance Threshold Mass Rate Screening Criteria was determined using Appendix C of the SCAQMD *Final Localized Significant Threshold Methodology* guidance document for pollutants NO_X, CO, PM_{10}, and $PM_{2.5}$. The Localized Significance Threshold Mass Rate Screening Threshold was based on the anticipated daily acreage disturbance for construction (one acre), the distance to sensitive receptors (25 meters), and the source receptor area (SRA 8).

[10] South Coast Air Quality Management District, *Final Localized Significance Threshold Methodology*, July 2008.

Operations

According to SCAQMD localized significance threshold methodology, LSTs would apply to the operational phase of a proposed project if the project includes stationary sources or attracts mobile sources that may spend extended periods queuing and idling at the site (e.g., warehouse or transfer facilities). The proposed project does not include such uses. Thus, due to the lack of such emissions, no long-term localized significance threshold analysis is necessary. Operational LST impacts would be less than significant.

Carbon Monoxide Hotspots

CO emissions are a function of vehicle idling time, meteorological conditions, and traffic flow. Under certain extreme meteorological conditions, CO concentrations near a congested roadway or intersection may reach unhealthful levels (i.e., adversely affecting residents, school children, hospital patients, the elderly, etc.).

The SCAQMD recommends a quantified assessment of CO hotspots when a project increases the volume-to-capacity ratio (also called the intersection capacity utilization) by 0.02 (two percent) for any intersection with an existing level of service (LOS) D or worse. Because traffic congestion is highest at intersections where vehicles queue and are subject to reduced speeds, these hot spots are typically produced at intersections.
The Basin is designated as an attainment/maintenance area for the Federal CO standards and an attainment area for State standards. There has been a decline in CO emissions even though vehicle miles traveled on U.S. urban and rural roads have increased. Nationwide estimated anthropogenic CO emissions have decreased 68 percent between 1990 and 2014. In 2014, mobile sources accounted for 82 percent of the nation's total anthropogenic CO emissions.[11] CO emissions have continued to decline since this time. The Basin was re-designated as attainment in 2007 and CO is no longer addressed in the SCAQMD's AQMP. Three major control programs have contributed to the reduced per-vehicle CO emissions: exhaust standards, cleaner burning fuels, and motor vehicle inspection/maintenance programs.

A detailed CO analysis was conducted in the Federal Attainment Plan for Carbon Monoxide (CO Plan) for the SCAQMD's *2003 Air Quality Management Plan*, which is the most recent AQMP that addresses CO concentrations. The locations selected for microscale modeling in the CO Plan are worst-case intersections in the Basin and would likely experience the highest CO concentrations. Thus, CO analysis within the CO Plan is utilized in a comparison to the proposed project, since it represents a worst-case scenario with heavy traffic volumes within the Basin.

Of these locations, the Wilshire Boulevard/Veteran Avenue intersection in Los Angeles County experienced the highest CO concentration (4.6 parts per million [ppm]), which is well below the 35-ppm one-hour CO Federal standard. The Wilshire Boulevard/Veteran Avenue intersection is one of the most congested intersections in Southern California with an ADT volume of approximately 100,000 vehicles per day. As the CO hotspots were not experienced at the Wilshire Boulevard/Veteran Avenue intersection, it can be reasonably inferred that CO hotspots would not be experienced at any intersections within the City near the project site due to the comparatively low volume of traffic (a net increase of 514 average daily trips, including 34 trips during the a.m. peak hour and 41 trips during the p.m. peak hour) that would occur as a result of project implementation. Therefore, impacts would be less than significant.

[11] United States Environmental Protection Agency, *Carbon Monoxide Emissions*, https://cfpub.epa.gov/roe/indicator_pdf.cfm?i=10, accessed January 13, 2022.

Mitigation Measures: No mitigation is required.

Impact AQ-4: Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Less Than Significant Impact. According to the SCAQMD *CEQA Air Quality Handbook*, land uses associated with odor complaints typically include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. The proposed project does not include any uses identified by the SCAQMD as being associated with odors.

Construction activities associated with the project may generate detectable odors from heavy-duty equipment exhaust and architectural coatings. However, construction-related odors would be short-term in nature and cease upon project completion. In addition, the project would be required to comply with the California Code of Regulations, Title 13, Sections 2449(d)(3) and 2485, which minimizes the idling time of construction equipment either by shutting it off when not in use or by reducing the time of idling to no more than five minutes. This would further reduce the detectable odors from heavy-duty equipment exhaust. The project would also comply with the SCAQMD Regulation XI, *Rule 1113 – Architectural Coating*, which would minimize odor impacts from ROG emissions during architectural coating. Any impacts to existing adjacent land uses would be short-term, would not adversely affect a substantial number of people, and are less than significant.

Mitigation Measures: No mitigation is required.

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11. South Coast Air Quality Management District, *Final 2016 Air Quality Management Plan*, March 2017.

12. South Coast Air Quality Management District, *CEQA Air Quality Handbook,* November 1993.

13. South Coast Air Quality Management District, *SCAQMD Air Quality Significance Thresholds*, March 2015.

14. South Coast Air Quality Management District, *Final Localized Significance Threshold Methodology*, July 2008.

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16. United States Environmental Protection Agency¸ *Revisions to the General Conformity Regulations*, March 24, 2010, https://www.epa.gov/sites/production/files/2016-03/documents/20100324rule.pdf, accessed January 18, 2022.

Websites / Programs

1. Google Earth, 2022.

2. South Coast Air Quality Management District, California Emissions Estimator Model (CalEEMod), version 2020.4.0.

Appendix A
Air Quality Emissions Data

270-282 North Los Robles Avenue Project - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

270-282 North Los Robles Avenue Project

Los Angeles-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	161.00	Space	1.45	64,400.00	0
Apartments Mid Rise	105.00	Dwelling Unit	2.76	105,000.00	300
Recreational Swimming Pool	1.78	1000sqft	0.04	1,781.00	0
City Park	0.16	Acre	0.16	6,969.60	0
Other Non-Asphalt Surfaces	2.65	1000sqft	0.06	2,649.00	0
Health Club	1.20	1000sqft	0.03	1,201.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	12			**Operational Year**	2024
Utility Company	Pasadena Water and Power				
CO2 Intensity (lb/MWhr)	872.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Per site plan.

Construction Phase - Per construction questionnaire.

Trips and VMT - Per construction questionnaire.

Demolition -

Grading -

Vehicle Trips - Per TIA.

270-282 North Los Robles Avenue Project - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Construction Off-road Equipment Mitigation - Per SCAQMD standards and regulations

Area Mitigation - SCAQMD Rule 445 prohibits the installation of any open or enclosed permanently installed wood burning device.

Water Mitigation -

Architectural Coating -

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Fleet Mix -

Area Coating -

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	26
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	12
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	18.00	44.00
tblConstructionPhase	NumDays	230.00	286.00
tblConstructionPhase	NumDays	20.00	6.00
tblConstructionPhase	NumDays	8.00	22.00
tblConstructionPhase	NumDays	18.00	66.00
tblGrading	MaterialExported	0.00	17,635.00
tblLandUse	LandUseSquareFeet	1,780.00	1,781.00
tblLandUse	LandUseSquareFeet	2,650.00	2,649.00
tblTripsAndVMT	HaulingTripLength	20.00	30.00
tblTripsAndVMT	HaulingTripLength	20.00	30.00
tblVehicleTrips	ST_TR	4.91	4.90
tblVehicleTrips	ST_TR	1.96	0.00
tblVehicleTrips	ST_TR	20.87	0.00
tblVehicleTrips	ST_TR	9.10	0.00
tblVehicleTrips	SU_TR	4.09	4.90

270-282 North Los Robles Avenue Project - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblVehicleTrips	SU_TR	2.19	0.00
tblVehicleTrips	SU_TR	26.73	0.00
tblVehicleTrips	SU_TR	13.60	0.00
tblVehicleTrips	WD_TR	5.44	4.90
tblVehicleTrips	WD_TR	0.78	0.00
tblVehicleTrips	WD_TR	32.93	0.00
tblVehicleTrips	WD_TR	28.82	0.00

2.0 Emissions Summary

270-282 North Los Robles Avenue Project - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	2.7655	46.1587	21.7234	0.1231	9.9702	1.2646	11.0992	4.2037	1.1762	5.2492	0.0000	13,105.0585	13,105.0585	1.4719	1.6043	13,619.9432
2023	1.9710	15.6157	20.2094	0.0415	1.3609	0.7117	2.0726	0.3644	0.6696	1.0340	0.0000	4,072.6635	4,072.6635	0.6515	0.0959	4,117.5338
2024	15.8605	14.6480	19.8785	0.0412	1.3609	0.6250	1.9859	0.3644	0.5878	0.9522	0.0000	4,044.6764	4,044.6764	0.6455	0.0931	4,088.5482
Maximum	**15.8605**	**46.1587**	**21.7234**	**0.1231**	**9.9702**	**1.2646**	**11.0992**	**4.2037**	**1.1762**	**5.2492**	**0.0000**	**13,105.0585**	**13,105.0585**	**1.4719**	**1.6043**	**13,619.9432**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	2.7655	46.1587	21.7234	0.1231	4.9002	1.2646	6.0291	1.9031	1.1762	2.9486	0.0000	13,105.0585	13,105.0585	1.4719	1.6043	13,619.9431
2023	1.9710	15.6157	20.2094	0.0415	1.0596	0.7117	1.7713	0.2905	0.6696	0.9600	0.0000	4,072.6635	4,072.6635	0.6515	0.0959	4,117.5338
2024	15.8605	14.6480	19.8785	0.0412	1.0596	0.6250	1.6846	0.2905	0.5878	0.8783	0.0000	4,044.6764	4,044.6764	0.6455	0.0931	4,088.5482
Maximum	**15.8605**	**46.1587**	**21.7234**	**0.1231**	**4.9002**	**1.2646**	**6.0291**	**1.9031**	**1.1762**	**2.9486**	**0.0000**	**13,105.0585**	**13,105.0585**	**1.4719**	**1.6043**	**13,619.9431**

270-282 North Los Robles Avenue Project - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	44.69	0.00	37.42	49.64	0.00	33.84	0.00	0.00	0.00	0.00	0.00	0.00

270-282 North Los Robles Avenue Project - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	30.0908	2.2785	62.0739	0.1367		8.0688	8.0688		8.0688	8.0688	983.5264	1,905.6345	2,889.1609	2.9481	0.0668	2,982.7570
Energy	0.0340	0.2910	0.1262	1.8600e-003		0.0235	0.0235		0.0235	0.0235		371.0227	371.0227	7.1100e-003	6.8000e-003	373.2275
Mobile	1.5262	1.7033	15.5494	0.0339	3.7015	0.0252	3.7267	0.9860	0.0234	1.0094		3,516.2814	3,516.2814	0.2406	0.1506	3,567.1690
Total	**31.6509**	**4.2728**	**77.7495**	**0.1724**	**3.7015**	**8.1175**	**11.8190**	**0.9860**	**8.1157**	**9.1017**	**983.5264**	**5,792.9386**	**6,776.4651**	**3.1959**	**0.2241**	**6,923.1536**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.7604	1.6675	9.3431	0.0105		0.1748	0.1748		0.1748	0.1748	0.0000	2,016.8110	2,016.8110	0.0534	0.0367	2,029.0795
Energy	0.0340	0.2910	0.1262	1.8600e-003		0.0235	0.0235		0.0235	0.0235		371.0227	371.0227	7.1100e-003	6.8000e-003	373.2275
Mobile	1.5262	1.7033	15.5494	0.0339	3.7015	0.0252	3.7267	0.9860	0.0234	1.0094		3,516.2814	3,516.2814	0.2406	0.1506	3,567.1690
Total	**4.3206**	**3.6618**	**25.0187**	**0.0462**	**3.7015**	**0.2235**	**3.9250**	**0.9860**	**0.2217**	**1.2076**	**0.0000**	**5,904.1151**	**5,904.1151**	**0.3012**	**0.1941**	**5,969.4761**

270-282 North Los Robles Avenue Project - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**86.35**	**14.30**	**67.82**	**73.20**	**0.00**	**97.25**	**66.79**	**0.00**	**97.27**	**86.73**	**100.00**	**-1.92**	**12.87**	**90.58**	**13.41**	**13.78**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	9/1/2022	9/8/2022	5	6	
2	Grading	Grading	9/9/2022	10/10/2022	5	22	
3	Paving	Paving	12/1/2022	3/2/2023	5	66	
4	Building Construction	Building Construction	3/3/2023	4/5/2024	5	286	
5	Architectural Coating	Architectural Coating	4/6/2024	6/6/2024	5	44	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 22

Acres of Paving: 1.51

Residential Indoor: 212,625; Residential Outdoor: 70,875; Non-Residential Indoor: 1,802; Non-Residential Outdoor: 601; Striped Parking Area: 4,023 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40

270-282 North Los Robles Avenue Project - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	2	6.00	132	0.36
Paving	Rollers	2	6.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	67.00	14.70	6.90	30.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	2,204.00	14.70	6.90	30.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	108.00	24.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	22.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Replace Ground Cover

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

270-282 North Los Robles Avenue Project - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.4038	0.0000	2.4038	0.3640	0.0000	0.3640			0.0000			0.0000
Off-Road	2.6392	25.7194	20.5941	0.0388		1.2427	1.2427		1.1553	1.1553		3,746.7812	3,746.7812	1.0524		3,773.0920
Total	**2.6392**	**25.7194**	**20.5941**	**0.0388**	**2.4038**	**1.2427**	**3.6465**	**0.3640**	**1.1553**	**1.5192**		**3,746.7812**	**3,746.7812**	**1.0524**		**3,773.0920**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0708	2.8158	0.5865	0.0103	0.2931	0.0209	0.3139	0.0803	0.0200	0.1003		1,124.1415	1,124.1415	0.0601	0.1784	1,178.7990
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0556	0.0419	0.5428	1.4500e-003	0.1677	1.0700e-003	0.1687	0.0445	9.9000e-004	0.0455		147.7700	147.7700	4.2700e-003	4.0100e-003	149.0720
Total	**0.1263**	**2.8577**	**1.1293**	**0.0117**	**0.4607**	**0.0219**	**0.4827**	**0.1248**	**0.0209**	**0.1457**		**1,271.9115**	**1,271.9115**	**0.0643**	**0.1824**	**1,327.8711**

270-282 North Los Robles Avenue Project - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.8906	0.0000	0.8906	0.1349	0.0000	0.1349			0.0000			0.0000
Off-Road	2.6392	25.7194	20.5941	0.0388		1.2427	1.2427		1.1553	1.1553	0.0000	3,746.7812	3,746.7812	1.0524		3,773.0920
Total	**2.6392**	**25.7194**	**20.5941**	**0.0388**	**0.8906**	**1.2427**	**2.1333**	**0.1349**	**1.1553**	**1.2901**	**0.0000**	**3,746.7812**	**3,746.7812**	**1.0524**		**3,773.0920**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0708	2.8158	0.5865	0.0103	0.2355	0.0209	0.2563	0.0662	0.0200	0.0862		1,124.1415	1,124.1415	0.0601	0.1784	1,178.7990
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0556	0.0419	0.5428	1.4500e-003	0.1298	1.0700e-003	0.1308	0.0352	9.9000e-004	0.0362		147.7700	147.7700	4.2700e-003	4.0100e-003	149.0720
Total	**0.1263**	**2.8577**	**1.1293**	**0.0117**	**0.3653**	**0.0219**	**0.3872**	**0.1014**	**0.0209**	**0.1223**		**1,271.9115**	**1,271.9115**	**0.0643**	**0.1824**	**1,327.8711**

270-282 North Los Robles Avenue Project - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.1732	0.0000	7.1732	3.4385	0.0000	3.4385			0.0000			0.0000
Off-Road	1.9486	20.8551	15.2727	0.0297		0.9409	0.9409		0.8656	0.8656		2,872.0464	2,872.0464	0.9289		2,895.2684
Total	**1.9486**	**20.8551**	**15.2727**	**0.0297**	**7.1732**	**0.9409**	**8.1141**	**3.4385**	**0.8656**	**4.3040**		**2,872.0464**	**2,872.0464**	**0.9289**		**2,895.2684**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.6348	25.2617	5.2617	0.0920	2.6293	0.1871	2.8163	0.7208	0.1790	0.8998		10,085.2422	10,085.2422	0.5388	1.6003	10,575.6028
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0556	0.0419	0.5428	1.4500e-003	0.1677	1.0700e-003	0.1687	0.0445	9.9000e-004	0.0455		147.7700	147.7700	4.2700e-003	4.0100e-003	149.0720
Total	**0.6904**	**25.3036**	**5.8045**	**0.0935**	**2.7969**	**0.1881**	**2.9851**	**0.7652**	**0.1800**	**0.9452**		**10,233.0121**	**10,233.0121**	**0.5430**	**1.6043**	**10,724.6748**

270-282 North Los Robles Avenue Project - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Grading - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.6577	0.0000	2.6577	1.2740	0.0000	1.2740			0.0000			0.0000
Off-Road	1.9486	20.8551	15.2727	0.0297		0.9409	0.9409		0.8656	0.8656	0.0000	2,872.0464	2,872.0464	0.9289		2,895.2684
Total	**1.9486**	**20.8551**	**15.2727**	**0.0297**	**2.6577**	**0.9409**	**3.5985**	**1.2740**	**0.8656**	**2.1395**	**0.0000**	**2,872.0464**	**2,872.0464**	**0.9289**		**2,895.2684**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.6348	25.2617	5.2617	0.0920	2.1127	0.1871	2.2998	0.5940	0.1790	0.7730		10,085.2422	10,085.2422	0.5388	1.6003	10,575.6028
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0556	0.0419	0.5428	1.4500e-003	0.1298	1.0700e-003	0.1308	0.0352	9.9000e-004	0.0362		147.7700	147.7700	4.2700e-003	4.0100e-003	149.0720
Total	**0.6904**	**25.3036**	**5.8045**	**0.0935**	**2.2425**	**0.1881**	**2.4306**	**0.6291**	**0.1800**	**0.8091**		**10,233.0121**	**10,233.0121**	**0.5430**	**1.6043**	**10,724.6748**

270-282 North Los Robles Avenue Project - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9765	9.5221	12.1940	0.0189		0.4877	0.4877		0.4504	0.4504		1,805.1297	1,805.1297	0.5672		1,819.3091
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9765**	**9.5221**	**12.1940**	**0.0189**		**0.4877**	**0.4877**		**0.4504**	**0.4504**		**1,805.1297**	**1,805.1297**	**0.5672**		**1,819.3091**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0741	0.0558	0.7237	1.9400e-003	0.2236	1.4300e-003	0.2250	0.0593	1.3200e-003	0.0606		197.0266	197.0266	5.7000e-003	5.3500e-003	198.7627
Total	**0.0741**	**0.0558**	**0.7237**	**1.9400e-003**	**0.2236**	**1.4300e-003**	**0.2250**	**0.0593**	**1.3200e-003**	**0.0606**		**197.0266**	**197.0266**	**5.7000e-003**	**5.3500e-003**	**198.7627**

270-282 North Los Robles Avenue Project - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Paving - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9765	9.5221	12.1940	0.0189		0.4877	0.4877		0.4504	0.4504	0.0000	1,805.1297	1,805.1297	0.5672		1,819.3091
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9765**	**9.5221**	**12.1940**	**0.0189**		**0.4877**	**0.4877**		**0.4504**	**0.4504**	**0.0000**	**1,805.1297**	**1,805.1297**	**0.5672**		**1,819.3091**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0741	0.0558	0.7237	1.9400e-003	0.1730	1.4300e-003	0.1745	0.0469	1.3200e-003	0.0482		197.0266	197.0266	5.7000e-003	5.3500e-003	198.7627
Total	**0.0741**	**0.0558**	**0.7237**	**1.9400e-003**	**0.1730**	**1.4300e-003**	**0.1745**	**0.0469**	**1.3200e-003**	**0.0482**		**197.0266**	**197.0266**	**5.7000e-003**	**5.3500e-003**	**198.7627**

270-282 North Los Robles Avenue Project - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9181	8.7903	12.1905	0.0189		0.4357	0.4357		0.4025	0.4025		1,805.4304	1,805.4304	0.5673		1,819.6122
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9181**	**8.7903**	**12.1905**	**0.0189**		**0.4357**	**0.4357**		**0.4025**	**0.4025**		**1,805.4304**	**1,805.4304**	**0.5673**		**1,819.6122**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0688	0.0493	0.6662	1.8700e-003	0.2236	1.3500e-003	0.2249	0.0593	1.2400e-003	0.0605		191.8453	191.8453	5.1100e-003	4.9300e-003	193.4424
Total	**0.0688**	**0.0493**	**0.6662**	**1.8700e-003**	**0.2236**	**1.3500e-003**	**0.2249**	**0.0593**	**1.2400e-003**	**0.0605**		**191.8453**	**191.8453**	**5.1100e-003**	**4.9300e-003**	**193.4424**

270-282 North Los Robles Avenue Project - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Paving - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9181	8.7903	12.1905	0.0189		0.4357	0.4357		0.4025	0.4025	0.0000	1,805.4304	1,805.4304	0.5673		1,819.6122
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9181**	**8.7903**	**12.1905**	**0.0189**		**0.4357**	**0.4357**		**0.4025**	**0.4025**	**0.0000**	**1,805.4304**	**1,805.4304**	**0.5673**		**1,819.6122**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0688	0.0493	0.6662	1.8700e-003	0.1730	1.3500e-003	0.1744	0.0469	1.2400e-003	0.0481		191.8453	191.8453	5.1100e-003	4.9300e-003	193.4424
Total	**0.0688**	**0.0493**	**0.6662**	**1.8700e-003**	**0.1730**	**1.3500e-003**	**0.1744**	**0.0469**	**1.2400e-003**	**0.0481**		**191.8453**	**191.8453**	**5.1100e-003**	**4.9300e-003**	**193.4424**

270-282 North Los Robles Avenue Project - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**		**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0267	0.9645	0.3681	4.4700e-003	0.1537	4.6600e-003	0.1584	0.0443	4.4600e-003	0.0487		481.4887	481.4887	0.0160	0.0693	502.5387
Worker	0.3716	0.2663	3.5973	0.0101	1.2072	7.2800e-003	1.2145	0.3202	6.7100e-003	0.3269		1,035.9649	1,035.9649	0.0276	0.0266	1,044.5891
Total	**0.3983**	**1.2308**	**3.9654**	**0.0146**	**1.3609**	**0.0119**	**1.3729**	**0.3644**	**0.0112**	**0.3756**		**1,517.4536**	**1,517.4536**	**0.0437**	**0.0959**	**1,547.1278**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**	**0.0000**	**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0267	0.9645	0.3681	4.4700e-003	0.1253	4.6600e-003	0.1299	0.0373	4.4600e-003	0.0417		481.4887	481.4887	0.0160	0.0693	502.5387
Worker	0.3716	0.2663	3.5973	0.0101	0.9343	7.2800e-003	0.9416	0.2532	6.7100e-003	0.2599		1,035.9649	1,035.9649	0.0276	0.0266	1,044.5891
Total	**0.3983**	**1.2308**	**3.9654**	**0.0146**	**1.0596**	**0.0119**	**1.0715**	**0.2905**	**0.0112**	**0.3016**		**1,517.4536**	**1,517.4536**	**0.0437**	**0.0959**	**1,547.1278**

270-282 North Los Robles Avenue Project - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769		2,555.6989	2,555.6989	0.6044		2,570.8077
Total	**1.4716**	**13.4438**	**16.1668**	**0.0270**		**0.6133**	**0.6133**		**0.5769**	**0.5769**		**2,555.6989**	**2,555.6989**	**0.6044**		**2,570.8077**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0258	0.9665	0.3604	4.4000e-003	0.1537	4.6900e-003	0.1584	0.0443	4.4900e-003	0.0488		474.2744	474.2744	0.0161	0.0683	495.0366
Worker	0.3475	0.2378	3.3513	9.8400e-003	1.2072	6.9900e-003	1.2142	0.3202	6.4300e-003	0.3266		1,014.7031	1,014.7031	0.0250	0.0248	1,022.7040
Total	**0.3733**	**1.2042**	**3.7117**	**0.0142**	**1.3609**	**0.0117**	**1.3726**	**0.3644**	**0.0109**	**0.3753**		**1,488.9775**	**1,488.9775**	**0.0411**	**0.0931**	**1,517.7406**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769	0.0000	2,555.6989	2,555.6989	0.6044		2,570.8077
Total	**1.4716**	**13.4438**	**16.1668**	**0.0270**		**0.6133**	**0.6133**		**0.5769**	**0.5769**	**0.0000**	**2,555.6989**	**2,555.6989**	**0.6044**		**2,570.8077**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0258	0.9665	0.3604	4.4000e-003	0.1253	4.6900e-003	0.1300	0.0373	4.4900e-003	0.0418		474.2744	474.2744	0.0161	0.0683	495.0366
Worker	0.3475	0.2378	3.3513	9.8400e-003	0.9343	6.9900e-003	0.9413	0.2532	6.4300e-003	0.2596		1,014.7031	1,014.7031	0.0250	0.0248	1,022.7040
Total	**0.3733**	**1.2042**	**3.7117**	**0.0142**	**1.0596**	**0.0117**	**1.0713**	**0.2905**	**0.0109**	**0.3014**		**1,488.9775**	**1,488.9775**	**0.0411**	**0.0931**	**1,517.7406**

270-282 North Los Robles Avenue Project - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	15.6090					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609		281.4481	281.4481	0.0159		281.8443
Total	**15.7898**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**		**281.4481**	**281.4481**	**0.0159**		**281.8443**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0708	0.0484	0.6827	2.0000e-003	0.2459	1.4200e-003	0.2473	0.0652	1.3100e-003	0.0665		206.6988	206.6988	5.0900e-003	5.0400e-003	208.3286
Total	**0.0708**	**0.0484**	**0.6827**	**2.0000e-003**	**0.2459**	**1.4200e-003**	**0.2473**	**0.0652**	**1.3100e-003**	**0.0665**		**206.6988**	**206.6988**	**5.0900e-003**	**5.0400e-003**	**208.3286**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Architectural Coating - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	15.6090					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609	0.0000	281.4481	281.4481	0.0159		281.8443
Total	**15.7898**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**	**0.0000**	**281.4481**	**281.4481**	**0.0159**		**281.8443**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0708	0.0484	0.6827	2.0000e-003	0.1903	1.4200e-003	0.1918	0.0516	1.3100e-003	0.0529		206.6988	206.6988	5.0900e-003	5.0400e-003	208.3286
Total	**0.0708**	**0.0484**	**0.6827**	**2.0000e-003**	**0.1903**	**1.4200e-003**	**0.1918**	**0.0516**	**1.3100e-003**	**0.0529**		**206.6988**	**206.6988**	**5.0900e-003**	**5.0400e-003**	**208.3286**

270-282 North Los Robles Avenue Project - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.5262	1.7033	15.5494	0.0339	3.7015	0.0252	3.7267	0.9860	0.0234	1.0094		3,516.2814	3,516.2814	0.2406	0.1506	3,567.1690
Unmitigated	1.5262	1.7033	15.5494	0.0339	3.7015	0.0252	3.7267	0.9860	0.0234	1.0094		3,516.2814	3,516.2814	0.2406	0.1506	3,567.1690

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	514.50	514.50	514.50	1,758,125	1,758,125
Enclosed Parking with Elevator	0.00	0.00	0.00		
City Park	0.00	0.00	0.00		
Health Club	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Recreational Swimming Pool	0.00	0.00	0.00		
Total	514.50	514.50	514.50	1,758,125	1,758,125

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Enclosed Parking with Elevator	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
City Park	16.60	8.40	6.90	33.00	48.00	19.00	66	28	6
Health Club	16.60	8.40	6.90	16.90	64.10	19.00	52	39	9
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Recreational Swimming Pool	16.60	8.40	6.90	33.00	48.00	19.00	52	39	9

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.542464	0.063735	0.188241	0.126899	0.023249	0.006239	0.010717	0.008079	0.000923	0.000604	0.024795	0.000702	0.003352
Enclosed Parking with Elevator	0.542464	0.063735	0.188241	0.126899	0.023249	0.006239	0.010717	0.008079	0.000923	0.000604	0.024795	0.000702	0.003352
City Park	0.542464	0.063735	0.188241	0.126899	0.023249	0.006239	0.010717	0.008079	0.000923	0.000604	0.024795	0.000702	0.003352
Health Club	0.542464	0.063735	0.188241	0.126899	0.023249	0.006239	0.010717	0.008079	0.000923	0.000604	0.024795	0.000702	0.003352
Other Non-Asphalt Surfaces	0.542464	0.063735	0.188241	0.126899	0.023249	0.006239	0.010717	0.008079	0.000923	0.000604	0.024795	0.000702	0.003352
Recreational Swimming Pool	0.542464	0.063735	0.188241	0.126899	0.023249	0.006239	0.010717	0.008079	0.000923	0.000604	0.024795	0.000702	0.003352

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

270-282 North Los Robles Avenue Project - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0340	0.2910	0.1262	1.8600e-003		0.0235	0.0235		0.0235	0.0235		371.0227	371.0227	7.1100e-003	6.8000e-003	373.2275
NaturalGas Unmitigated	0.0340	0.2910	0.1262	1.8600e-003		0.0235	0.0235		0.0235	0.0235		371.0227	371.0227	7.1100e-003	6.8000e-003	373.2275

270-282 North Los Robles Avenue Project - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	3094.6	0.0334	0.2852	0.1214	1.8200e-003		0.0231	0.0231		0.0231	0.0231		364.0703	364.0703	6.9800e-003	6.6700e-003	366.2338
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Health Club	59.0958	6.4000e-004	5.7900e-003	4.8700e-003	3.0000e-005		4.4000e-004	4.4000e-004		4.4000e-004	4.4000e-004		6.9524	6.9524	1.3000e-004	1.3000e-004	6.9938
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0340**	**0.2910**	**0.1262**	**1.8500e-003**		**0.0235**	**0.0235**		**0.0235**	**0.0235**		**371.0227**	**371.0227**	**7.1100e-003**	**6.8000e-003**	**373.2275**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	3.0946	0.0334	0.2852	0.1214	1.8200e-003		0.0231	0.0231		0.0231	0.0231		364.0703	364.0703	6.9800e-003	6.6700e-003	366.2338
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Health Club	0.0590958	6.4000e-004	5.7900e-003	4.8700e-003	3.0000e-005		4.4000e-004	4.4000e-004		4.4000e-004	4.4000e-004		6.9524	6.9524	1.3000e-004	1.3000e-004	6.9938
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0340**	**0.2910**	**0.1262**	**1.8500e-003**		**0.0235**	**0.0235**		**0.0235**	**0.0235**		**371.0227**	**371.0227**	**7.1100e-003**	**6.8000e-003**	**373.2275**

6.0 Area Detail

6.1 Mitigation Measures Area

Use only Natural Gas Hearths

270-282 North Los Robles Avenue Project - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	2.7604	1.6675	9.3431	0.0105		0.1748	0.1748		0.1748	0.1748	0.0000	2,016.8110	2,016.8110	0.0534	0.0367	2,029.0795
Unmitigated	30.0908	2.2785	62.0739	0.1367		8.0688	8.0688		8.0688	8.0688	983.5264	1,905.6345	2,889.1609	2.9481	0.0668	2,982.7570

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1882					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.1269					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	27.5138	2.1786	53.3979	0.1362		8.0208	8.0208		8.0208	8.0208	983.5264	1,890.0000	2,873.5264	2.9331	0.0668	2,966.7460
Landscaping	0.2619	0.0999	8.6760	4.6000e-004		0.0481	0.0481		0.0481	0.0481		15.6345	15.6345	0.0151		16.0110
Total	**30.0908**	**2.2785**	**62.0739**	**0.1367**		**8.0688**	**8.0688**		**8.0688**	**8.0688**	**983.5264**	**1,905.6345**	**2,889.1609**	**2.9481**	**0.0668**	**2,982.7570**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1882					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.1269					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.1834	1.5676	0.6671	0.0100		0.1267	0.1267		0.1267	0.1267	0.0000	2,001.1765	2,001.1765	0.0384	0.0367	2,013.0685
Landscaping	0.2619	0.0999	8.6760	4.6000e-004		0.0481	0.0481		0.0481	0.0481		15.6345	15.6345	0.0151		16.0110
Total	**2.7604**	**1.6675**	**9.3431**	**0.0105**		**0.1748**	**0.1748**		**0.1748**	**0.1748**	**0.0000**	**2,016.8110**	**2,016.8110**	**0.0534**	**0.0367**	**2,029.0795**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

270-282 North Los Robles Avenue Project - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

270-282 North Los Robles Avenue Project

Los Angeles-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	161.00	Space	1.45	64,400.00	0
Apartments Mid Rise	105.00	Dwelling Unit	2.76	105,000.00	300
Recreational Swimming Pool	1.78	1000sqft	0.04	1,781.00	0
City Park	0.16	Acre	0.16	6,969.60	0
Other Non-Asphalt Surfaces	2.65	1000sqft	0.06	2,649.00	0
Health Club	1.20	1000sqft	0.03	1,201.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	12			**Operational Year**	2024
Utility Company	Pasadena Water and Power				
CO2 Intensity (lb/MWhr)	872.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Per site plan.

Construction Phase - Per construction questionnaire.

Trips and VMT - Per construction questionnaire.

Demolition -

Grading -

Vehicle Trips - Per TIA.

270-282 North Los Robles Avenue Project - Los Angeles-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Construction Off-road Equipment Mitigation - Per SCAQMD standards and regulations

Area Mitigation - SCAQMD Rule 445 prohibits the installation of any open or enclosed permanently installed wood burning device.

Water Mitigation -

Architectural Coating -

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Fleet Mix -

Area Coating -

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	26
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	12
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	20.00	6.00
tblConstructionPhase	NumDays	8.00	22.00
tblConstructionPhase	NumDays	18.00	66.00
tblConstructionPhase	NumDays	230.00	286.00
tblConstructionPhase	NumDays	18.00	44.00
tblGrading	MaterialExported	0.00	17,635.00
tblLandUse	LandUseSquareFeet	1,780.00	1,781.00
tblLandUse	LandUseSquareFeet	2,650.00	2,649.00
tblTripsAndVMT	HaulingTripLength	20.00	30.00
tblTripsAndVMT	HaulingTripLength	20.00	30.00
tblVehicleTrips	ST_TR	4.91	4.90
tblVehicleTrips	ST_TR	1.96	0.00
tblVehicleTrips	ST_TR	20.87	0.00
tblVehicleTrips	ST_TR	9.10	0.00
tblVehicleTrips	SU_TR	4.09	4.90

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblVehicleTrips	SU_TR	2.19	0.00
tblVehicleTrips	SU_TR	26.73	0.00
tblVehicleTrips	SU_TR	13.60	0.00
tblVehicleTrips	WD_TR	5.44	4.90
tblVehicleTrips	WD_TR	0.78	0.00
tblVehicleTrips	WD_TR	32.93	0.00
tblVehicleTrips	WD_TR	28.82	0.00

2.0 Emissions Summary

270-282 North Los Robles Avenue Project - Los Angeles-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	2.7631	45.1819	21.7643	0.1232	9.9702	1.2646	11.0989	4.2037	1.1762	5.2490	0.0000	13,111.3114	13,111.3114	1.4725	1.6037	13,626.0222
2023	1.9462	15.5472	20.5145	0.0421	1.3609	0.7117	2.0726	0.3644	0.6696	1.0340	0.0000	4,129.5097	4,129.5097	0.6512	0.0940	4,173.8112
2024	15.8554	14.5822	20.1589	0.0417	1.3609	0.6250	1.9859	0.3644	0.5878	0.9522	0.0000	4,100.2360	4,100.2360	0.6452	0.0913	4,143.5790
Maximum	**15.8554**	**45.1819**	**21.7643**	**0.1232**	**9.9702**	**1.2646**	**11.0989**	**4.2037**	**1.1762**	**5.2490**	**0.0000**	**13,111.3114**	**13,111.3114**	**1.4725**	**1.6037**	**13,626.0222**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	2.7631	45.1819	21.7643	0.1232	4.9002	1.2646	6.0289	1.9031	1.1762	2.9484	0.0000	13,111.3114	13,111.3114	1.4725	1.6037	13,626.0222
2023	1.9462	15.5472	20.5145	0.0421	1.0596	0.7117	1.7712	0.2905	0.6696	0.9600	0.0000	4,129.5097	4,129.5097	0.6512	0.0940	4,173.8112
2024	15.8554	14.5822	20.1589	0.0417	1.0596	0.6250	1.6845	0.2905	0.5878	0.8783	0.0000	4,100.2360	4,100.2360	0.6452	0.0913	4,143.5790
Maximum	**15.8554**	**45.1819**	**21.7643**	**0.1232**	**4.9002**	**1.2646**	**6.0289**	**1.9031**	**1.1762**	**2.9484**	**0.0000**	**13,111.3114**	**13,111.3114**	**1.4725**	**1.6037**	**13,626.0222**

270-282 North Los Robles Avenue Project - Los Angeles-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	44.69	0.00	37.43	49.64	0.00	33.84	0.00	0.00	0.00	0.00	0.00	0.00

270-282 North Los Robles Avenue Project - Los Angeles-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	30.0908	2.2785	62.0739	0.1367		8.0688	8.0688		8.0688	8.0688	983.5264	1,905.6345	2,889.1609	2.9481	0.0668	2,982.7570
Energy	0.0340	0.2910	0.1262	1.8600e-003		0.0235	0.0235		0.0235	0.0235		371.0227	371.0227	7.1100e-003	6.8000e-003	373.2275
Mobile	1.5531	1.5774	15.9076	0.0354	3.7015	0.0252	3.7267	0.9860	0.0234	1.0093		3,672.4082	3,672.4082	0.2342	0.1442	3,721.2447
Total	**31.6779**	**4.1468**	**78.1077**	**0.1740**	**3.7015**	**8.1175**	**11.8190**	**0.9860**	**8.1157**	**9.1017**	**983.5264**	**5,949.0654**	**6,932.5919**	**3.1895**	**0.2178**	**7,077.2293**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.7604	1.6675	9.3431	0.0105		0.1748	0.1748		0.1748	0.1748	0.0000	2,016.8110	2,016.8110	0.0534	0.0367	2,029.0795
Energy	0.0340	0.2910	0.1262	1.8600e-003		0.0235	0.0235		0.0235	0.0235		371.0227	371.0227	7.1100e-003	6.8000e-003	373.2275
Mobile	1.5531	1.5774	15.9076	0.0354	3.7015	0.0252	3.7267	0.9860	0.0234	1.0093		3,672.4082	3,672.4082	0.2342	0.1442	3,721.2447
Total	**4.3476**	**3.5359**	**25.3768**	**0.0477**	**3.7015**	**0.2235**	**3.9250**	**0.9860**	**0.2217**	**1.2076**	**0.0000**	**6,060.2419**	**6,060.2419**	**0.2947**	**0.1877**	**6,123.5517**

270-282 North Los Robles Avenue Project - Los Angeles-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**86.28**	**14.73**	**67.51**	**72.56**	**0.00**	**97.25**	**66.79**	**0.00**	**97.27**	**86.73**	**100.00**	**-1.87**	**12.58**	**90.76**	**13.80**	**13.48**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	9/1/2022	9/8/2022	5	6	
2	Grading	Grading	9/9/2022	10/10/2022	5	22	
3	Paving	Paving	12/1/2022	3/2/2023	5	66	
4	Building Construction	Building Construction	3/3/2023	4/5/2024	5	286	
5	Architectural Coating	Architectural Coating	4/6/2024	6/6/2024	5	44	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 22

Acres of Paving: 1.51

Residential Indoor: 212,625; Residential Outdoor: 70,875; Non-Residential Indoor: 1,802; Non-Residential Outdoor: 601; Striped Parking Area: 4,023 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	2	6.00	132	0.36
Paving	Rollers	2	6.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	67.00	14.70	6.90	30.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	2,204.00	14.70	6.90	30.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	108.00	24.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	22.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Replace Ground Cover

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

270-282 North Los Robles Avenue Project - Los Angeles-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.4038	0.0000	2.4038	0.3640	0.0000	0.3640			0.0000			0.0000
Off-Road	2.6392	25.7194	20.5941	0.0388		1.2427	1.2427		1.1553	1.1553		3,746.7812	3,746.7812	1.0524		3,773.0920
Total	**2.6392**	**25.7194**	**20.5941**	**0.0388**	**2.4038**	**1.2427**	**3.6465**	**0.3640**	**1.1553**	**1.5192**		**3,746.7812**	**3,746.7812**	**1.0524**		**3,773.0920**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0720	2.7073	0.5790	0.0103	0.2931	0.0208	0.3139	0.0803	0.0199	0.1003		1,123.9190	1,123.9190	0.0601	0.1783	1,178.5658
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0519	0.0379	0.5912	1.5300e-003	0.1677	1.0700e-003	0.1687	0.0445	9.9000e-004	0.0455		156.0191	156.0191	4.2200e-003	3.7500e-003	157.2432
Total	**0.1239**	**2.7452**	**1.1702**	**0.0118**	**0.4607**	**0.0219**	**0.4826**	**0.1248**	**0.0209**	**0.1457**		**1,279.9380**	**1,279.9380**	**0.0643**	**0.1821**	**1,335.8090**

270-282 North Los Robles Avenue Project - Los Angeles-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.8906	0.0000	0.8906	0.1349	0.0000	0.1349			0.0000			0.0000
Off-Road	2.6392	25.7194	20.5941	0.0388		1.2427	1.2427		1.1553	1.1553	0.0000	3,746.7812	3,746.7812	1.0524		3,773.0920
Total	**2.6392**	**25.7194**	**20.5941**	**0.0388**	**0.8906**	**1.2427**	**2.1333**	**0.1349**	**1.1553**	**1.2901**	**0.0000**	**3,746.7812**	**3,746.7812**	**1.0524**		**3,773.0920**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0720	2.7073	0.5790	0.0103	0.2355	0.0208	0.2563	0.0662	0.0199	0.0861		1,123.9190	1,123.9190	0.0601	0.1783	1,178.5658
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0519	0.0379	0.5912	1.5300e-003	0.1298	1.0700e-003	0.1308	0.0352	9.9000e-004	0.0362		156.0191	156.0191	4.2200e-003	3.7500e-003	157.2432
Total	**0.1239**	**2.7452**	**1.1702**	**0.0118**	**0.3653**	**0.0219**	**0.3872**	**0.1014**	**0.0209**	**0.1223**		**1,279.9380**	**1,279.9380**	**0.0643**	**0.1821**	**1,335.8090**

270-282 North Los Robles Avenue Project - Los Angeles-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.1732	0.0000	7.1732	3.4385	0.0000	3.4385			0.0000			0.0000
Off-Road	1.9486	20.8551	15.2727	0.0297		0.9409	0.9409		0.8656	0.8656		2,872.0464	2,872.0464	0.9289		2,895.2684
Total	**1.9486**	**20.8551**	**15.2727**	**0.0297**	**7.1732**	**0.9409**	**8.1141**	**3.4385**	**0.8656**	**4.3040**		**2,872.0464**	**2,872.0464**	**0.9289**		**2,895.2684**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.6460	24.2889	5.1945	0.0920	2.6293	0.1868	2.8161	0.7208	0.1787	0.8995		10,083.2460	10,083.2460	0.5394	1.5999	10,573.5107
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0519	0.0379	0.5912	1.5300e-003	0.1677	1.0700e-003	0.1687	0.0445	9.9000e-004	0.0455		156.0191	156.0191	4.2200e-003	3.7500e-003	157.2432
Total	**0.6979**	**24.3268**	**5.7857**	**0.0936**	**2.7969**	**0.1879**	**2.9848**	**0.7652**	**0.1797**	**0.9450**		**10,239.2650**	**10,239.2650**	**0.5436**	**1.6037**	**10,730.7538**

270-282 North Los Robles Avenue Project - Los Angeles-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Grading - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.6577	0.0000	2.6577	1.2740	0.0000	1.2740			0.0000			0.0000
Off-Road	1.9486	20.8551	15.2727	0.0297		0.9409	0.9409		0.8656	0.8656	0.0000	2,872.0464	2,872.0464	0.9289		2,895.2684
Total	**1.9486**	**20.8551**	**15.2727**	**0.0297**	**2.6577**	**0.9409**	**3.5985**	**1.2740**	**0.8656**	**2.1395**	**0.0000**	**2,872.0464**	**2,872.0464**	**0.9289**		**2,895.2684**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.6460	24.2889	5.1945	0.0920	2.1127	0.1868	2.2995	0.5940	0.1787	0.7727		10,083.2460	10,083.2460	0.5394	1.5999	10,573.5107
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0519	0.0379	0.5912	1.5300e-003	0.1298	1.0700e-003	0.1308	0.0352	9.9000e-004	0.0362		156.0191	156.0191	4.2200e-003	3.7500e-003	157.2432
Total	**0.6979**	**24.3268**	**5.7857**	**0.0936**	**2.2425**	**0.1879**	**2.4304**	**0.6291**	**0.1797**	**0.8089**		**10,239.2650**	**10,239.2650**	**0.5436**	**1.6037**	**10,730.7538**

270-282 North Los Robles Avenue Project - Los Angeles-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9765	9.5221	12.1940	0.0189		0.4877	0.4877		0.4504	0.4504		1,805.1297	1,805.1297	0.5672		1,819.3091
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9765**	**9.5221**	**12.1940**	**0.0189**		**0.4877**	**0.4877**		**0.4504**	**0.4504**		**1,805.1297**	**1,805.1297**	**0.5672**		**1,819.3091**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0692	0.0505	0.7883	2.0400e-003	0.2236	1.4300e-003	0.2250	0.0593	1.3200e-003	0.0606		208.0254	208.0254	5.6300e-003	5.0000e-003	209.6576
Total	**0.0692**	**0.0505**	**0.7883**	**2.0400e-003**	**0.2236**	**1.4300e-003**	**0.2250**	**0.0593**	**1.3200e-003**	**0.0606**		**208.0254**	**208.0254**	**5.6300e-003**	**5.0000e-003**	**209.6576**

270-282 North Los Robles Avenue Project - Los Angeles-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Paving - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9765	9.5221	12.1940	0.0189		0.4877	0.4877		0.4504	0.4504	0.0000	1,805.1297	1,805.1297	0.5672		1,819.3091
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9765**	**9.5221**	**12.1940**	**0.0189**		**0.4877**	**0.4877**		**0.4504**	**0.4504**	**0.0000**	**1,805.1297**	**1,805.1297**	**0.5672**		**1,819.3091**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0692	0.0505	0.7883	2.0400e-003	0.1730	1.4300e-003	0.1745	0.0469	1.3200e-003	0.0482		208.0254	208.0254	5.6300e-003	5.0000e-003	209.6576
Total	**0.0692**	**0.0505**	**0.7883**	**2.0400e-003**	**0.1730**	**1.4300e-003**	**0.1745**	**0.0469**	**1.3200e-003**	**0.0482**		**208.0254**	**208.0254**	**5.6300e-003**	**5.0000e-003**	**209.6576**

270-282 North Los Robles Avenue Project - Los Angeles-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9181	8.7903	12.1905	0.0189		0.4357	0.4357		0.4025	0.4025		1,805.4304	1,805.4304	0.5673		1,819.6122
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9181**	**8.7903**	**12.1905**	**0.0189**		**0.4357**	**0.4357**		**0.4025**	**0.4025**		**1,805.4304**	**1,805.4304**	**0.5673**		**1,819.6122**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0640	0.0447	0.7248	1.9800e-003	0.2236	1.3500e-003	0.2249	0.0593	1.2400e-003	0.0605		202.5226	202.5226	5.0400e-003	4.6200e-003	204.0242
Total	**0.0640**	**0.0447**	**0.7248**	**1.9800e-003**	**0.2236**	**1.3500e-003**	**0.2249**	**0.0593**	**1.2400e-003**	**0.0605**		**202.5226**	**202.5226**	**5.0400e-003**	**4.6200e-003**	**204.0242**

270-282 North Los Robles Avenue Project - Los Angeles-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Paving - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9181	8.7903	12.1905	0.0189		0.4357	0.4357		0.4025	0.4025	0.0000	1,805.4304	1,805.4304	0.5673		1,819.6122
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9181**	**8.7903**	**12.1905**	**0.0189**		**0.4357**	**0.4357**		**0.4025**	**0.4025**	**0.0000**	**1,805.4304**	**1,805.4304**	**0.5673**		**1,819.6122**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0640	0.0447	0.7248	1.9800e-003	0.1730	1.3500e-003	0.1744	0.0469	1.2400e-003	0.0481		202.5226	202.5226	5.0400e-003	4.6200e-003	204.0242
Total	**0.0640**	**0.0447**	**0.7248**	**1.9800e-003**	**0.1730**	**1.3500e-003**	**0.1744**	**0.0469**	**1.2400e-003**	**0.0481**		**202.5226**	**202.5226**	**5.0400e-003**	**4.6200e-003**	**204.0242**

270-282 North Los Robles Avenue Project - Los Angeles-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**		**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0276	0.9212	0.3569	4.4700e-003	0.1537	4.6300e-003	0.1584	0.0443	4.4300e-003	0.0487		480.6779	480.6779	0.0161	0.0691	501.6747
Worker	0.3458	0.2411	3.9136	0.0107	1.2072	7.2800e-003	1.2145	0.3202	6.7100e-003	0.3269		1,093.6218	1,093.6218	0.0272	0.0249	1,101.7305
Total	**0.3735**	**1.1623**	**4.2705**	**0.0152**	**1.3609**	**0.0119**	**1.3728**	**0.3644**	**0.0111**	**0.3756**		**1,574.2997**	**1,574.2997**	**0.0433**	**0.0940**	**1,603.4052**

270-282 North Los Robles Avenue Project - Los Angeles-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**	**0.0000**	**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0276	0.9212	0.3569	4.4700e-003	0.1253	4.6300e-003	0.1299	0.0373	4.4300e-003	0.0417		480.6779	480.6779	0.0161	0.0691	501.6747
Worker	0.3458	0.2411	3.9136	0.0107	0.9343	7.2800e-003	0.9416	0.2532	6.7100e-003	0.2599		1,093.6218	1,093.6218	0.0272	0.0249	1,101.7305
Total	**0.3735**	**1.1623**	**4.2705**	**0.0152**	**1.0596**	**0.0119**	**1.0715**	**0.2905**	**0.0111**	**0.3016**		**1,574.2997**	**1,574.2997**	**0.0433**	**0.0940**	**1,603.4052**

270-282 North Los Robles Avenue Project - Los Angeles-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769		2,555.6989	2,555.6989	0.6044		2,570.8077
Total	**1.4716**	**13.4438**	**16.1668**	**0.0270**		**0.6133**	**0.6133**		**0.5769**	**0.5769**		**2,555.6989**	**2,555.6989**	**0.6044**		**2,570.8077**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0268	0.9231	0.3493	4.4000e-003	0.1537	4.6600e-003	0.1584	0.0443	4.4600e-003	0.0487		473.4591	473.4591	0.0162	0.0681	494.1696
Worker	0.3223	0.2153	3.6428	0.0104	1.2072	6.9900e-003	1.2142	0.3202	6.4300e-003	0.3266		1,071.0781	1,071.0781	0.0246	0.0232	1,078.6018
Total	**0.3491**	**1.1384**	**3.9921**	**0.0148**	**1.3609**	**0.0117**	**1.3726**	**0.3644**	**0.0109**	**0.3753**		**1,544.5371**	**1,544.5371**	**0.0408**	**0.0913**	**1,572.7714**

270-282 North Los Robles Avenue Project - Los Angeles-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769	0.0000	2,555.6989	2,555.6989	0.6044		2,570.8077
Total	**1.4716**	**13.4438**	**16.1668**	**0.0270**		**0.6133**	**0.6133**		**0.5769**	**0.5769**	**0.0000**	**2,555.6989**	**2,555.6989**	**0.6044**		**2,570.8077**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0268	0.9231	0.3493	4.4000e-003	0.1253	4.6600e-003	0.1299	0.0373	4.4600e-003	0.0417		473.4591	473.4591	0.0162	0.0681	494.1696
Worker	0.3223	0.2153	3.6428	0.0104	0.9343	6.9900e-003	0.9413	0.2532	6.4300e-003	0.2596		1,071.0781	1,071.0781	0.0246	0.0232	1,078.6018
Total	**0.3491**	**1.1384**	**3.9921**	**0.0148**	**1.0596**	**0.0117**	**1.0712**	**0.2905**	**0.0109**	**0.3014**		**1,544.5371**	**1,544.5371**	**0.0408**	**0.0913**	**1,572.7714**

270-282 North Los Robles Avenue Project - Los Angeles-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	15.6090					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609		281.4481	281.4481	0.0159		281.8443
Total	**15.7898**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**		**281.4481**	**281.4481**	**0.0159**		**281.8443**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0657	0.0439	0.7421	2.1200e-003	0.2459	1.4200e-003	0.2473	0.0652	1.3100e-003	0.0665		218.1826	218.1826	5.0200e-003	4.7200e-003	219.7152
Total	**0.0657**	**0.0439**	**0.7421**	**2.1200e-003**	**0.2459**	**1.4200e-003**	**0.2473**	**0.0652**	**1.3100e-003**	**0.0665**		**218.1826**	**218.1826**	**5.0200e-003**	**4.7200e-003**	**219.7152**

270-282 North Los Robles Avenue Project - Los Angeles-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Architectural Coating - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	15.6090					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609	0.0000	281.4481	281.4481	0.0159		281.8443
Total	**15.7898**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**	**0.0000**	**281.4481**	**281.4481**	**0.0159**		**281.8443**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0657	0.0439	0.7421	2.1200e-003	0.1903	1.4200e-003	0.1918	0.0516	1.3100e-003	0.0529		218.1826	218.1826	5.0200e-003	4.7200e-003	219.7152
Total	**0.0657**	**0.0439**	**0.7421**	**2.1200e-003**	**0.1903**	**1.4200e-003**	**0.1918**	**0.0516**	**1.3100e-003**	**0.0529**		**218.1826**	**218.1826**	**5.0200e-003**	**4.7200e-003**	**219.7152**

270-282 North Los Robles Avenue Project - Los Angeles-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.5531	1.5774	15.9076	0.0354	3.7015	0.0252	3.7267	0.9860	0.0234	1.0093		3,672.4082	3,672.4082	0.2342	0.1442	3,721.2447
Unmitigated	1.5531	1.5774	15.9076	0.0354	3.7015	0.0252	3.7267	0.9860	0.0234	1.0093		3,672.4082	3,672.4082	0.2342	0.1442	3,721.2447

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	514.50	514.50	514.50	1,758,125	1,758,125
Enclosed Parking with Elevator	0.00	0.00	0.00		
City Park	0.00	0.00	0.00		
Health Club	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Recreational Swimming Pool	0.00	0.00	0.00		
Total	514.50	514.50	514.50	1,758,125	1,758,125

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Enclosed Parking with Elevator	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
City Park	16.60	8.40	6.90	33.00	48.00	19.00	66	28	6
Health Club	16.60	8.40	6.90	16.90	64.10	19.00	52	39	9
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Recreational Swimming Pool	16.60	8.40	6.90	33.00	48.00	19.00	52	39	9

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.542464	0.063735	0.188241	0.126899	0.023249	0.006239	0.010717	0.008079	0.000923	0.000604	0.024795	0.000702	0.003352
Enclosed Parking with Elevator	0.542464	0.063735	0.188241	0.126899	0.023249	0.006239	0.010717	0.008079	0.000923	0.000604	0.024795	0.000702	0.003352
City Park	0.542464	0.063735	0.188241	0.126899	0.023249	0.006239	0.010717	0.008079	0.000923	0.000604	0.024795	0.000702	0.003352
Health Club	0.542464	0.063735	0.188241	0.126899	0.023249	0.006239	0.010717	0.008079	0.000923	0.000604	0.024795	0.000702	0.003352
Other Non-Asphalt Surfaces	0.542464	0.063735	0.188241	0.126899	0.023249	0.006239	0.010717	0.008079	0.000923	0.000604	0.024795	0.000702	0.003352
Recreational Swimming Pool	0.542464	0.063735	0.188241	0.126899	0.023249	0.006239	0.010717	0.008079	0.000923	0.000604	0.024795	0.000702	0.003352

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

270-282 North Los Robles Avenue Project - Los Angeles-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0340	0.2910	0.1262	1.8600e-003		0.0235	0.0235		0.0235	0.0235		371.0227	371.0227	7.1100e-003	6.8000e-003	373.2275
NaturalGas Unmitigated	0.0340	0.2910	0.1262	1.8600e-003		0.0235	0.0235		0.0235	0.0235		371.0227	371.0227	7.1100e-003	6.8000e-003	373.2275

270-282 North Los Robles Avenue Project - Los Angeles-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	3094.6	0.0334	0.2852	0.1214	1.8200e-003		0.0231	0.0231		0.0231	0.0231		364.0703	364.0703	6.9800e-003	6.6700e-003	366.2338
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Health Club	59.0958	6.4000e-004	5.7900e-003	4.8700e-003	3.0000e-005		4.4000e-004	4.4000e-004		4.4000e-004	4.4000e-004		6.9524	6.9524	1.3000e-004	1.3000e-004	6.9938
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0340**	**0.2910**	**0.1262**	**1.8500e-003**		**0.0235**	**0.0235**		**0.0235**	**0.0235**		**371.0227**	**371.0227**	**7.1100e-003**	**6.8000e-003**	**373.2275**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	3.0946	0.0334	0.2852	0.1214	1.8200e-003		0.0231	0.0231		0.0231	0.0231		364.0703	364.0703	6.9800e-003	6.6700e-003	366.2338
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Health Club	0.0590958	6.4000e-004	5.7900e-003	4.8700e-003	3.0000e-005		4.4000e-004	4.4000e-004		4.4000e-004	4.4000e-004		6.9524	6.9524	1.3000e-004	1.3000e-004	6.9938
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0340**	**0.2910**	**0.1262**	**1.8500e-003**		**0.0235**	**0.0235**		**0.0235**	**0.0235**		**371.0227**	**371.0227**	**7.1100e-003**	**6.8000e-003**	**373.2275**

6.0 Area Detail

6.1 Mitigation Measures Area

Use only Natural Gas Hearths

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	2.7604	1.6675	9.3431	0.0105		0.1748	0.1748		0.1748	0.1748	0.0000	2,016.8110	2,016.8110	0.0534	0.0367	2,029.0795
Unmitigated	30.0908	2.2785	62.0739	0.1367		8.0688	8.0688		8.0688	8.0688	983.5264	1,905.6345	2,889.1609	2.9481	0.0668	2,982.7570

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1882					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.1269					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	27.5138	2.1786	53.3979	0.1362		8.0208	8.0208		8.0208	8.0208	983.5264	1,890.0000	2,873.5264	2.9331	0.0668	2,966.7460
Landscaping	0.2619	0.0999	8.6760	4.6000e-004		0.0481	0.0481		0.0481	0.0481		15.6345	15.6345	0.0151		16.0110
Total	**30.0908**	**2.2785**	**62.0739**	**0.1367**		**8.0688**	**8.0688**		**8.0688**	**8.0688**	**983.5264**	**1,905.6345**	**2,889.1609**	**2.9481**	**0.0668**	**2,982.7570**

270-282 North Los Robles Avenue Project - Los Angeles-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1882					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.1269					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.1834	1.5676	0.6671	0.0100		0.1267	0.1267		0.1267	0.1267	0.0000	2,001.1765	2,001.1765	0.0384	0.0367	2,013.0685
Landscaping	0.2619	0.0999	8.6760	4.6000e-004		0.0481	0.0481		0.0481	0.0481		15.6345	15.6345	0.0151		16.0110
Total	**2.7604**	**1.6675**	**9.3431**	**0.0105**		**0.1748**	**0.1748**		**0.1748**	**0.1748**	**0.0000**	**2,016.8110**	**2,016.8110**	**0.0534**	**0.0367**	**2,029.0795**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

270-282 North Los Robles Avenue Project - Los Angeles-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Michael Baker INTERNATIONAL

We Make a Difference

MEMORANDUM

To: Erinn Silva, GPA Consulting

From: Danielle Regimbal, Michael Baker International

Date: April 13, 2022

Subject: 270-282 North Los Robles Avenue Project – Noise Technical Memorandum

PURPOSE

The purpose of this technical memorandum is to evaluate potential short- and long-term noise and ground-borne vibration impacts as a result of the proposed 270-282 North Los Robles Avenue Project (project/proposed project), located in the City of Pasadena (City), California.

PROJECT LOCATION

The project site is located at 270-282 North Los Robles Avenue (Accessor Parcel Numbers [APNs] 5723-005-029 and 5723-005-044) at the southeast corner of Los Robles Avenue and Corson Street in Pasadena, California. Regional access to the site is available via Interstate 210 (I-210) located approximately 100 feet to the north of the site and Interstate 710 (I-710) located approximately 0.8-mile to the west of the site. The project site is currently occupied by a surface parking lot and vacant land.

EXISTING SITE CONDITIONS

The southern parcel of the project site, 270 N. Los Robles Avenue, is a vacant lot (APN 5723-005-029). The northern parcel, 282 N. Los Robles Avenue (APN 5723-005-044), has been developed with a surface parking lot at the southeast corner of Los Robles Avenue and Corson Street. The topography of the project site is relatively flat with an elevation of approximately 262 feet. According to the *City of Pasadena General Plan* (General Plan), the project site is designated as Medium Mixed-Use. According to the City's Zoning Map, the project site is located in a Central District Specific Plan area identified as Walnut Housing (CD-3). The project site is surrounded by multi-family residential uses to the east and south, as well as Corson Street to the north and Los Robles Avenue to the west.

PROJECT DESCRIPTION

The proposed project would consist of a six-story, 102,611 gross square foot multi-family residential building. The proposed development would include 105 dwelling units, a lobby/mail room, leasing office, gym, and amenity space. Seven common areas are proposed on four levels of the building. The ground floor would include two common areas, a landscaped area (or "garden"), and an entry plaza. The second floor would include two common areas, a main courtyard, and a small courtyard. A pool deck area is proposed within the main courtyard to serve the residents. The sixth floor would include two common

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spaces, the northern terrace, and southern terrace. The roof would include one common area, a roof terrace. A total of 161 parking spaces would be provided in a subterranean parking garage. Vehicle access to the subterranean parking garage would be provided at the northeastern end of the project site, along Corson Street.

Project construction would occur over approximately 21 months, beginning in September 2022. Construction of the project would require approximately 17,635 cubic yards of soil export and include the following phases: demolition, grading, paving, building construction, and architectural coatings. It is anticipated that the project would be completed and operational in 2024.

FUNDAMENTALS OF SOUND AND ENVIRONMENTAL NOISE

Sound is mechanical energy transmitted by pressure waves in a compressible medium such as air and is characterized by both its amplitude and frequency (or pitch). The human ear does not hear all frequencies equally. In particular, the ear deemphasizes low and very high frequencies. To better approximate the sensitivity of human hearing, the A-weighted decibel scale (dBA) has been developed. Decibels are based on the logarithmic scale. The logarithmic scale compresses the wide range in sound pressure levels to a more usable range of numbers in a manner similar to the Richter scale used to measure earthquakes. In terms of human response to noise, a sound 10 dBA higher than another is perceived to be twice as loud and 20 dBA higher is perceived to be four times as loud, and so forth. Everyday sounds normally range from 30 dBA (very quiet) to 100 dBA (very loud). On this scale, the human range of hearing extends from approximately 3 dBA to around 140 dBA.

Noise is generally defined as unwanted or excessive sound, which can vary in intensity by over one million times within the range of human hearing; therefore, a logarithmic scale, known as the decibel scale (dB), is used to quantify sound intensity. Noise can be generated by a number of sources, including mobile sources such as automobiles, trucks, and airplanes, and stationary sources such as construction sites, machinery, and industrial operations. Noise generated by mobile sources typically attenuates (is reduced) at a rate between 3 dBA and 4.5 dBA per doubling of distance. The rate depends on the ground surface and the number or type of objects between the noise source and the receiver. Hard and flat surfaces, such as concrete or asphalt, have an attenuation rate of 3 dBA per doubling of distance. Soft surfaces, such as uneven or vegetated terrain, have an attenuation rate of about 4.5 dBA per doubling of distance. Noise generated by stationary sources typically attenuates at a rate between 6 dBA and about 7.5 dBA per doubling of distance.

There are several metrics used to characterize community noise exposure, which fluctuate constantly over time. One such metric, the equivalent sound level (L_{eq}), represents a constant sound that, over the specified period, has the same sound energy as the time-varying sound. Noise exposure over a longer period is often evaluated based on the Day-Night Sound Level (L_{dn}). This is a measure of 24-hour noise levels that incorporates a 10-dBA penalty for sounds occurring between 10:00 p.m. and 7:00 a.m. The penalty is intended to reflect the increased human sensitivity to noises occurring during nighttime hours, particularly at times when people are sleeping and there are lower ambient noise conditions. Typical L_{dn} noise levels for light and medium density residential areas range from 55 dBA to 65 dBA. Similarly, Community Noise Equivalent Level (CNEL) is a measure of 24-hour noise levels that incorporates a 5-dBA penalty for sounds occurring between 7:00 p.m. and 10:00 p.m. and a 10-dBA penalty for sounds occurring between 10:00 p.m. and 7:00 a.m. to account for noise sensitivity in the evening and nighttime, respectively.

FUNDAMENTALS OF ENVIRONMENTAL GROUNDBORNE VIBRATION

Sources of earth-borne vibrations include natural phenomena (earthquakes, volcanic eruptions, sea waves, landslides, etc.) or man-made causes (explosions, machinery, traffic, trains, construction equipment, etc.). Vibration sources may be continuous (e.g., factory machinery) or transient (e.g., explosions). Ground vibration consists of rapidly fluctuating motions or waves with an average motion of zero. Several different methods are typically used to quantify vibration amplitude. One is the peak particle velocity (PPV); another is the root mean square (RMS) velocity. The PPV is defined as the maximum instantaneous positive or negative peak of the vibration wave. The RMS velocity is defined as the average of the squared amplitude of the signal. The PPV and RMS vibration velocity amplitudes are used to evaluate human response to vibration.

Table 1, *Human Reaction and Damage to Buildings for Continuous or Frequent Intermittent Vibration Levels*, displays the reactions of people and the effects on buildings produced by continuous vibration levels. The annoyance levels shown in the table should be interpreted with care since vibration may be found to be annoying at much lower levels than those listed, depending on the level of activity or the sensitivity of the individual. To sensitive individuals, vibrations approaching the threshold of perception can be annoying. Low-level vibrations frequently cause irritating secondary vibration, such as a slight rattling of windows, doors, or stacked dishes. The rattling sound can give rise to exaggerated vibration complaints, even though there is very little risk of actual structural damage.

Table 1
Human Reaction and Damage to Buildings for Continuous or Frequent Intermittent Vibration Levels

Peak Particle Velocity (inch/second)	Approximate Vibration Velocity Level (VdB)	Human Reaction	Effect on Buildings
0.006–0.019	64–74	Range of threshold of perception.	Vibrations unlikely to cause damage of any type.
0.08	87	Vibrations readily perceptible.	Recommended upper level to which ruins and ancient monuments should be subjected.
0.1	92	Level at which continuous vibrations may begin to annoy people, particularly those involved in vibration sensitive activities.	Virtually no risk of architectural damage to normal buildings.
0.2	94	Vibrations may begin to annoy people in buildings.	Threshold at which there is a risk of architectural damage to normal dwellings.
0.4–0.6	98–104	Vibrations considered unpleasant by people subjected to continuous vibrations and unacceptable to some people walking on bridges.	Architectural damage and possibly minor structural damage.

Source: California Department of Transportation, *Transportation Related Earthborne Vibrations,* 2002.

Ground vibration can be a concern in instances where buildings shake, and substantial rumblings occur. However, it is unusual for vibration from typical urban sources such as buses and heavy trucks to be perceptible. Common sources for groundborne vibration are planes, trains, and construction activities such as pile driving and vibratory compacting activities which require the use of heavy-duty earth moving equipment. For the purposes of this analysis, a PPV descriptor with units of inches per section

(inch/second) is used to evaluate construction-generated vibration for building damage and human complaints.

REGULATORY SETTING

State of California

State Office of Planning and Research

The State Office of Planning and Research's *Noise Element Guidelines* include recommended exterior and interior noise level standards for local jurisdictions to identify and prevent the creation of incompatible land uses due to noise. The *Noise Element Guidelines* contain a land use compatibility table that describes the compatibility of various land uses with a range of environmental noise levels in terms of the CNEL. The guidelines also present adjustment factors that may be used to arrive at noise acceptability standards that reflect the noise control goals of the community, the particular community's sensitivity to noise, and the community's assessment of the relative importance of noise pollution.

City of Pasadena

General Plan Noise Element

Table 2, *City of Pasadena Land Use Compatibility Matrix*, presents the City's Community Noise and Land Use Compatibility matrix and presents the land use compatibility chart for community noise adopted by the City through its General Plan Noise Element[1]. This table provides urban planners with a tool to gauge the compatibility of new land uses relative to existing and future exterior noise exposure levels. This table identifies clearly acceptable, normally acceptable, conditionally acceptable, and normally unacceptable exterior noise exposure levels for various land uses. A clearly acceptable designation assumes that buildings of standard construction would suffice. A conditionally acceptable designation means that new construction or development should be undertaken only after a detailed analysis of the noise reduction requirements for each land use is made and needed noise insulation features are incorporated into the design to reduce noise to normally acceptable levels. By comparison, a normally acceptable designation indicates that standard construction can likely occur with no special noise reduction requirements.

Table 2
City of Pasadena Land Use Compatibility Matrix

Land Use Category	Community Noise Exposure (L_{dn} or CNEL, dBA)			
	Clearly Acceptable	Normally Acceptable	Conditionally Acceptable	Normally Unacceptable
Residential – Low Density Single Family, Duplex, Mobile Homes	50 – 60	55 – 70	70 – 75	75 – 85
Residential – Multiple Family and Mixed Commercial/Residential Use	50 – 65	60 – 70	70 – 75	70 – 85
Transient Lodging – Motels, Hotels	50 – 65	60 – 70	70 – 80	80 – 85
Schools, Libraries, Churches, Hospitals, Nursing Homes	50 – 65	60 – 70	70 – 80	80 – 85

[1] City of Pasadena, *City of Pasadena General Plan Noise Element*, December 2002, https://www.cityofpasadena.net/wp-content/uploads/sites/30/Pasadena-Noise-Element-Policy.pdf, accessed April 4, 2022.

Table 2 (Continued)
City of Pasadena Land Use Compatibility Matrix

Land Use Category	Community Noise Exposure (L_{dn} or CNEL, dBA)			
	Clearly Acceptable	Normally Acceptable	Conditionally Acceptable	Normally Unacceptable
Auditoriums, Concert Halls, Amphitheaters	NA	50 – 70	65 – 85	NA
Sports Arenas, Outdoor Spectator Sports	NA	50 – 75	70 – 85	NA
Playgrounds, Neighborhood Parks	50 – 70	NA	67.5 – 75	72.5 – 85
Golf Courses, Riding Stables, Water Recreation, Cemeteries	50 – 75	NA	70 – 80	80 – 85
Office Buildings, Business Commercial and Professional	50 – 70	67.5 – 77.5	75 – 85	NA
Industrial, Manufacturing, Utilities, Agriculture	50 – 75	70 – 80	80 – 85	NA
L_{dn} = Day-Night Sound Level; CNEL = community noise equivalent level; dBA = A-weighted decibel scale; NA = not applicable				
Source: City of Pasadena, *City of Pasadena General Plan Noise Element*, Figure 1: Guidelines for Noise Compatible Land Use, December 2002.				

The General Plan Noise Element also outlines the objectives and policies for noise control within the City. The following objectives and policies are applicable to the project:

Objective 2: The City will work to reduce the effects of traffic-generated noise from major roadways on residential and other sensitive land uses.

Policy 2b: The City will encourage site planning and traffic control measures that minimize the effects of traffic noise in residential zones.

Policy 2c: The City will encourage the use of alternative transportation modes as stipulated in the Mobility Element (walking, bicycling, transit use, electric vehicles) to minimize traffic noise in the City.

Policy 2d: The City will work with local and regional transit agencies and businesses to provide transportation services that reduce traffic and associated noise as stipulated in the Mobility Element.

Objective 6: The City will minimize noise spillovers from commercial and industrial operations into adjacent residential neighborhoods and other sensitive uses, while maximizing the Land Use Element's objectives to encourage mixed-use development in the Central District and other Specific Plan areas as well as to promote economic vitality.

Policy 6a: The City will encourage automobile and truck access to industrial and commercial properties abutting residential zones to be located at the maximum practical distance from residential zones.

Policy 6b: The City will limit the use of motorized landscaping equipment, parking lot sweepers, and other high-noise equipment on commercial properties if their activity will result in noise that adversely affects residential zones.

Objective 7: The City will minimize the effects of nuisance noise on sensitive land uses as defined in Figure 1 (Table 2) to the degree feasible.

Policy 7b: The City will encourage limitations on construction activities adjacent to sensitive noise receptors as defined in Figure 1 (Table 2).
Policy 7c: The City will encourage construction and landscaping activities that employ techniques to minimize noise.

Policy 7d: The City will enforce noise level restrictions contained in the City of Pasadena Noise Regulations (Chapter 9.36 of the Municipal Code), except during federal, State, or local emergencies (such as power generators required for energy emergencies).

Municipal Code Noise Ordinance

The City of Pasadena regulates stationary source noise in Municipal Code Chapter 9.36[2]. Noise regulations are based on the increment of noise that a source generates above the ambient background noise level.

9.36.050 – General noise sources.

Municipal Code Section 9.36.050 prohibits the generation of noise that exceeds the existing ambient noise at the property line of any property by more than 5 dBA, with adjustments made for steady audible tones, repeated impulsive noise, and noise occurring for limited time periods.

9.36.070 – Construction projects.

The City of Pasadena limits construction activities within a residential district or within 500 feet therefrom to the hours from 7:00 a.m. to 7:00 p.m., Monday through Friday, and from 8:00 a.m. to 5:00 p.m. on Saturdays. Performance of construction and repair work is prohibited on Sundays and holidays.

9.36.080 – Construction equipment.

Municipal Code Section 9.36.080 prohibits noise from operation of any powered construction equipment from exceeding 85 dBA at a distance of 100 feet from such equipment.

9.36.090 – Machinery, equipment, fans and air conditioning.

Section 9.36.090 prohibits machinery, equipment, and fans, and air conditioning units from generating noise that increases the ambient noise level by 5 dBA or more at the property line of the receiving property. Under the City's Municipal Code, ambient is defined as the actual measured ambient noise level.

9.36.120 – Near schools, hospitals and churches.

It is unlawful for any person to create any noise on any street, sidewalk or public place adjacent to any school, institution of learning, or church while the same is in use or adjacent to any hospital, which noise unreasonably interferes with the workings of such institution or which disturbs or unduly annoys patients in the hospital, provided conspicuous signs are displayed in such streets, sidewalk or public place indicating the presence of a school, church or hospital.

[2] City of Pasadena, *Code of Ordinances: Chapter 9.36, Noise Restrictions,* 2008.

EXISTING SETTING

Noise Sensitive Receptors

Noise-sensitive land uses are generally considered to include those uses where noise exposure could result in health-related risks to individuals, as well as places where quiet is an essential element of their intended purpose. Residential dwellings are of primary concern because of the potential for increased and prolonged exposure of individuals to both interior and exterior noise levels. Additional land uses such as nature/natural parks, certain historic sites, cemeteries, and recreation areas are considered sensitive to increases in exterior noise levels. Schools, churches, hotels, libraries, and other places where low interior noise levels are essential are also considered noise-sensitive land uses.

The nearest sensitive receptors to the project site are the multi-family residences located adjacent to the south and east of the project site.

Existing Stationary Noise Levels

Land uses in the project area include residential, commercial, and institutional. The primary sources of stationary noise in the project vicinity are urban-related activities (i.e., mechanical equipment and parking areas). The noise associated with these sources may represent a single-event noise occurrence, short-term, or long-term/continuous noise.

Existing Roadway Noise Levels

The majority of the existing noise in the project area is generated from traffic along surrounding roadways including I-210, Corson Street, and Los Robles Avenue. Mobile source noise was modeled using the Federal Highway Administration's Highway Noise Prediction Model (FHWA RD-77-108), which incorporates several roadway and site parameters. The model does not account for ambient noise levels. Noise projections are based on modeled vehicular traffic as derived from the *282 N Los Robles Avenue Transportation Impact Analysis Outside CEQA Evaluation*, (Transportation Impact Analysis), prepared by Iteris Inc. (dated January 31, 2022); refer to Appendix A, *Noise Data*. As shown in Table 3, *Existing Traffic Noise Levels*, mobile source noise levels in the vicinity of the project site range from 43.6 dBA to 54.8 dBA at 100 feet from the roadway centerline.

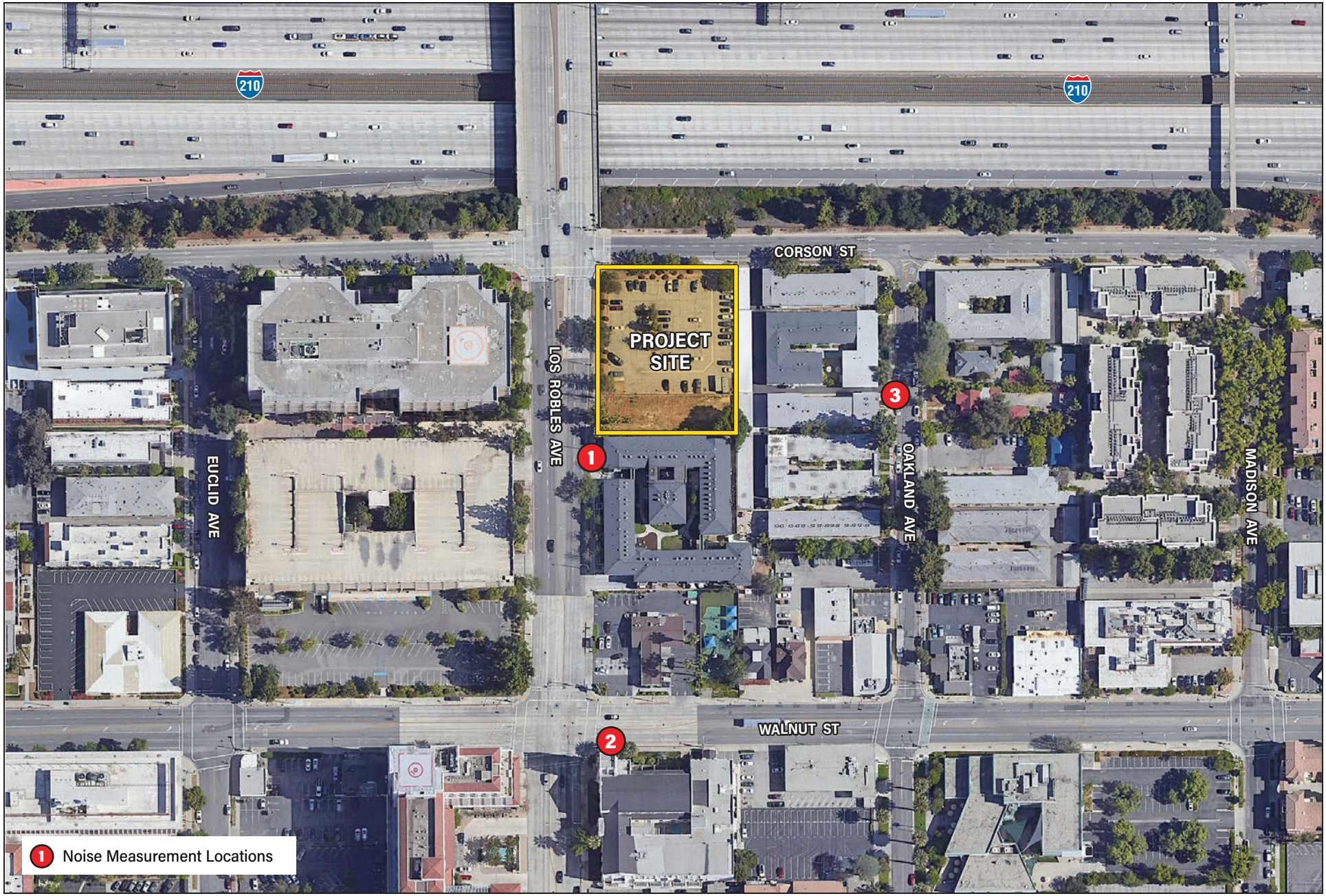
Table 3
Existing Traffic Noise Levels

Roadway Segment	Existing Without Project Conditions				
	ADT	dBA @ 100 Feet from Roadway Centerline	Distance from Roadway Centerline (Feet)		
			70 CNEL Noise Contour	65 CNEL Noise Contour	60 CNEL Noise Contour
Euclid Avenue					
Between Corson Street and Walnut Street	1,010	47.9	-	-	-
Oakland Avenue					
Between Corson Street and Walnut Street	531	43.6	-	-	-
Madison Avenue					
Between Corson Street and Walnut Street	1,559	48.3	-	-	-
El Molino Avenue					
Between Corson Street and Walnut Street	6,921	54.8	-	-	45
Notes: ADT = average daily trips; dBA = A-weighted decibels; CNEL = community noise equivalent level, - = Contour located within the roadway right of way.					
Source: Based on traffic data within *282 N Los Robles Avenue Transportation Impact Analysis Outside CEQA Evaluation*, (dated January 31, 2022) prepared by Iteris, Inc.					

Existing Ambient Noise Levels

In order to quantify existing ambient noise levels in the project area, Michael Baker International conducted three short-term noise measurements in the project vicinity on November 4, 2021. The noise measurement locations are shown in Exhibit 1, *Noise Measurement Locations*, and were representative of typical existing noise exposure within and immediately adjacent to the project site. The 10-minute measurements were taken between 11:00 a.m. and 12:00 p.m. Short-term (L_{eq}) measurements are considered representative of the noise levels throughout the day. The noise measurements were taken during "off-peak" (9:00 a.m. through 3:00 p.m.) traffic noise hours as this provides a more conservative baseline. During rush hour traffic, vehicle speeds and heavy truck volumes are often low. Free-flowing traffic conditions just before or after rush hour often yield higher noise levels.[3] The noise levels measured near the project site is identified in Table 4, *Noise Measurements*.

[3] California Department of Transportation, *Technical Noise Supplement to the Traffic Noise Analysis Protocol*, September 2013.



Source: Google Earth Pro, March 2022

Michael Baker INTERNATIONAL

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270-282 NORTH LOS ROBLES AVENUE PROJECT

Noise Measurement Locations

Exhibit 1

Table 4
Noise Measurements

Site No.	Location	L_{eq} (dBA)	L_{min} (dBA)	L_{max} (dBA)	Peak (dBA)	Start Time
1	Next to the southern project boundary line and adjacent to 262 North Los Robles Avenue, along North Los Robles Avenue.	69.0	57.2	87.4	103.0	11:14 a.m.
2	Southeast corner of the Walnut Street and North Los Robles Avenue intersection, in front of 454 East Walnut Street.	68.7	56.7	82.4	101.7	11:29 a.m.
3	In front of 275 Oakland Avenue.	59.1	55.9	73.8	91.9	11:48 a.m.

Source: Michael Baker International, November 4, 2021.

Meteorological conditions were clear skies, warm temperatures (70 degrees), and low wind speeds. Measured noise levels during the daytime measurements ranged from 59.1 to 69.0 dBA L_{eq}. Noise monitoring equipment used for the ambient noise survey consisted of a Brüel & Kjær Hand-held Analyzer Type 2250 equipped with a Type 4189 pre-polarized microphone. The monitoring equipment complies with applicable requirements of the American National Standards Institute (ANSI) for Type I (precision) sound level meters. Refer to Appendix A, for the results of the field measurement.

THRESHOLDS OF SIGNIFICANCE

The environmental analysis in this memorandum is patterned after the Initial Study Checklist recommended by the *CEQA Guidelines*. The issues presented in the Initial Study Checklist have been utilized as thresholds of significance in this section. Accordingly, a project would have a significant adverse impact related to noise and vibration if it would cause one or more of the following to occur:

- Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies (refer to Impact NOI-1);

- Generation of excessive groundborne vibration or groundborne noise levels (refer to Impact NOI-2); and/or

- For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels (refer to Impact NOI-3).

IMPACT ANALYSIS

Impact NOI-1: Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Less Than Significant Impact. The City's General Plan Noise Element contains the City's policies on noise. The Noise Element is a comprehensive program to limit the exposure of the community to excessive noise levels. The Noise Element establishes guidelines for controlling both construction and operational noise in the City. For operational noise standards, the City identifies noise-sensitive land uses and noise sources with the intent of separating them.

Construction Noise Impacts

Temporary increases in ambient noise levels as a result of the project would predominantly be associated with construction activities. Project construction would occur over approximately 21 months, beginning in September 2022. Construction of the project would include the following phases: demolition, grading, paving, building construction, and architectural coatings. It is anticipated that the project would be completed and operational in 2024. Typical noise levels generated by construction equipment expected to be used by the project are shown in Table 5, *Maximum Noise Levels Generated by Construction Equipment*. It should be noted that the noise levels identified in Table 5 are maximum sound levels (L_{max}), which are the highest individual sound occurring at an individual time period. 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. Other primary sources of acoustical disturbance would be due to random incidents, which would last less than one minute (such as dropping large pieces of equipment or the hydraulic movement of machinery lifts).

Table 5
Maximum Noise Levels Generated by Construction Equipment

Type of Equipment	Acoustical Use Factor[1]	Reference L_{max} at 50 Feet (dBA)	L_{max} at 100 Feet (dBA)
Air Compressor	40	80	74
Backhoe	40	80	74
Concrete Mixer	50	80	74
Crane	16	85	79
Dozer	40	85	79
Generator	50	73	67
Grader	40	85	79
Loader	40	80	74
Paver	50	85	79
Roller	20	85	79

Table 5 (Continued)
Maximum Noise Levels Generated by Construction Equipment

Type of Equipment	Acoustical Use Factor[1]	Reference L_{max} at 50 Feet (dBA)	L_{max} at 100 Feet (dBA)
Saw	20	90	84
Truck	40	84	78

Note:
1. Acoustical Use Factor (percent): Estimates the fraction of time each piece of construction equipment is operating at full power (i.e., its loudest condition) during a construction operation.

Source: Federal Highway Administration, *Roadway Construction Noise Model (FHWA-HEP-05-054),* January 2006.

The nearest sensitive receptors are the multi-family residences located adjacent to the south and east of the project site. These sensitive receptors may be exposed to elevated noise levels during project construction. However, the project would adhere to the City's Noise Ordinance governing hours of construction and noise levels generated by construction equipment (Municipal Code Chapter 9.36). In accordance with these regulations, construction noise would be limited to normal working hours (7:00 a.m. to 7:00 p.m. Monday through Friday and 8:00 a.m. to 5:00 p.m. on Saturday; construction activities are not allowed on Sundays or holidays).

In addition, Municipal Code Section 9.36.080, *Construction Equipment*, prohibits any person to operate any powered construction equipment if the operation of such equipment emits noise at a level in excess of 85 dBA when measured within a radius of 100 feet from such equipment. Due to geometric spreading, these noise levels would diminish with distance from the construction site at a rate of approximately 6 dBA per doubling of distance. As seen in Table 5, the loudest piece of equipment would operate at a maximum noise level of 84 dBA at 100 feet from the source. Therefore, construction noise levels would not exceed the City's Noise Ordinance threshold of 85 dBA at 100 feet and impacts would be less than significant.

Long-Term Operational Noise Impacts

Off-Site Mobile Noise

Future development generated by the proposed project would result in some additional traffic on adjacent roadways, thereby potentially increasing vehicular noise in the vicinity of existing and proposed land uses. The most prominent source of mobile traffic noise in the project vicinity is along I-210. In community noise assessments, a 3 dBA increase is considered "barely perceptible," and increases over 5 dBA are generally considered "readily perceptible".[4] When both the traffic levels exceed the land use compatibility standard (refer to Table 2), and the project causes a 3 dBA increase in noise levels, the project's impact is considered significant. Thus, a project would result in a significant noise impact when a permanent increase in ambient noise levels of 3 dBA occur upon project implementation and the resulting noise level exceeds the applicable exterior standard at a noise sensitive use.

[4] California Department of Transportation (Caltrans), *Technical Noise Supplement to the Traffic Noise Analysis Protocol*, September 2013, https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/tens-sep2013-a11y.pdf, accessed March 8, 2022.

According to Transportation Impact Analysis, the proposed project would generate a net increase of 514 daily trips, including 34 trips during the a.m. peak hour and 41 trips during the p.m. peak hour. Based upon the Transportation Impact Analysis, the "Existing Without Project" and "Existing Plus Project" were compared for future noise conditions along roadway segments in the project vicinity.

According to Table 6, *Existing Plus Project Traffic Noise Levels*, under the "Existing Without Project" scenario, noise levels at a distance of 100 feet from the roadway centerline would range from approximately 43.6 dBA to 54.8 dBA, with the highest noise level occurring along El Molino Avenue. Under the "Existing Plus Project" scenario, noise levels at a distance of 100 feet from the roadway centerline would range from approximately 44.2 dBA to 54.8 dBA, with the highest noise level occurring along the same roadway segment. As shown in Table 6, none of the roadway segments would exceed the City's applicable land use compatibility standard. Further, the highest noise level increase would be 0.6 dBA along Oakland Avenue (between Corson Street and Walnut Street). Therefore, existing noise conditions along roadway segments in the project vicinity would not exceed the 3.0 dBA increase threshold and the applicable normally acceptable land use compatibility standard simultaneously. Additionally, the project would be consistent with the City's General Plan Noise Element Policy 2b through Policy 2d that aim to reduce the effects of traffic-generated noise. Thus, impacts would be less than significant.

Table 6
Existing Plus Project Traffic Noise Levels

Roadway Segment	Existing Land Uses Located Along Roadway Segment	Existing Without Project Traffic Noise Level (dBA)	Existing Plus Project					Normally Acceptable Land Use Compatibility Standard Threshold (dBA)[2]	Project Noise Level Increase (dBA)	Both Thresholds Exceeded?
			dBA @ 100 Feet from Roadway Centerline	ADT[1]	Distance from Roadway Centerline (Feet)					
					70 CNEL Noise Contour	65 CNEL Noise Contour	60 CNEL Noise Contour			
Euclid Avenue										
Between Corson Street and Walnut Street	Residential/ Hospital/ School/ Commercial	47.9	47.9	1,010	-	-	-	60	0.0	No
Oakland Avenue										
Between Corson Street and Walnut Street	Residential/ Commercial	43.6	44.2	608	-	-	-	60	0.6	No
Madison Avenue										
Between Corson Street and Walnut Street	Residential/ School/ Commercial	48.3	48.3	1,559	-	-	-	60	0.0	No
El Molino Avenue										
Between Corson Street and Walnut Street	Residential/ Commercial/ Professional	54.8	54.8	6,985	-	-	45	60	0.0	No

Notes: ADT = average daily trips; dBA = A-weighted decibels; CNEL = community noise equivalent level, - = Contour located within the roadway right of way.

Source:
1. Based on traffic data within the *282 N Los Robles Avenue Transportation Impact Analysis Outside CEQA Evaluation*, (dated January 31, 2022) prepared by Iteris, Inc.
2. The normally acceptable land use compatibility standard identifies the lowest accepted threshold established by the City of Pasadena as shown in Table 2.

Stationary Noise

The project proposes to construct a multi-family residential building. Stationary noise sources associated with the project would include the operation of mechanical equipment, parking activities, and outdoor gathering area activities.

Mechanical Equipment Noise

The Heating Ventilation and Air Conditioning (HVAC) units would be installed on the roof of the proposed building. HVAC systems can result in noise levels of approximately 52 dBA L_{eq} at 50 feet from the source.[5] The nearest sensitive receptors to the project site are multi-family residences located adjacent to the south and east of the project site. However, the multi-family residences located adjacent to the south would be located closest to the roof-mounted HVAC units. As a result, HVAC units may be located as close as 25 feet from the nearest sensitive receptors to the south. The roof level height difference between the proposed project and nearest sensitive receptors would be approximly 42 feet. By using the Pythagorean theorem, HVAC units would be located as close as 48 feet from the nearest sensitive receptor. [6] Noise has a decay rate due to distance attenuation, which is calculated based on the Inverse Square Law of sound propagation. Based upon the Inverse Square Law, sound levels decrease by 6 dBA for each doubling of distance from the source.[7] At a distance of 48 feet, noise levels from the HVAC units would be approximately 52 dBA, which would not exceed the City's 60 dBA CNEL normally acceptable exterior noise compatibility standard for multi-family residences. In addition, the proposed HVAC units would not generate noise levels in excess of 5 dBA over existing ambient noise levels (69.0 dBA L_{eq}, refer to Table 4), in compliance with Section 9.36.090 (Machinery, Equipment, Fans, and Air Conditioning) of the City's Noise Ordinance. Thus, the proposed project would not result in noise impacts to nearby sensitive receptors from HVAC units, and stationary noise levels from the proposed HVAC units would comply with the City's noise compatibility standard and Noise Ordinance. Impacts would be less than significant.

Parking Activities Noise

Traffic associated with parking lots is typically not of sufficient volume to exceed community noise standards, which are based on a time-averaged scale such as the CNEL scale. However, the instantaneous maximum sound levels generated by a car door slamming, engine starting up, and car pass-bys may be an annoyance to adjacent noise-sensitive receptors. Conversations in parking areas may also be an annoyance to adjacent sensitive receptors. Sound levels of speech typically range from 33 dBA at 48 feet for normal speech to 50 dBA at 50 feet for very loud speech.[8] Estimates of the maximum noise levels associated with typical parking lot activities are presented in Table 7, *Typical Noise Levels Generated by Parking Lots*.

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

[6] The Pythagorean theorem allows calculations of the actual distance between a suspended object and a starting point. In this case, the starting point would be the closest sensitive receptor located approximately 25 feet to the south (side a) of the HVAC unit and the suspended object is the HVAC unit, located 42 feet up (side b). By plugging these values into the equation, we can calculate the hypotenuse (side c), or the distance between the HVAC unit and the sensitive receptor.

[7] Cyril M. Harris, *Noise Control in Buildings*, 1994.

[8] Ibid.

Table 7
Typical Noise Levels Generated by Parking Lots

Noise Source	Maximum Noise Levels at 50 Feet from Source
Car door slamming	61 dBA L_{eq}
Car starting	60 dBA L_{eq}
Car idling	53 dBA L_{eq}
Source: Kariel, H. G., *Noise in Rural Recreational Environments*, Canadian Acoustics 19(5), 3-10, 1991.	

As shown in Table 7, parking activities can result in noise levels up to 61 dBA at a distance of 50 feet. It is noted that parking activity noises are instantaneous noise levels compared to noise standards in the CNEL scale, which are averaged over time. As a result, actual noise levels over time resulting from parking activities would be far lower than what is identified in Table 7. Parking activities in the subterranean parking garage would have intermittent parking related noise due to the movement of vehicles. However, noise generated in the subterranean parking garage would be inaudible at off-site uses as the structure would be enclosed. Vehicles may idle at the access driveway to the subterranean parking garage, which is located in the northeastern corner of the project site. The closest sensitive receptors to the access driveway are the multi-family residences located approximately 55 feet to the east, along Corson Street. At this distance, noise levels from car idling would be approximately 52 dBA, which would not exceed the City's 60 dBA CNEL normally acceptable exterior noise compatibility standard for multi-family residences, and would not generate noise levels in excess of 5 dBA over existing ambient noise level (69.0 dBA L_{eq} and 59.1 dBA L_{eq}, refer to Table 4), in compliance with Section 9.36.050 (General Noise Sources) of the City's Noise Ordinance. Therefore, parking related noise associated with the project is not expected to exceed the City's noise standards and impacts would be less than significant in this regard.

Outdoor Gathering Area Noise

The project would include a pool level courtyard on the second floor in the west-central portion of the project site and a roof terrace. The roof terrace would be located closest to off-site sensitive receptors. The roof terrace has the potential to be accessed by groups of people intermittently. Noise generated by groups of people (i.e., crowds) is dependent on several factors including vocal effort, impulsiveness, and the random orientation of the crowd members. Crowd noise is estimated at 60 dBA at 3.28 feet away for raised normal speaking.[9] This noise level would have a +5 dBA adjustment for the impulsiveness of the noise source, and a -3 dBA adjustment for the random orientation of the crowd members.[10] Therefore, crowd noise would be approximately 62 dBA at 3.28 feet from the source (i.e., the roof terrace).

The closest sensitive receptors to the roof terrace are the multi-family residences located approximately 60 feet to the east. At this distance, crowd noise would be reduced to approximately 37 dBA, which would not exceed the City's 60 dBA CNEL normally acceptable exterior noise compatibility standard for multi-family residences, and would not generate noise levels in excess of 5 dBA over existing ambient noise levels (69.0 dBA L_{eq} and 59.1 dBA L_{eq}, refer to Table 4), in compliance with Section 9.36.050 (General Noise Sources) of the City's Noise Ordinance. As such, the proposed outdoor gathering areas would not generate

[9] M.J. Hayne, et al, *Prediction of Crowd Noise*, Acoustics, November 2006.
[10] Ibid.

noise levels that would exceed the City's noise standards at the closest sensitive receptors. Thus, impacts would be less than significant.

Mitigation Measures: No mitigation is required.

Impact NOI-2: Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

Less Than Significant Impact.

Construction Vibration Impacts

Project construction can generate varying degrees of groundborne vibration, depending on the construction procedure and the construction equipment used. Operation of some heavy-duty construction equipment generates vibrations that spread through the ground and diminish in amplitude with distance from the source. The effect on buildings located in the vicinity of the construction site often varies depending on soil type, ground strata, and construction characteristics of the receiver building(s). The results from vibration can range from no perceptible effects at the lowest vibration levels, to low rumbling sounds and perceptible vibration at moderate levels, to slight damage at the highest levels. Groundborne vibrations from construction activities rarely reach levels that damage structures.

The Federal Transit Administration (FTA) has published standard vibration velocities for construction equipment operations. The types of construction vibration impact include human annoyance and building damage. Human annoyance occurs when construction vibration rises significantly above the threshold of human perception for extended periods of time. Building damage can be cosmetic or structural. As the nearest structures are the multi-family residential buildings located adjacent to the east and south of the project site, the architectural damage criterion of 0.2 inch/second PPV is utilized. This is also the level at which vibrations may begin to annoy people in buildings. Typical vibration produced by construction equipment is illustrated in Table 8, *Typical Vibration Levels for Construction Equipment*.

Table 8
Typical Vibration Levels for Construction Equipment

Equipment	Approximate peak particle velocity at 25 feet (inches/second)[1]
Large bulldozer	0.089
Loaded trucks	0.076
Small bulldozer	0.003
Jackhammer	0.035

Notes:
1. Calculated using the following formula:

$PPV_{equip} = PPV_{ref} \times (25/D)^{1.5}$

where: PPV (equip) = the peak particle velocity in inch/second of the equipment adjusted for the distance
PPV (ref) = the reference vibration level in inch/second from Table 7-4 of the FTA *Transit Noise and Vibration Impact Assessment Manual.*
D = the distance from the equipment to the receiver

Source: Federal Transit Administration, *Transit Noise and Vibration Impact Assessment Manual*, Table 7-4 *Vibration Source Levels for Construction Equipment*, September 2018.

As indicated in Table 8, vibration velocities from typical heavy construction equipment would range from 0.089 to 0.035 inch/second PPV at 25 feet from the source of activity. Although construction could occur up to the project boundary line, the Applicant has provided documentation (see Exhibit 2, *Vibration Management Plan*) indicating that vibration-generating construction equipment would operate at tiered distances from the adjacent residential buildings. The majority of construction activities would not involve equipment that would generate excessive vibration impacts to the nearby sensitive receptors. It should be acknowledged that construction activities would occur throughout the project site and would not be concentrated at the point closest to the sensitive receptors.

As indicated in Table 9, *Construction Buffer Zone Vibration Levels*, and shown in Exhibit 2, the Applicant-proposed Vibration Management Plan would ensure that construction vibration levels do not exceed the architectural damage and human annoyance criteria of 0.2 inch/second PPV. Vibration-generating construction equipment (i.e., hoe rams, large bulldozers, caisson drilling, loaded trucks, rock breakers, jackhammers, and small bulldozers) would only be permitted to operate up to the referenced distance to ensure groundborne vibration levels would remain below the structural damage criterion (0.2 inch/second PPV). Additionally, prior to construction, the applicant would install a vibration monitoring system with the potential to measure low levels of vibration (i.e., 0.2 inch/second PPV) to ensure structural damage does not occur. Therefore, construction vibration impacts would be less than significant.

Table 9
Construction Buffer Zone Vibration Levels

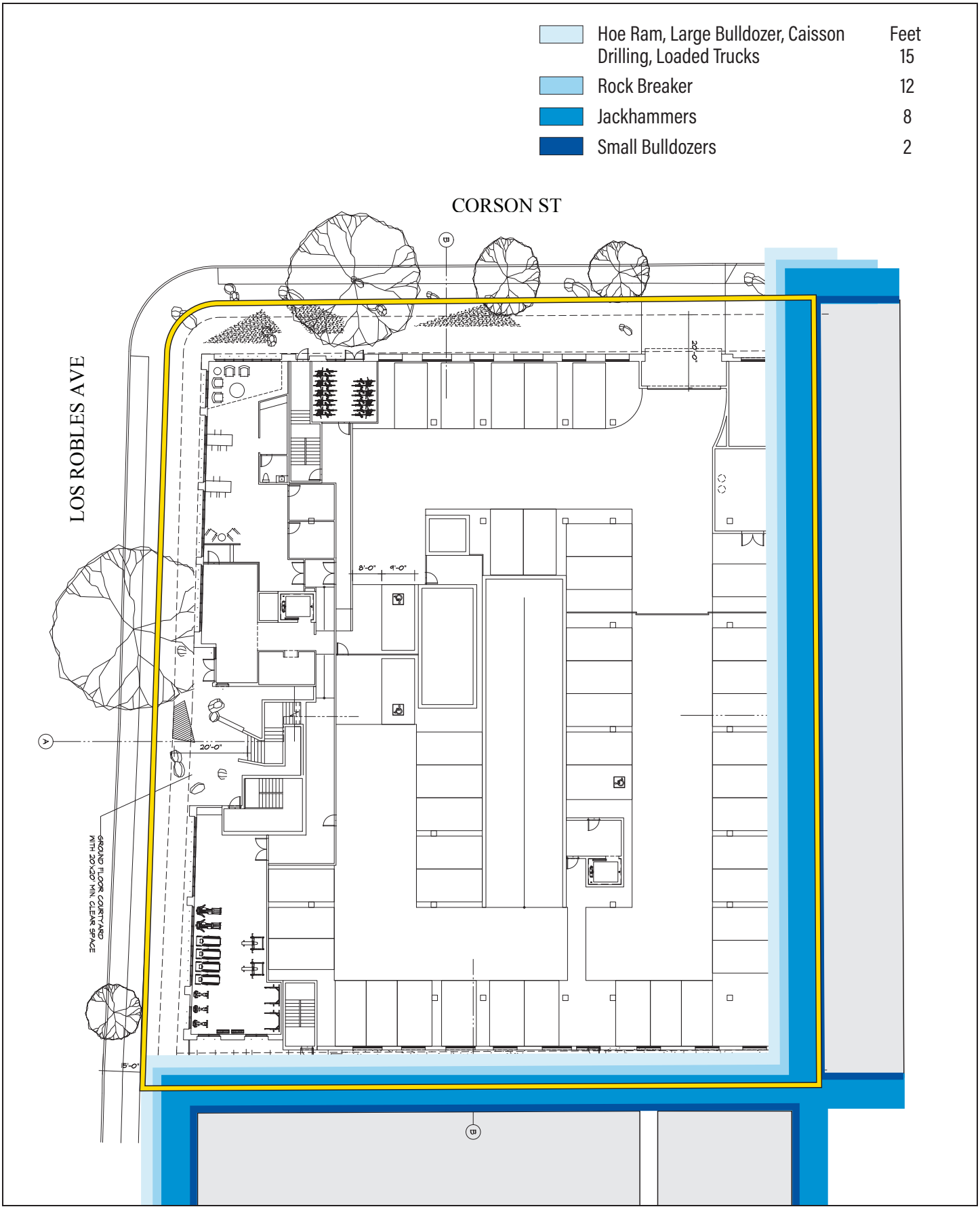
Equipment	Nearest Distance of Vibration-Generating Construction Equipment Activity to Adjacent Residential Buildings (Feet)	Peak Particle Velocity (inch/second) [1]
Hoe Ram	15	0.191
Large Bulldozer	15	0.191
Caisson Drilling	15	0.191
Loaded Trucks	15	0.164
Rock Breaker	12	0.177
Jackhammers	8	0.193
Small Bulldozers	2	0.133

Notes:
1. Calculated using the following formula:

$$PPV_{equip} = PPV_{ref} \times (25/D)^{1.5}$$

where: PPV (equip) = the peak particle velocity in inch/second of the equipment adjusted for the distance
PPV (ref) = the reference vibration level in inch/second from Table 7-4 of the FTA *Transit Noise and Vibration Impact Assessment Manual.*
D = the distance from the equipment to the receiver

Source: Federal Transit Administration, *Transit Noise and Vibration Impact Assessment Manual*, Table 7-4 *Vibration Source Levels for Construction Equipment*, September 2018.



Michael Baker INTERNATIONAL

NOT TO SCALE

03/2022 • JN 186794

270-282 NORTH LOS ROBLES AVENUE PROJECT

Vibration Management Plan

Exhibit 2

Operational Vibration Impacts

Operation of the project would not include or require equipment, facilities, or activities that would result in perceptible groundborne vibration. According to the FTA, it is unusual for vibration from sources such as buses and trucks to be perceptible, even in locations close to major roads. As such, it can be reasonably inferred that project operations would not create perceptible vibration impacts to the nearest sensitive receptors. Impacts would be less than significant.

Mitigation Measures: No mitigation is required.

Impact NOI-3: For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

No Impact. The nearest public use airport to the project site is the San Gabriel Valley Airport (previously known as El Monte Airport) which lies approximately 7.5 miles to the southeast of the project site. This airport is open to the public for use and owned and operated by the County of Los Angeles.[11] According to the *Airport Influence Area of El Monte Airport*, the project site is not located within the San Gabriel Valley Airport CNEL contours. The project site is not in the vicinity of a private airstrip. Therefore, there would be no impact.

Mitigation Measures: No mitigation is required.

[11] Los Angeles County Airport Land Use Commission, *Los Angeles County Airport Land Use Plan,* December 1, 2004, http://planning.lacounty.gov/assets/upl/data/pd_alup.pdf, accessed March 8, 2022.

REFERENCES

Documents

1. California Department of Transportation, *Technical Noise Supplement to the Traffic Noise Analysis Protocol*, 2013.

2. California Department of Transportation, *Transportation Related Earthborne Vibrations*, 2002.

3. City of Pasadena, *City of Pasadena General Plan Noise Element*, December 2002, https://www.cityofpasadena.net/wp-content/uploads/sites/30/Pasadena-Noise-Element-Policy.pdf, accessed April 4, 2022.

4. City of Pasadena, *Code of Ordinances: Chapter 9.36, Noise Restrictions*, 2008.

5. Cyril M. Harris, *Noise Control in Buildings*, 1994.

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

7. Federal Highway Administration, *Roadway Construction Noise Model User's Guide,* January 2006.

8. Federal Transit Administration, *Transit Noise and Vibration Impact Assessment Manual*, September 2018.

9. Harris, Cyril, *Handbook of Noise Control,* 1979.

10. Iteris, Inc., *282 N Los Robles Avenue Transportation Impact Analysis Outside CEQA Evaluation*, dated January 31, 2022.

11. Kariel, H. G., *Noise in Rural Recreational Environments*, Canadian Acoustics 19(5), March 10, 1991.

12. Los Angeles County Airport Land Use Commission, *Los Angeles County Airport Land Use Plan,* December 1, 2004, http://planning.lacounty.gov/assets/upl/data/pd_alup.pdf, accessed March 8, 2022.

13. M.J. Hayne, et al, *Prediction of Crowd Noise, Acoustics*, November 2006.

14. U.S. Environmental Protection Agency, *Noise Effects Handbook – A Desk Reference to Health and Welfare Effects of Noise*, October 1979 (revised July 1981).

15. U.S. Environmental Protection Agency, *Protective Noise Levels*, November 1978.

Websites / Programs

1. Google Earth, 2022.

Appendix A
Noise Data

Site Number: NM-1			
Recorded By: Winnie Woo, Tina Yuan			
Job Number: 186794			
Date: 11/4/2021			
Time: 11:14 AM			
Location: Next to the southern project boundary line and adjacent to 262 North Los Robles Avenue, along the North Los Robles Avenue.			
Source of Peak Noise: Traffic along North Los Robles Avenue			
Noise Data			
Leq (dB)	**Lmax(dB)**	**Lmin (dB)**	**Peak (dB)**
69.0	87.4	57.2	103.0

Equipment						
Category	**Type**	**Vendor**	**Model**	**Serial No.**	**Cert. Date**	**Note**
Sound	Sound Level Meter	**Brüel & Kjær**	**2250**	**3011133**	**09/09/2021**	
	Microphone	**Brüel & Kjær**	**4189**	**3086765**	**09/09/2021**	
	Preamp	**Brüel & Kjær**	**ZC 0032**	**25380**	**09/09/2021**	
	Calibrator	**Brüel & Kjær**	**4231**	**2545667**	**09/09/2021**	

Weather Data			
Est.	**Duration:** 10 minutes		**Sky:** Sunny
	Note: dBA Offset = -0.05		**Sensor Height (ft):** 5 ft
	Wind Ave Speed (mph / m/s)	**Temperature (degrees Fahrenheit)**	**Barometer Pressure (inches)**
	N 2 mph	70	30.00

Photo of Measurement Location

2250

Instrument:		2250
Application:		BZ7225 Version 4.7.6
Start Time:		11/04/2021 11:14:32
End Time:		11/04/2021 11:24:32
Elapsed Time:		00:10:00
Bandwidth:		1/3-octave
Max Input Level:		142.14

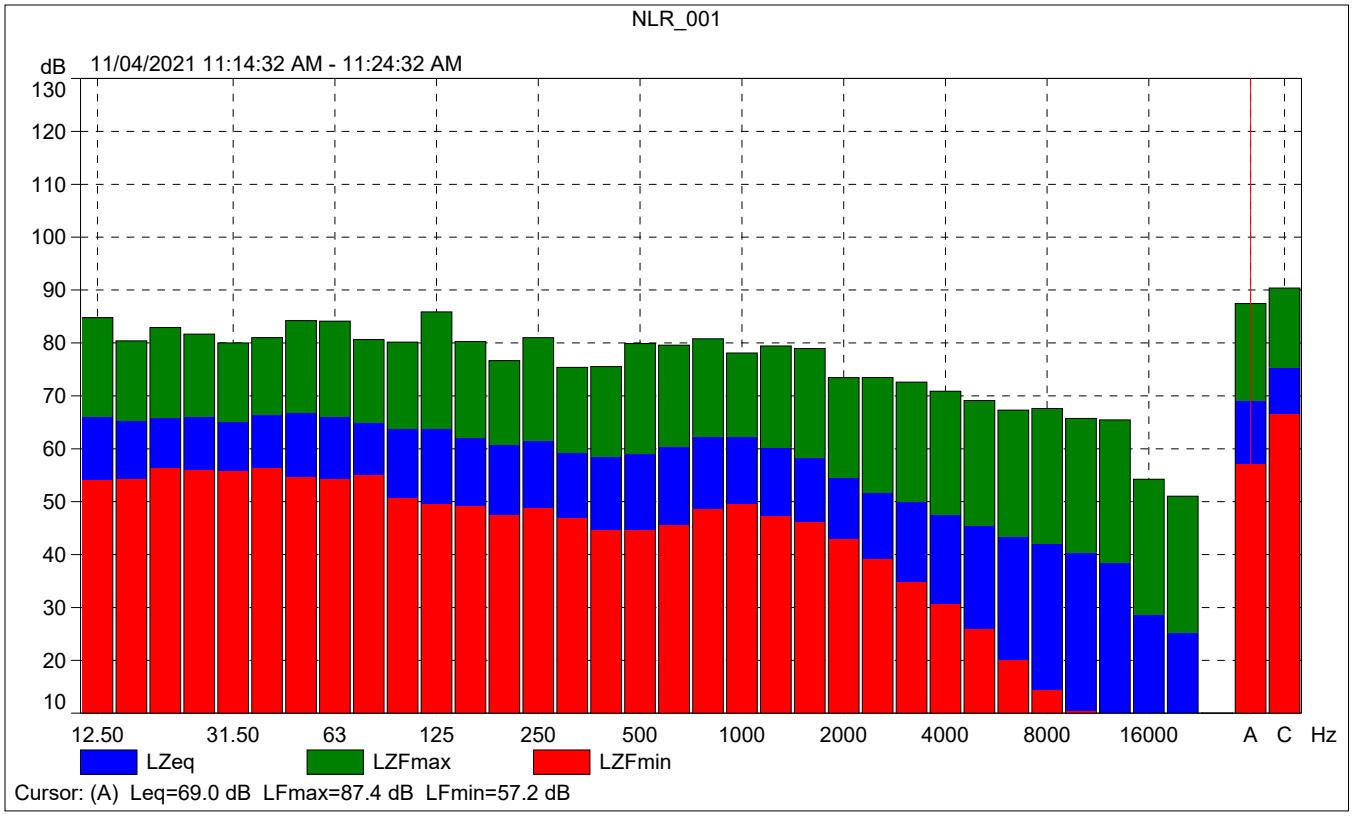
	Time	Frequency
Broadband (excl. Peak):	FSI	AC
Broadband Peak:		C
Spectrum:	FS	Z

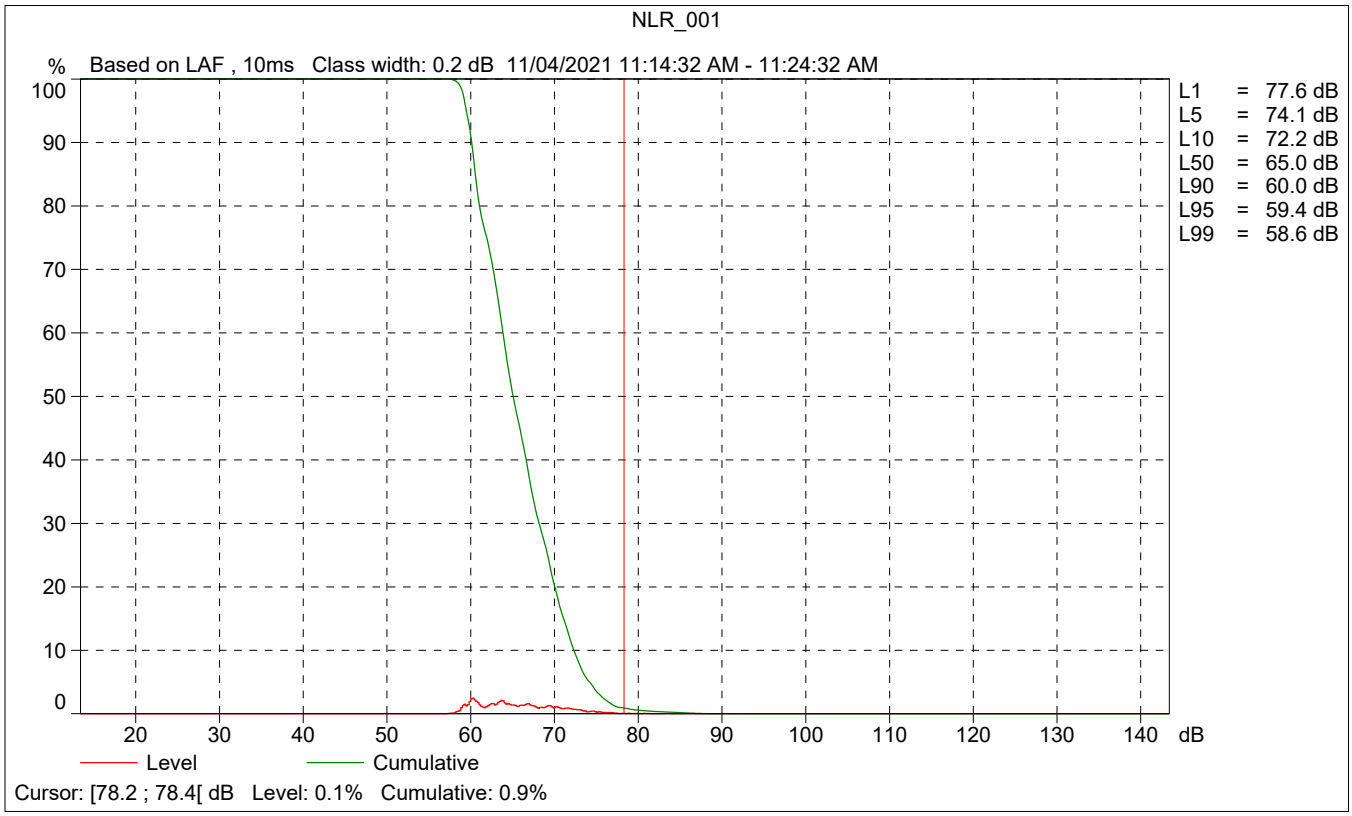
Instrument Serial Number:		3011133
Microphone Serial Number:		3086765
Input:		Top Socket
Windscreen Correction:		UA-1650
Sound Field Correction:		Free-field

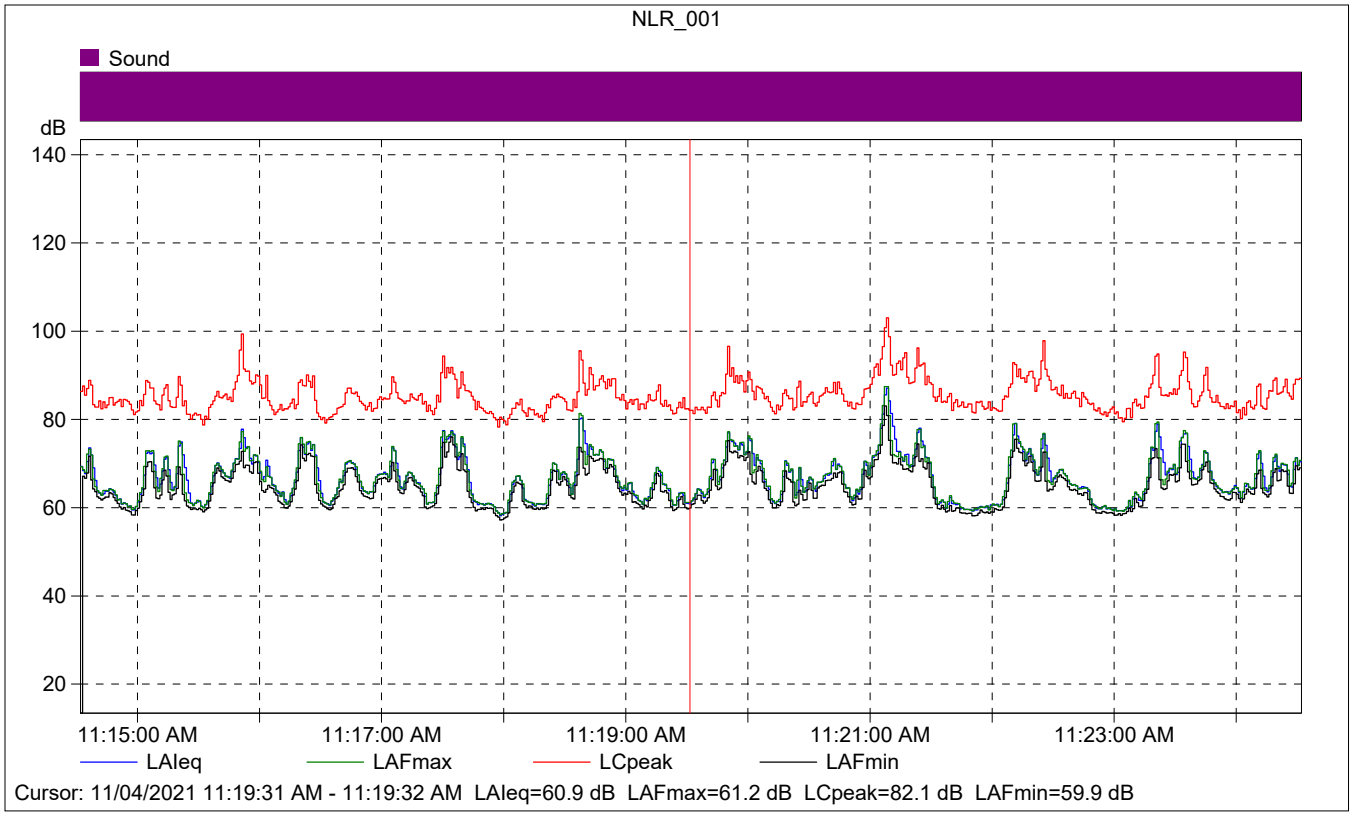
Calibration Time:		11/04/2021 08:34:59
Calibration Type:		External reference
Sensitivity:		43.5506850481033 mV/Pa

NLR_001

	Start time	End time	Elapsed time	Overload [%]	LAeq [dB]	LAFmax [dB]	LAFmin [dB]
Value				0.00	69.0	87.4	57.2
Time	11:14:32 AM	11:24:32 AM	0:10:00				
Date	11/04/2021	11/04/2021					

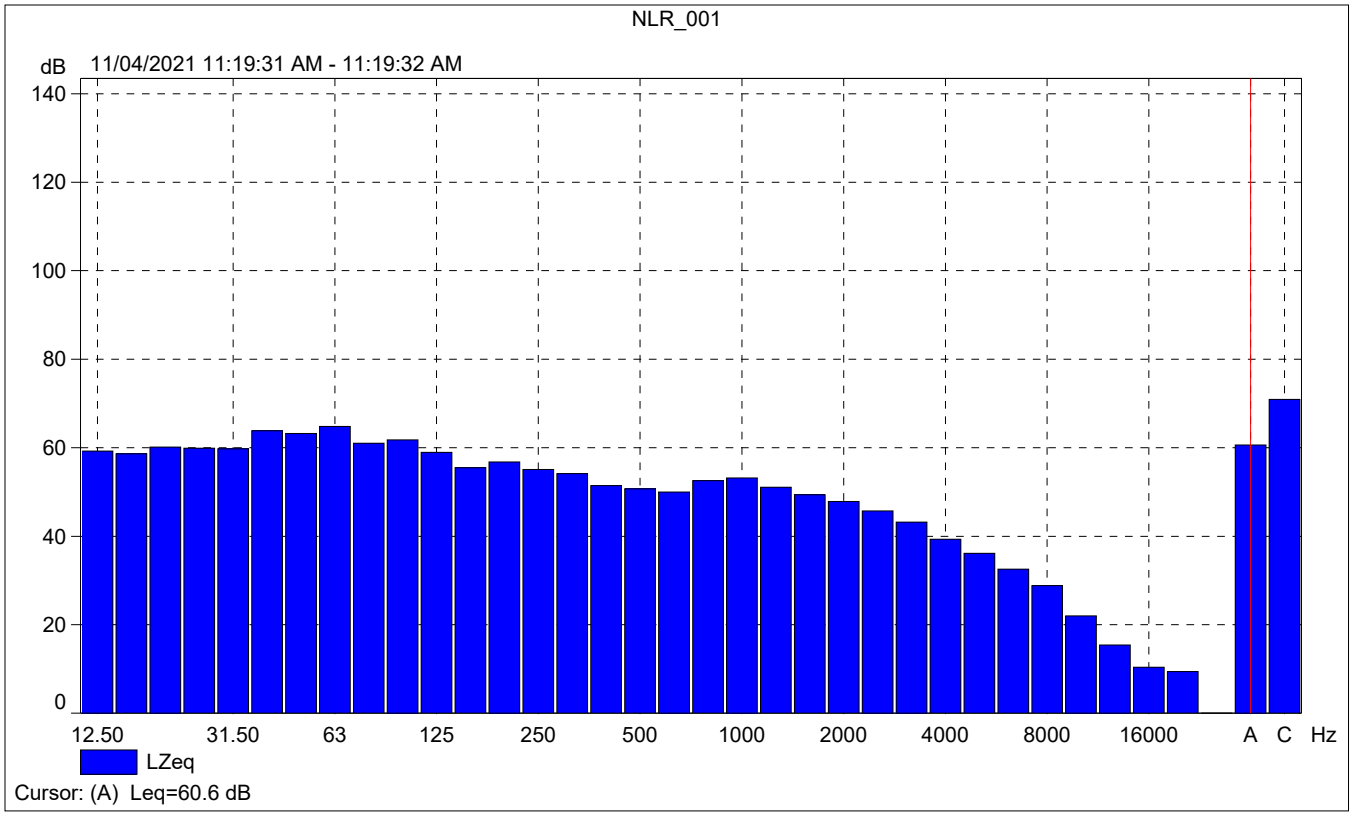

NLR_001
dB
11/04/2021 11:14:32 AM - 11:24:32 AM
130
120
110
100
90
80
70
60
50
40
30
20
10
12.50
31.50
63
125
250
500
1000
2000
4000
8000
16000
A
C
Hz
LZeq
LZFmax
LZFmin
Cursor: (A) Leq=69.0 dB LFmax=87.4 dB LFmin=57.2 dB

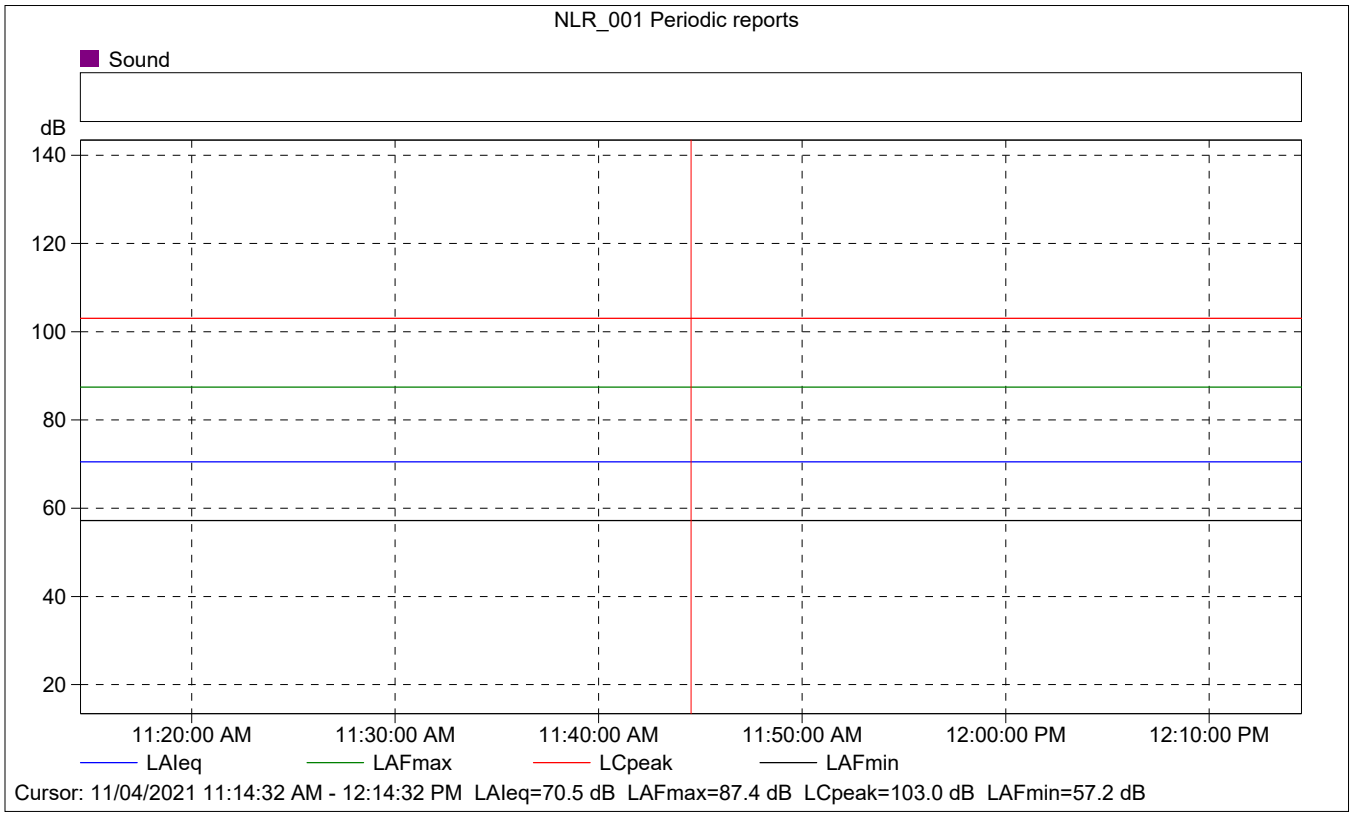

NLR_001
%
Based on LAF , 10ms Class width: 0.2 dB 11/04/2021 11:14:32 AM - 11:24:32 AM
100
90
80
70
60
50
40
30
20
10
0
20
30
40
50
60
70
80
90
100
110
120
130
140
dB
L1 = 77.6 dB
L5 = 74.1 dB
L10 = 72.2 dB
L50 = 65.0 dB
L90 = 60.0 dB
L95 = 59.4 dB
L99 = 58.6 dB
Level
Cumulative
Cursor: [78.2 ; 78.4[dB Level: 0.1% Cumulative: 0.9%



NLR_001

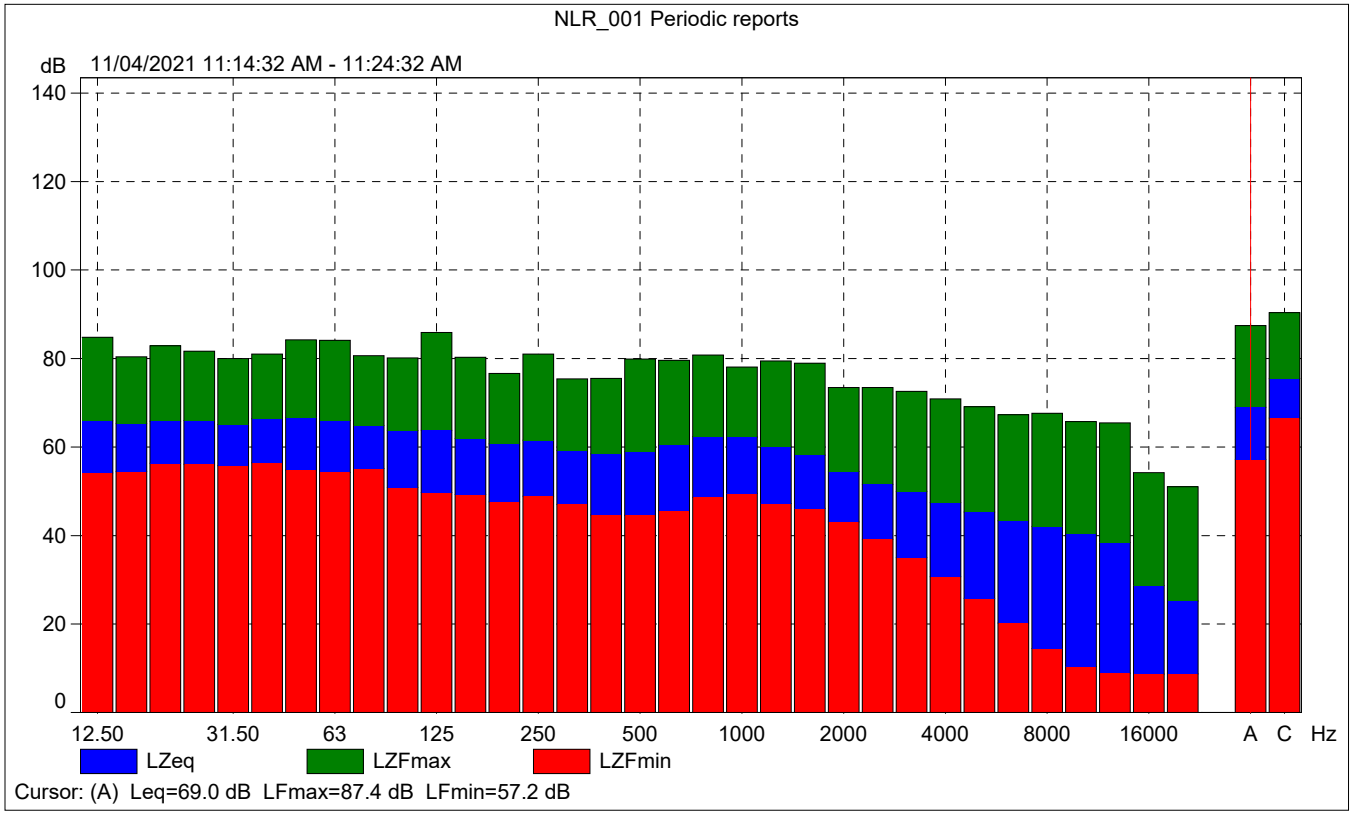
	Start time	Elapsed time	LAIeq [dB]	LAFmax [dB]	LAFmin [dB]
Value			60.9	61.2	59.9
Time	11:19:31 AM	0:00:01			
Date	11/04/2021				

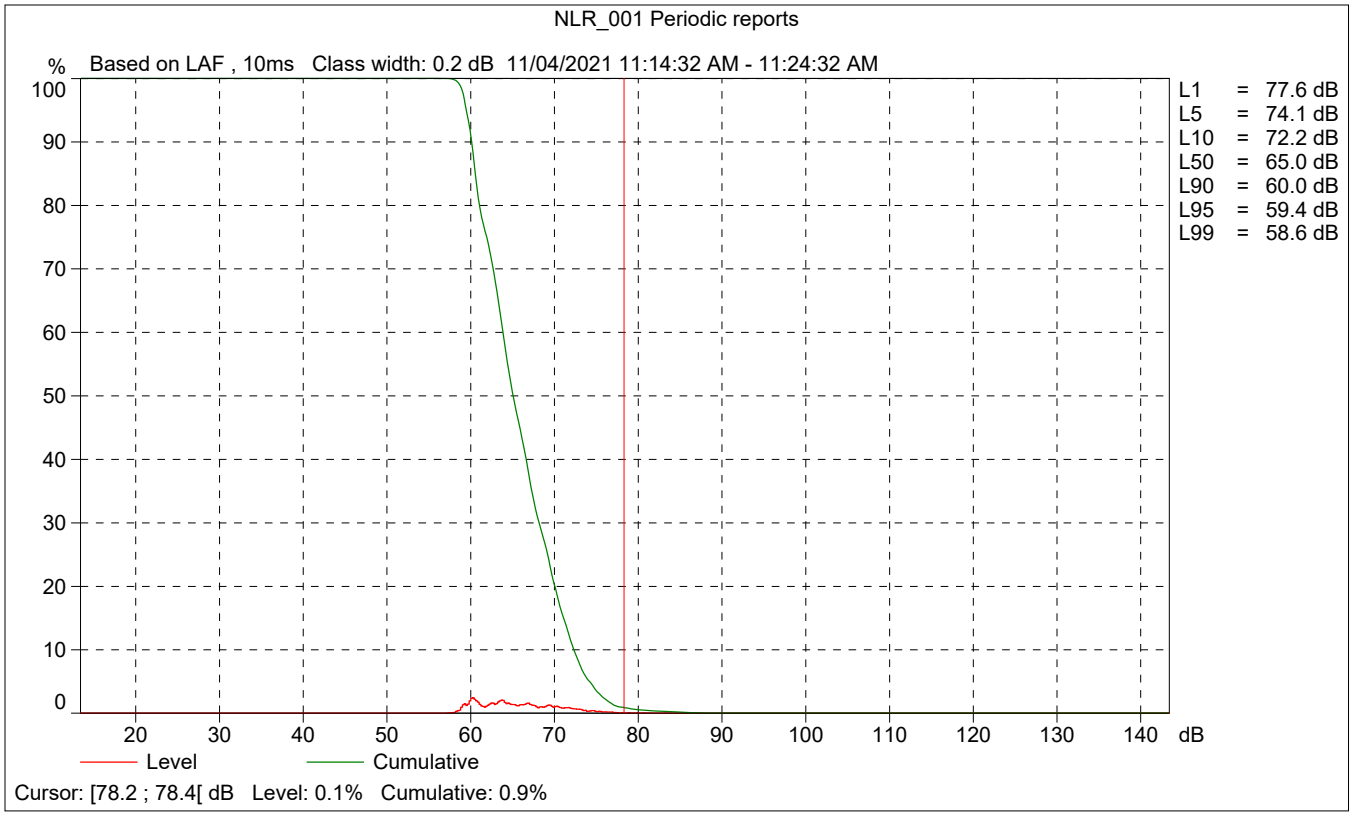

NLR_001
dB
11/04/2021 11:19:31 AM - 11:19:32 AM
140
120
100
80
60
40
20
0
12.50
31.50
63
125
250
500
1000
2000
4000
8000
16000
A
C
Hz
LZeq
Cursor: (A) Leq=60.6 dB


NLR_001 Periodic reports
Sound
dB
140
120
100
80
60
40
20
11:20:00 AM
11:30:00 AM
11:40:00 AM
11:50:00 AM
12:00:00 PM
12:10:00 PM
LAIeq
LAFmax
LCpeak
LAFmin
Cursor: 11/04/2021 11:14:32 AM - 12:14:32 PM LAIeq=70.5 dB LAFmax=87.4 dB LCpeak=103.0 dB LAFmin=57.2 dB

NLR_001 Periodic reports

	Start time	Elapsed time	Overload [%]	LAIeq [dB]	LAFmax [dB]	LAFmin [dB]
Value			0.00	70.5	87.4	57.2
Time	11:14:32 AM	0:10:00				
Date	11/04/2021					




NLR_001 Periodic reports
% Based on LAF , 10ms Class width: 0.2 dB 11/04/2021 11:14:32 AM - 11:24:32 AM
100
90
80
70
60
50
40
30
20
10
0
20 30 40 50 60 70 80 90 100 110 120 130 140 dB
L1 = 77.6 dB
L5 = 74.1 dB
L10 = 72.2 dB
L50 = 65.0 dB
L90 = 60.0 dB
L95 = 59.4 dB
L99 = 58.6 dB
Level
Cumulative
Cursor: [78.2 ; 78.4[dB Level: 0.1% Cumulative: 0.9%

Site Number: NM-2			
Recorded By: Winnie Woo, Tina Yuan			
Job Number: 186794			
Date: 11/4/2021			
Time: 11:29 AM			
Location: Southeast corner of the Walnut Street and North Los Robles Avenue intersection, in front of 454 E Walnut Street.			
Source of Peak Noise: Traffic Along Walnut Street and North Los Robles Avenue.			
Noise Data			
Leq (dB)	**Lmax(dB)**	**Lmin (dB)**	**Peak (dB)**
68.7	82.4	56.7	101.7

Equipment						
Category	**Type**	**Vendor**	**Model**	**Serial No.**	**Cert. Date**	**Note**
Sound	Sound Level Meter	**Brüel & Kjær**	**2250**	**3011133**	**09/09/2021**	
	Microphone	**Brüel & Kjær**	**4189**	**3086765**	**09/09/2021**	
	Preamp	**Brüel & Kjær**	**ZC 0032**	**25380**	**09/09/2021**	
	Calibrator	**Brüel & Kjær**	**4231**	**2545667**	**09/09/2021**	

Weather Data			
Est.	**Duration:** 10 minutes		**Sky:** Sunny
	Note: dBA Offset = -0.05		**Sensor Height (ft):** 5 ft
	Wind Ave Speed (mph / m/s)	**Temperature (degrees Fahrenheit)**	**Barometer Pressure (inches)**
	N 2 mph	70	30.00

Photo of Measurement Location

2250

Instrument:		2250
Application:		BZ7225 Version 4.7.6
Start Time:		11/04/2021 11:29:10
End Time:		11/04/2021 11:39:10
Elapsed Time:		00:10:00
Bandwidth:		1/3-octave
Max Input Level:		142.14

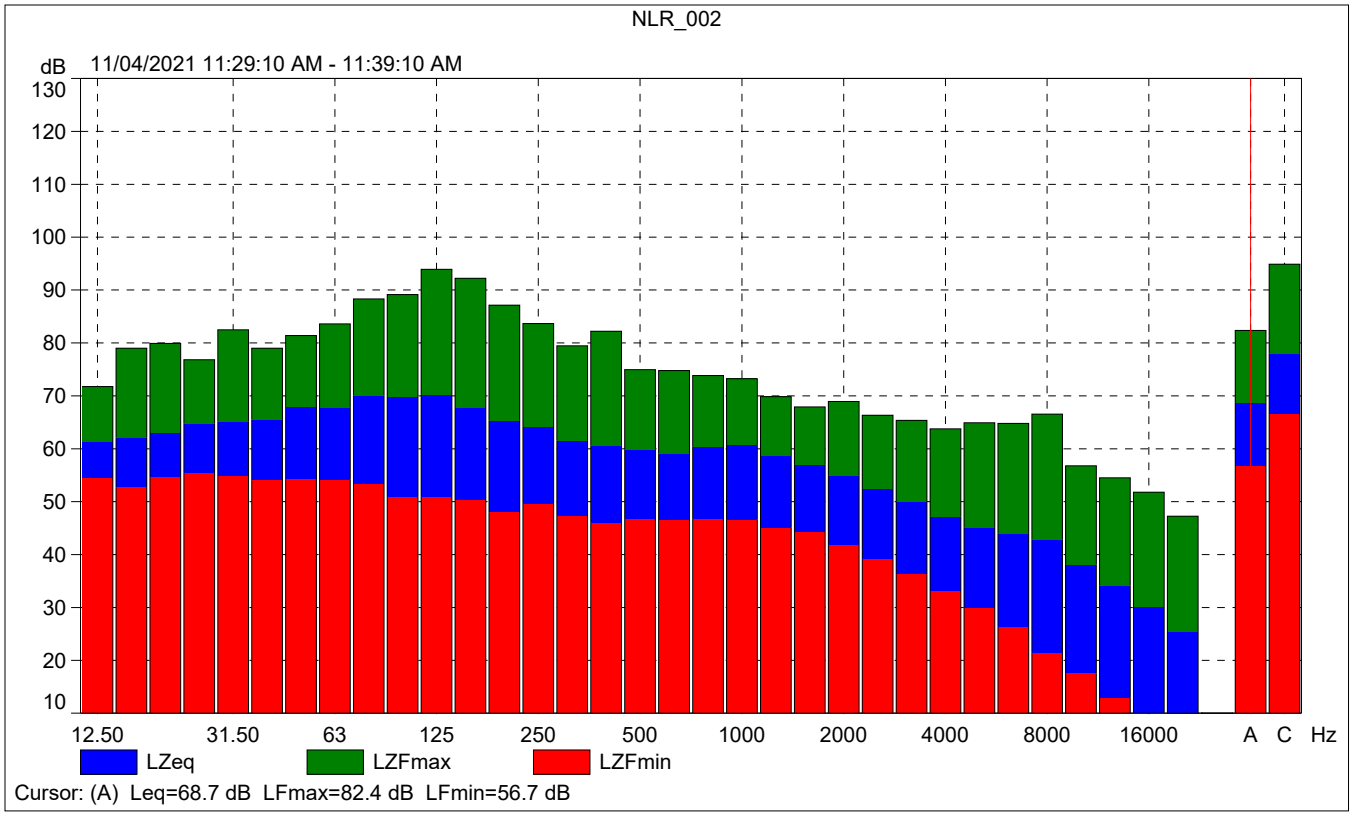
	Time	Frequency
Broadband (excl. Peak):	FSI	AC
Broadband Peak:		C
Spectrum:	FS	Z

Instrument Serial Number:		3011133
Microphone Serial Number:		3086765
Input:		Top Socket
Windscreen Correction:		UA-1650
Sound Field Correction:		Free-field

Calibration Time:		11/04/2021 08:34:59
Calibration Type:		External reference
Sensitivity:		43.5506850481033 mV/Pa

NLR_002

	Start time	End time	Elapsed time	Overload [%]	LAeq [dB]	LAFmax [dB]	LAFmin [dB]
Value				0.00	68.7	82.4	56.7
Time	11:29:10 AM	11:39:10 AM	0:10:00				
Date	11/04/2021	11/04/2021					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dB
11/04/2021 11:29:10 AM - 11:39:10 AM
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120
110
100
90
80
70
60
50
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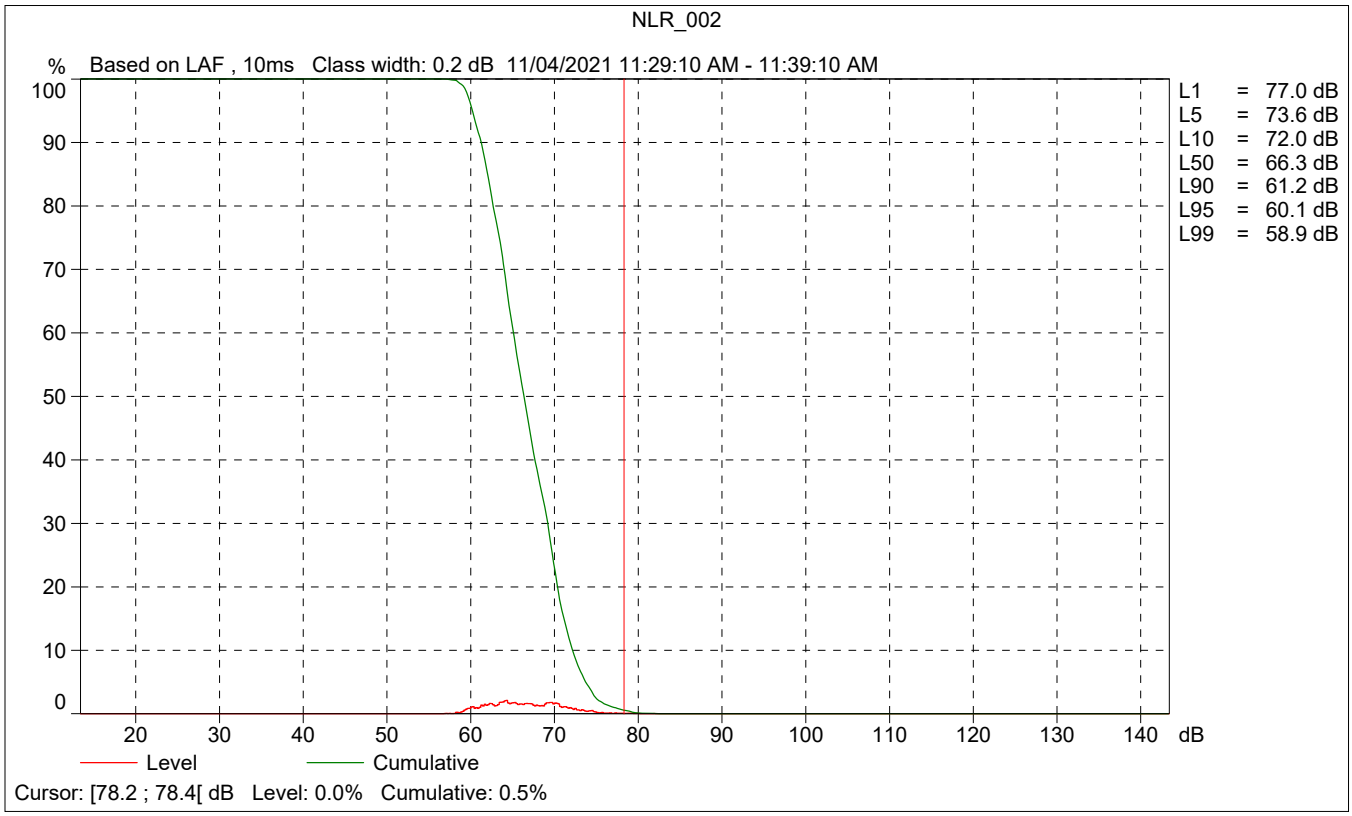
30
20
10
12.50
31.50
63
125
250
500
1000
2000
4000
8000
16000
A
C
Hz
LZeq
LZFmax
LZFmin
Cursor: (A) Leq=68.7 dB LFmax=82.4 dB LFmin=56.7 dB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%
Based on LAF , 10ms Class width: 0.2 dB 11/04/2021 11:29:10 AM - 11:39:10 AM
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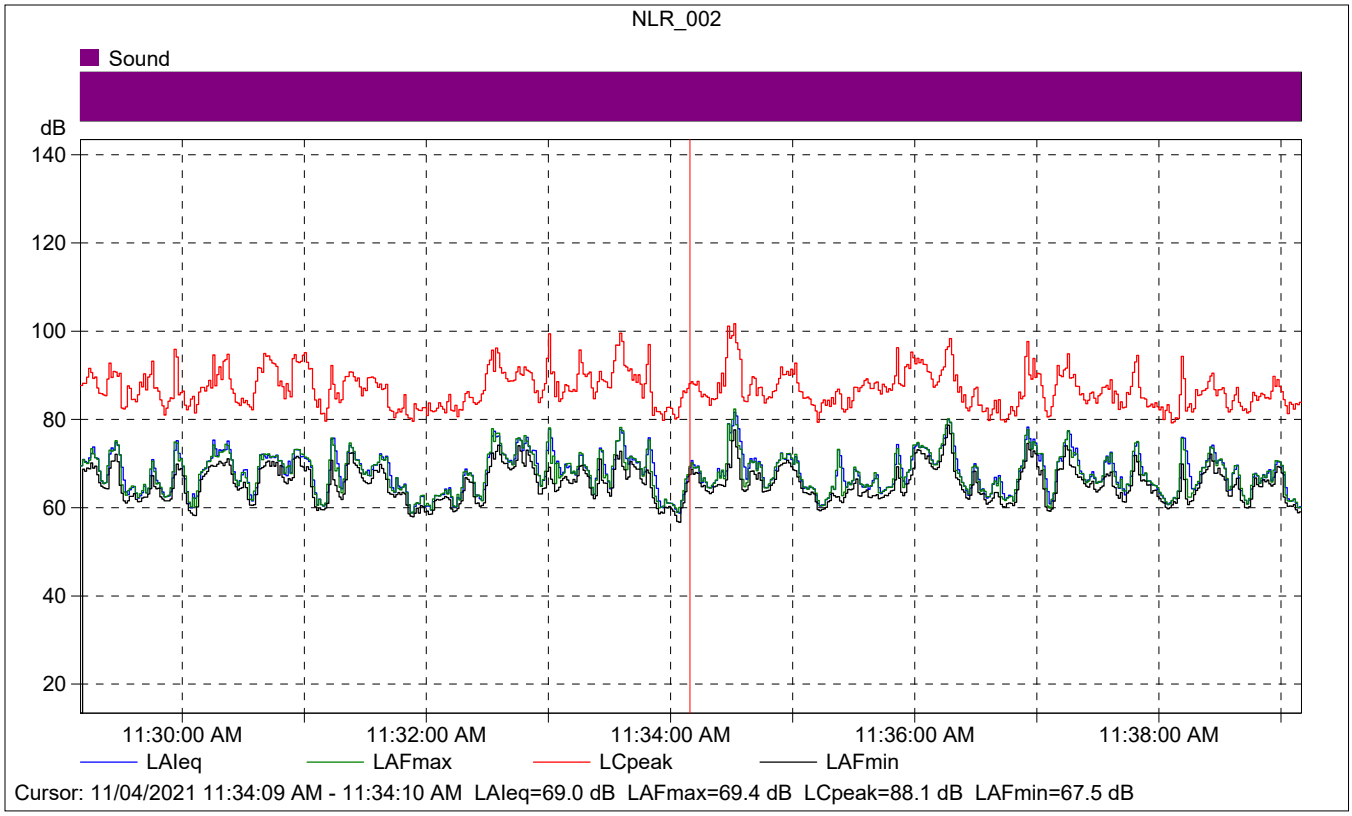
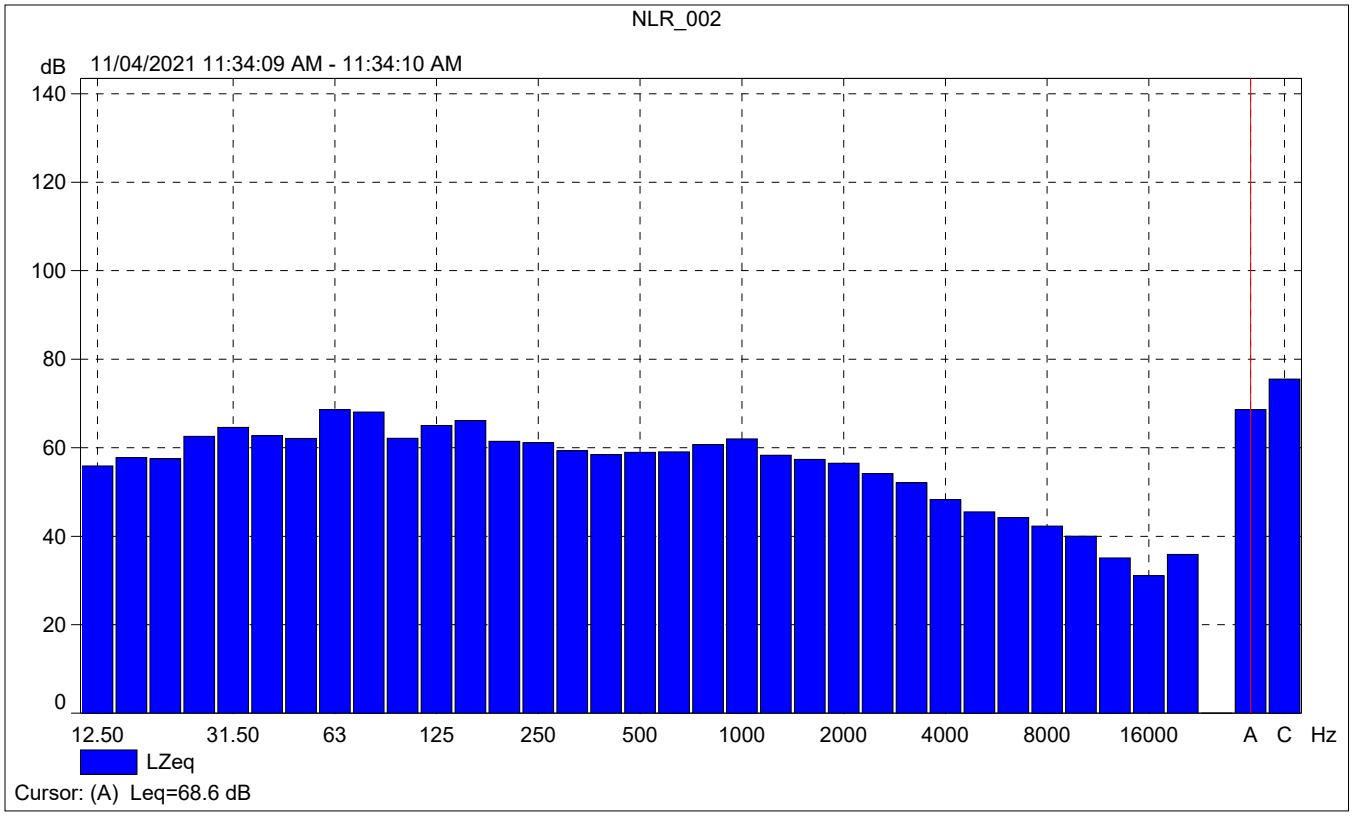
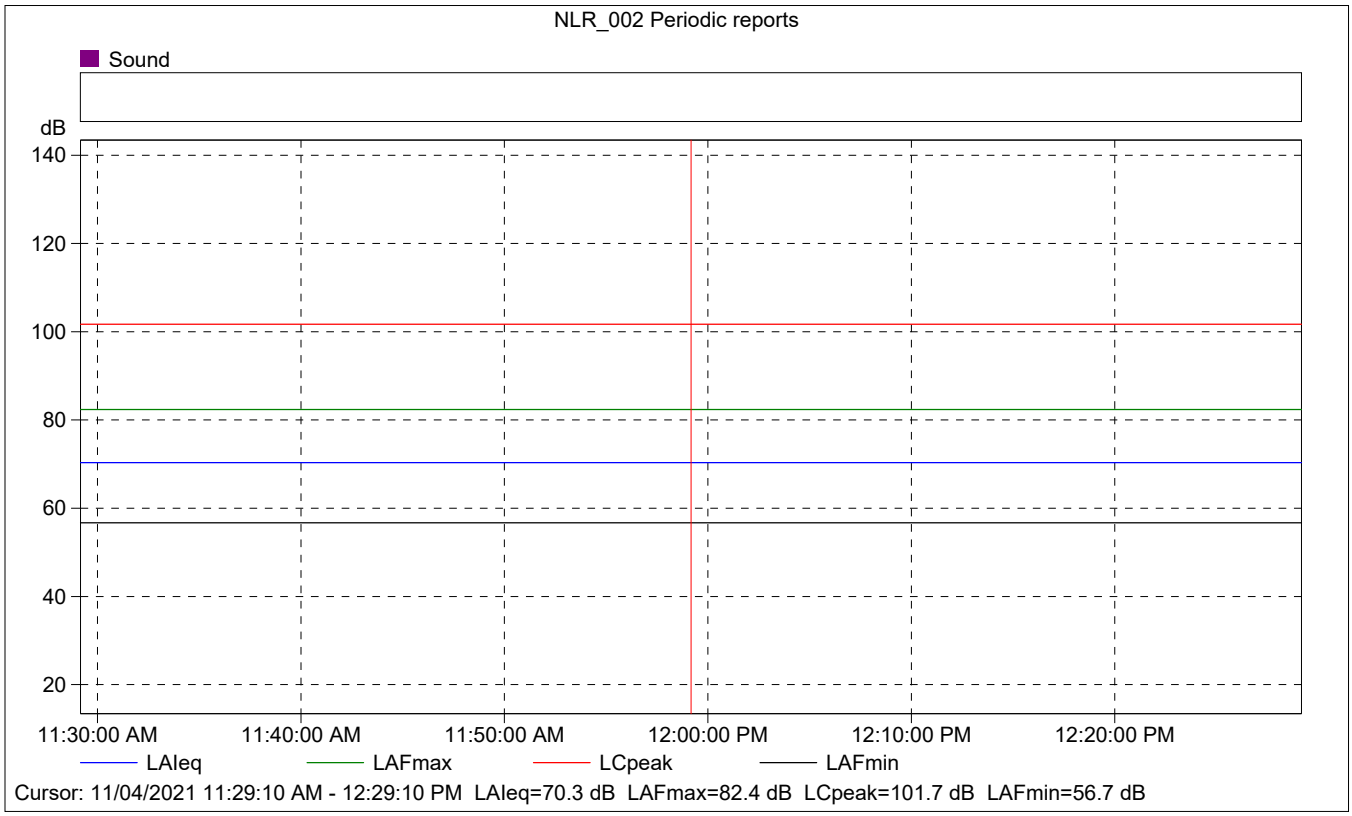
80
70
60
50
40
30
20
10
0
20
30
40
50
60
70
80
90
100
110
120
130
140
dB
L1 = 77.0 dB
L5 = 73.6 dB
L10 = 72.0 dB
L50 = 66.3 dB
L90 = 61.2 dB
L95 = 60.1 dB
L99 = 58.9 dB
Level
Cumulative
Cursor: [78.2 ; 78.4[dB Level: 0.0% Cumulative: 0.5%



NLR_002

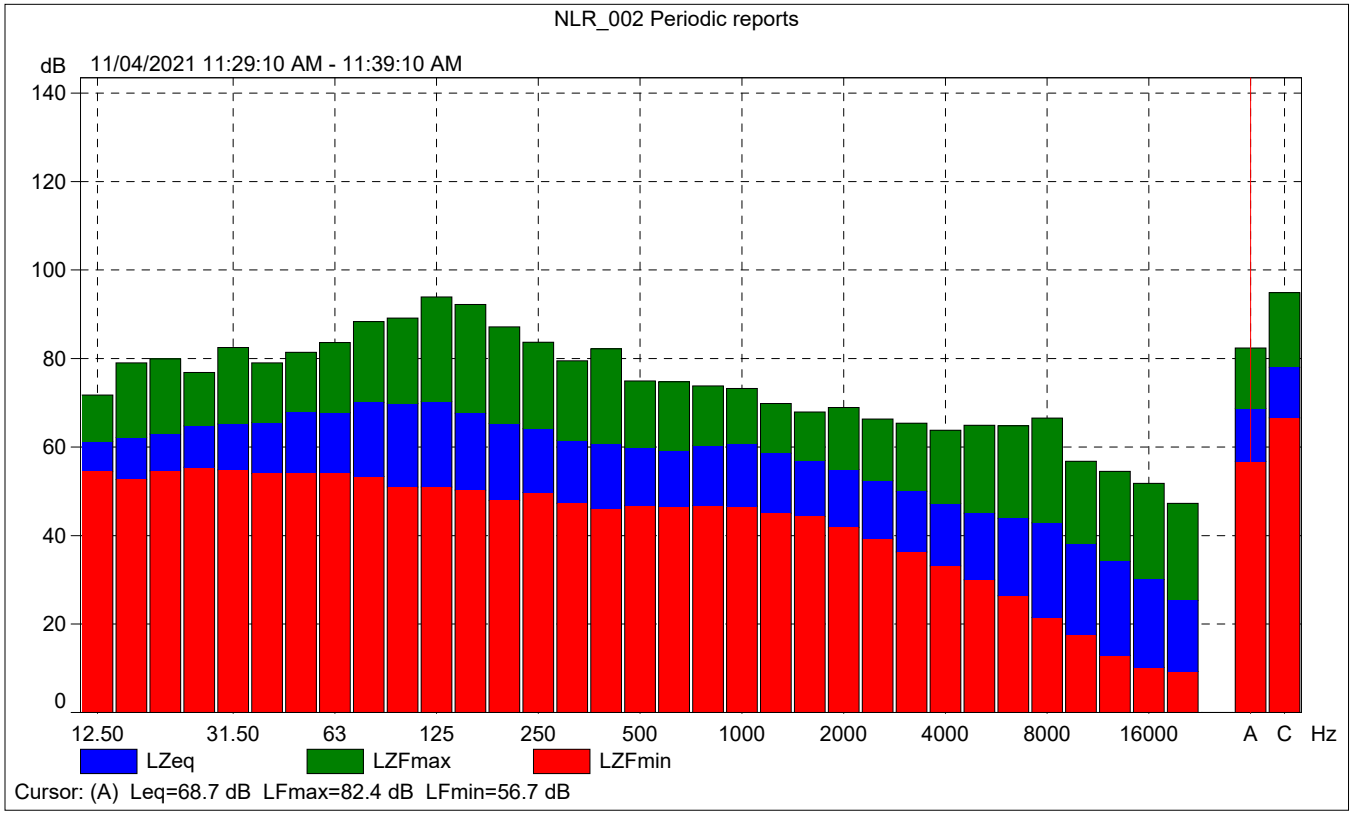
	Start time	Elapsed time	LAIeq [dB]	LAFmax [dB]	LAFmin [dB]
Value			69.0	69.4	67.5
Time	11:34:09 AM	0:00:01			
Date	11/04/2021				

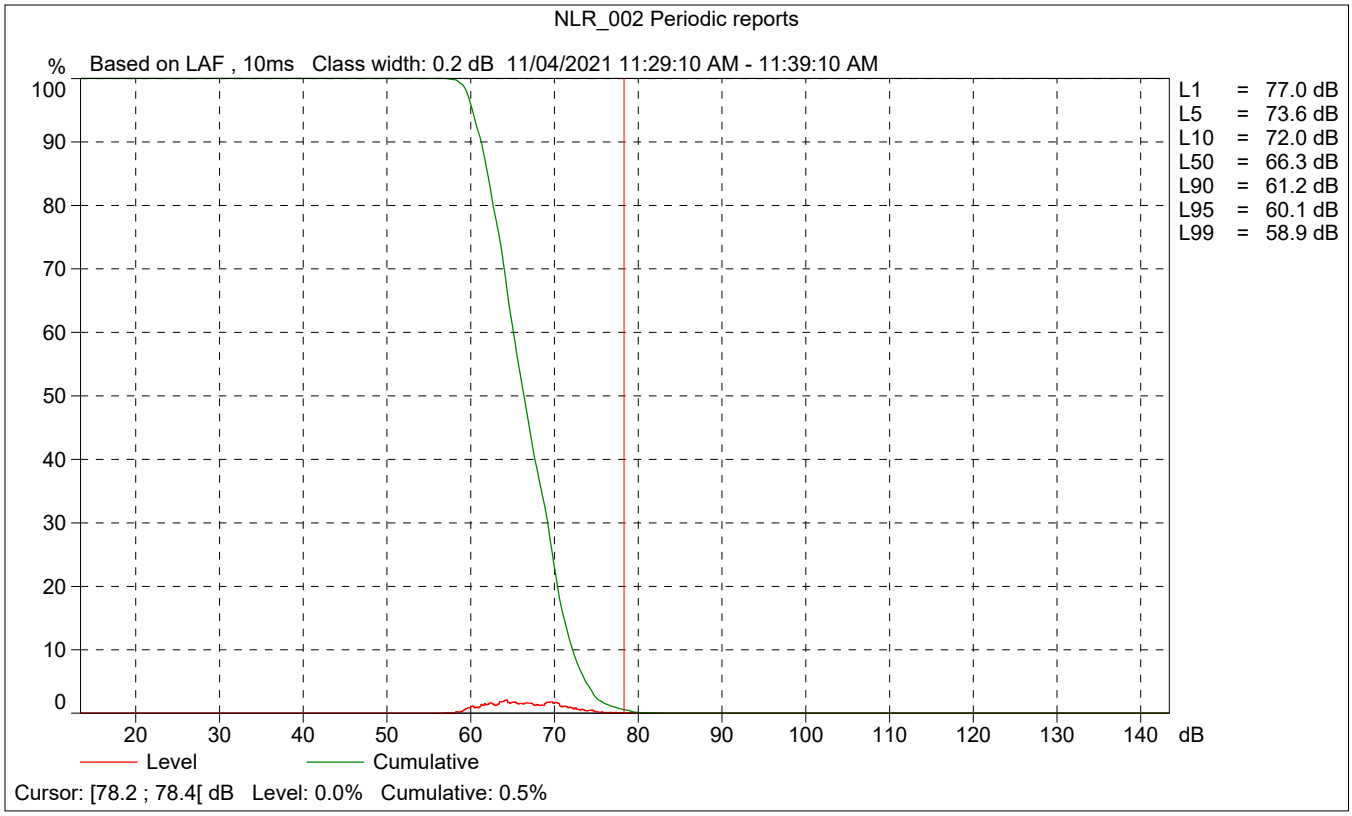

NLR_002
dB
11/04/2021 11:34:09 AM - 11:34:10 AM
140
120
100
80
60
40
20
0
12.50
31.50
63
125
250
500
1000
2000
4000
8000
16000
A
C
Hz
LZeq
Cursor: (A) Leq=68.6 dB


NLR_002 Periodic reports
Sound
dB
140
120
100
80
60
40
20
11:30:00 AM
11:40:00 AM
11:50:00 AM
12:00:00 PM
12:10:00 PM
12:20:00 PM
LAIeq
LAFmax
LCpeak
LAFmin
Cursor: 11/04/2021 11:29:10 AM - 12:29:10 PM LAIeq=70.3 dB LAFmax=82.4 dB LCpeak=101.7 dB LAFmin=56.7 dB

NLR_002 Periodic reports

	Start time	Elapsed time	Overload [%]	LAIeq [dB]	LAFmax [dB]	LAFmin [dB]
Value			0.00	70.3	82.4	56.7
Time	11:29:10 AM	0:10:00				
Date	11/04/2021					




NLR_002 Periodic reports
% Based on LAF , 10ms Class width: 0.2 dB 11/04/2021 11:29:10 AM - 11:39:10 AM
100
90
80
70
60
50
40
30
20
10
0
20 30 40 50 60 70 80 90 100 110 120 130 140 dB
L1 = 77.0 dB
L5 = 73.6 dB
L10 = 72.0 dB
L50 = 66.3 dB
L90 = 61.2 dB
L95 = 60.1 dB
L99 = 58.9 dB
Level
Cumulative
Cursor: [78.2 ; 78.4[dB Level: 0.0% Cumulative: 0.5%

Site Number: NM-3			
Recorded By: Winnie Woo, Tina Yuan			
Job Number: 186794			
Date: 11/4/2021			
Time: 11:48 AM			
Location: In front of 275 Oakland Avenue.			
Source of Peak Noise: Traffic Along I-210 and nearby electric gate operation.			
Noise Data			
Leq (dB)	**Lmax(dB)**	**Lmin (dB)**	**Peak (dB)**
59.1	73.8	55.9	91.9

Equipment						
Category	**Type**	**Vendor**	**Model**	**Serial No.**	**Cert. Date**	**Note**
Sound	Sound Level Meter	**Brüel & Kjær**	**2250**	**3011133**	**09/09/2021**	
	Microphone	**Brüel & Kjær**	**4189**	**3086765**	**09/09/2021**	
	Preamp	**Brüel & Kjær**	**ZC 0032**	**25380**	**09/09/2021**	
	Calibrator	**Brüel & Kjær**	**4231**	**2545667**	**09/09/2021**	

Weather Data			
Est.	**Duration:** 10 minutes		**Sky:** Sunny
	Note: dBA Offset = -0.05		**Sensor Height (ft):** 5 ft
	Wind Ave Speed (mph / m/s)	**Temperature (degrees Fahrenheit)**	**Barometer Pressure (inches)**
	N 2 mph	70	30.00

Photo of Measurement Location

2250

Instrument:		2250
Application:		BZ7225 Version 4.7.6
Start Time:		11/04/2021 11:48:16
End Time:		11/04/2021 11:58:16
Elapsed Time:		00:10:00
Bandwidth:		1/3-octave
Max Input Level:		142.14

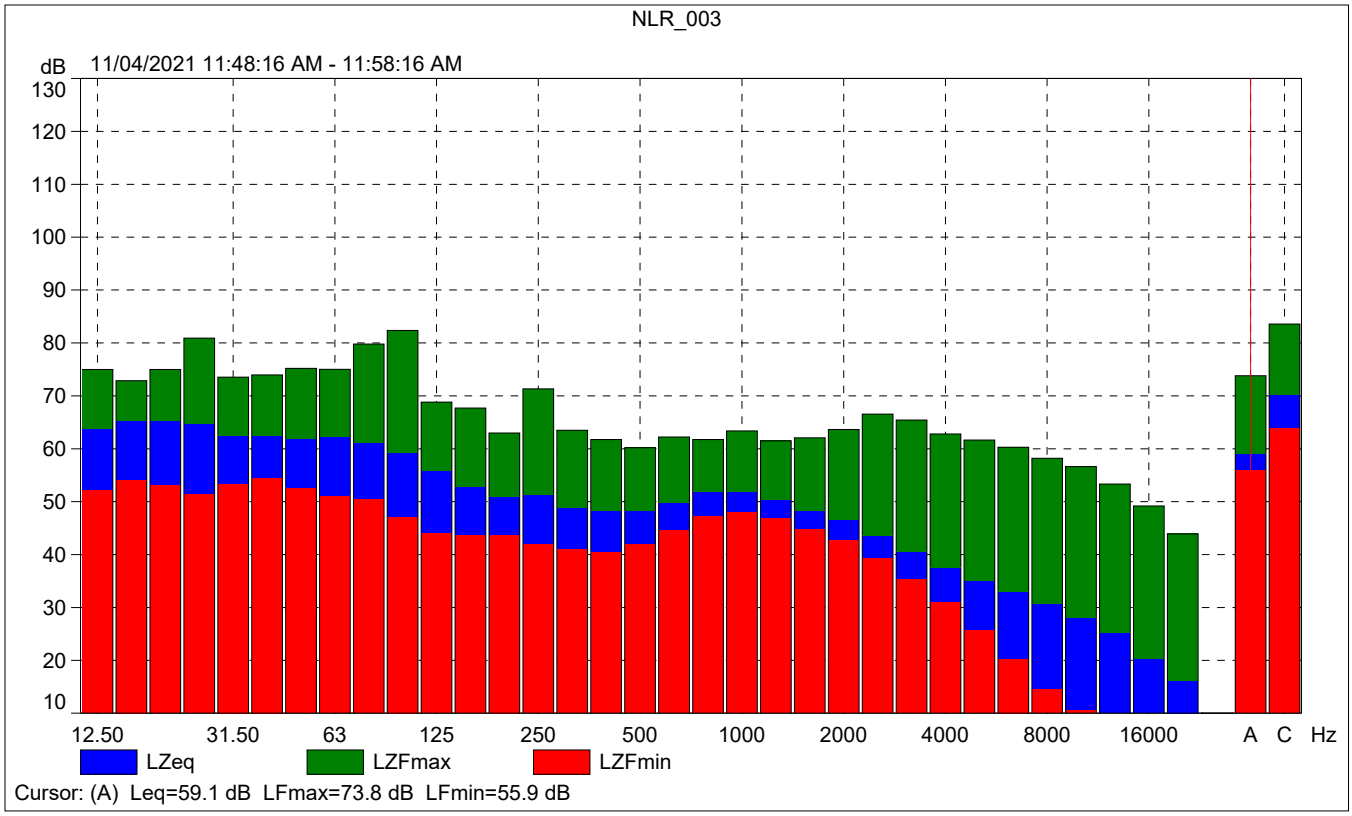
	Time	Frequency
Broadband (excl. Peak):	FSI	AC
Broadband Peak:		C
Spectrum:	FS	Z

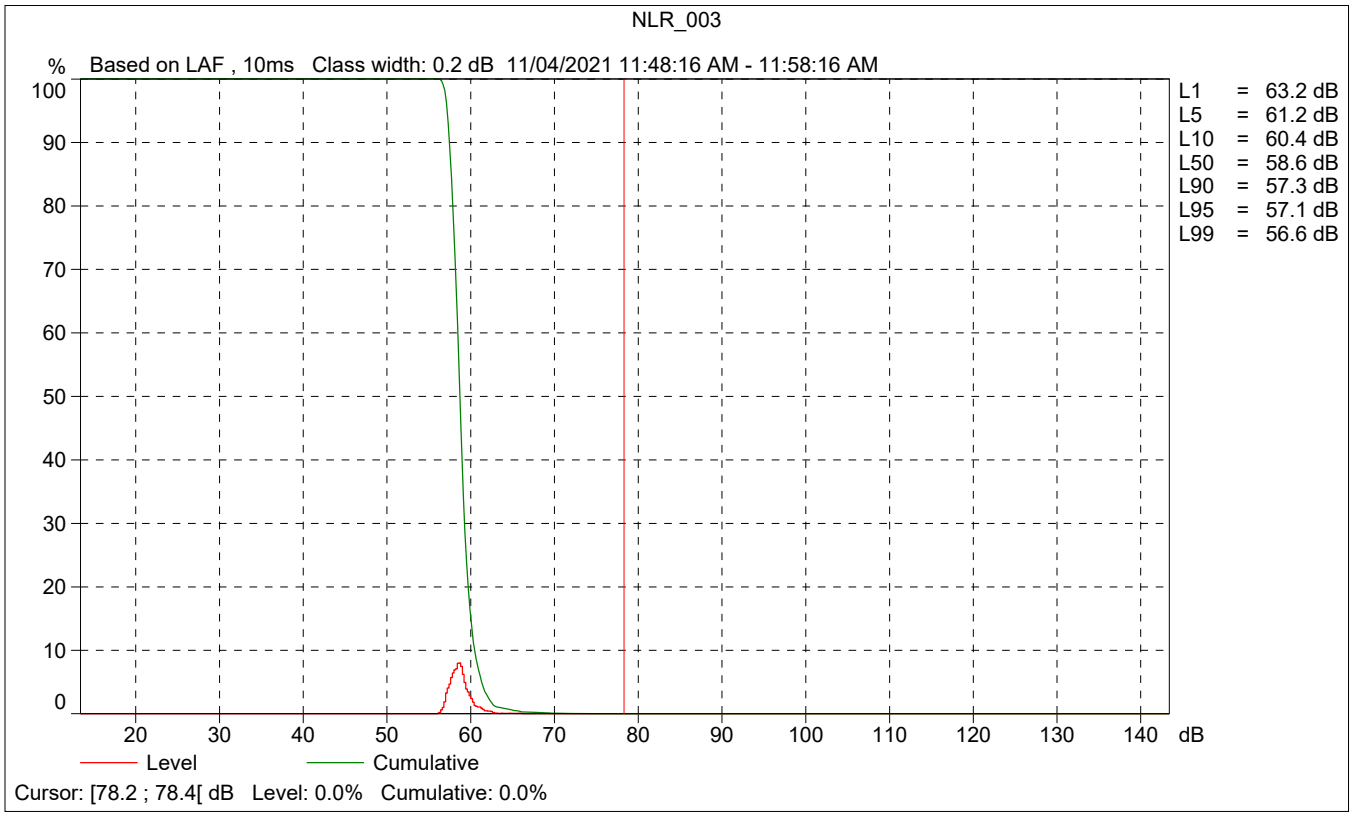
Instrument Serial Number:		3011133
Microphone Serial Number:		3086765
Input:		Top Socket
Windscreen Correction:		UA-1650
Sound Field Correction:		Free-field

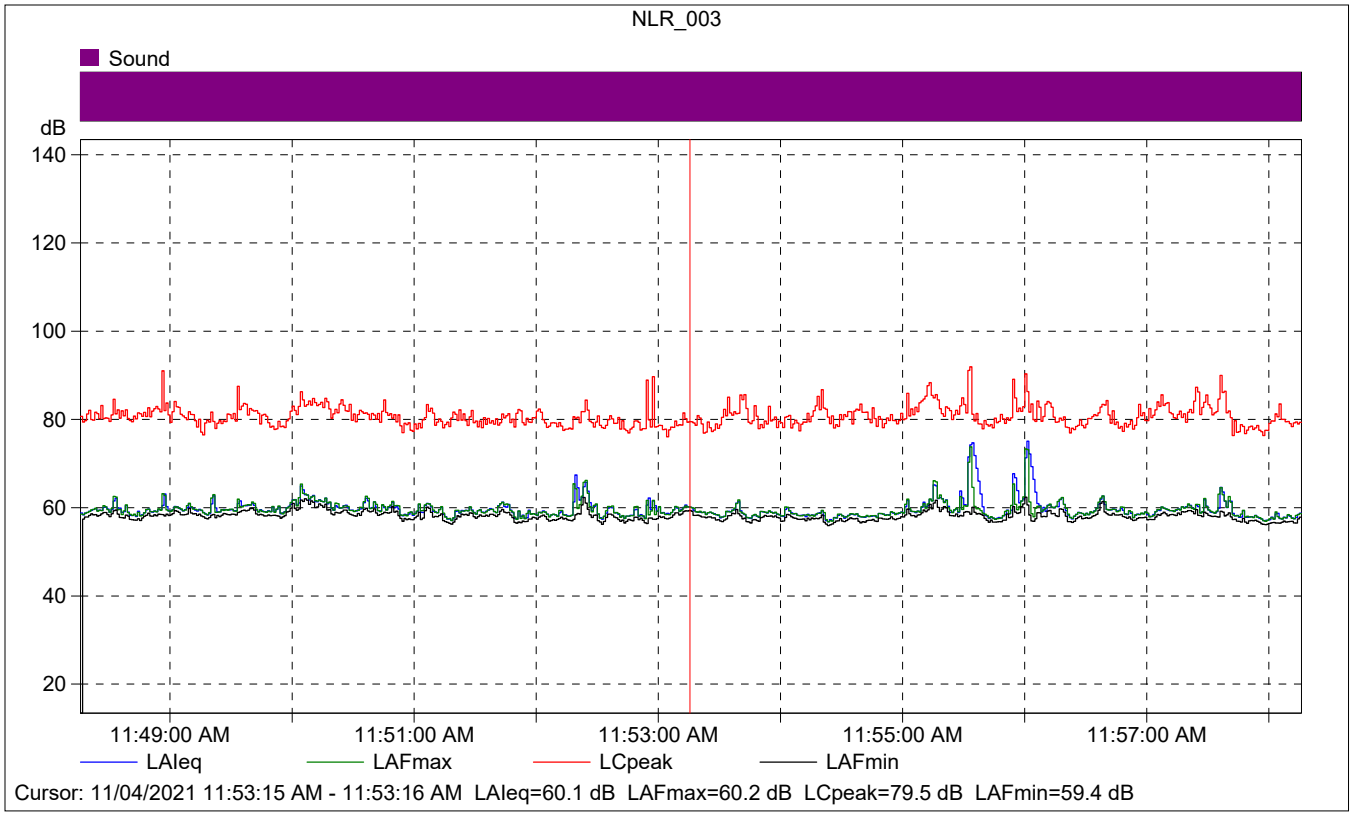
Calibration Time:		11/04/2021 08:34:59
Calibration Type:		External reference
Sensitivity:		43.5506850481033 mV/Pa

NLR_003

	Start time	End time	Elapsed time	Overload [%]	LAeq [dB]	LAFmax [dB]	LAFmin [dB]
Value				0.00	59.1	73.8	55.9
Time	11:48:16 AM	11:58:16 AM	0:10:00				
Date	11/04/2021	11/04/2021					

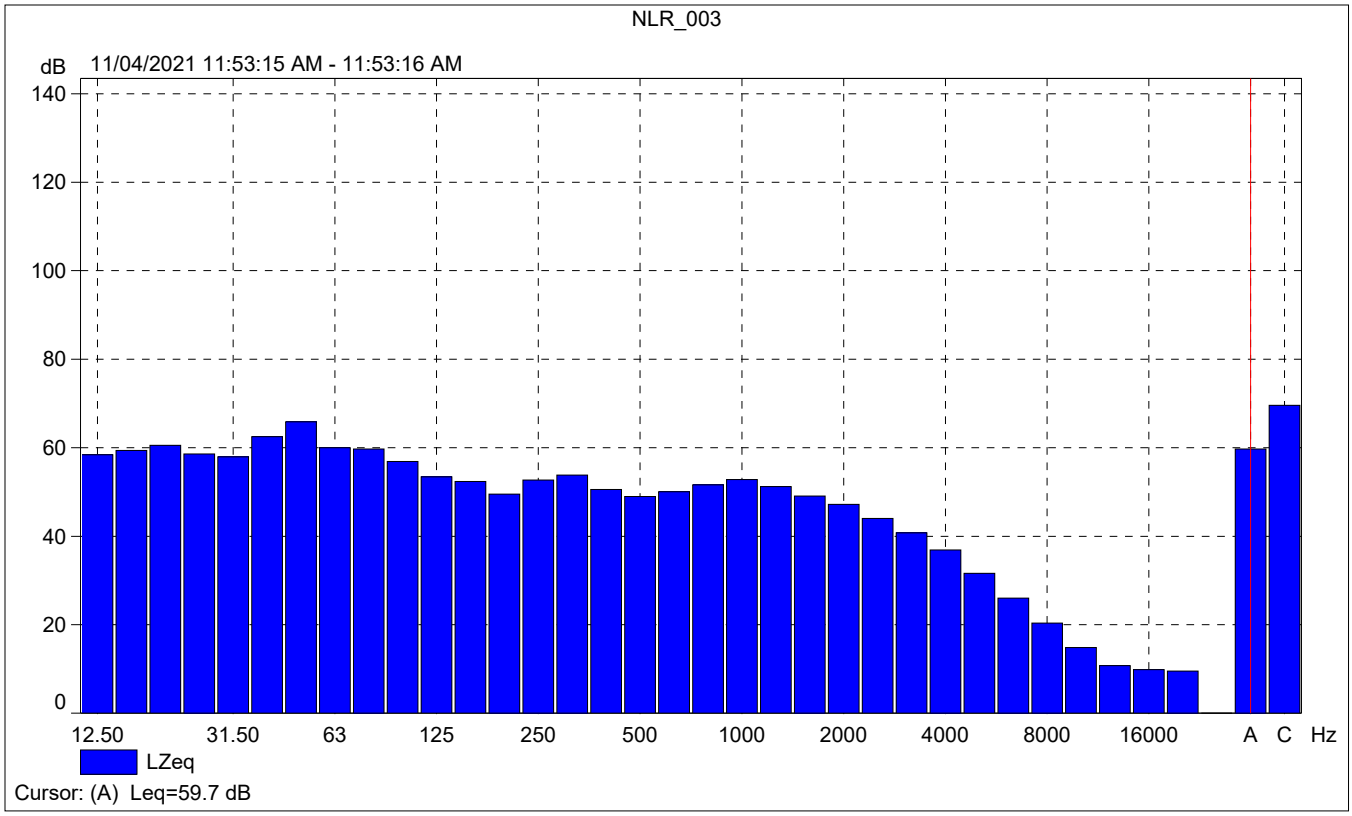

NLR_003
dB
11/04/2021 11:48:16 AM - 11:58:16 AM
130
120
110
100
90
80
70
60
50
40
30
20
10
12.50
31.50
63
125
250
500
1000
2000
4000
8000
16000
A
C
Hz
LZeq
LZFmax
LZFmin
Cursor: (A) Leq=59.1 dB LFmax=73.8 dB LFmin=55.9 dB

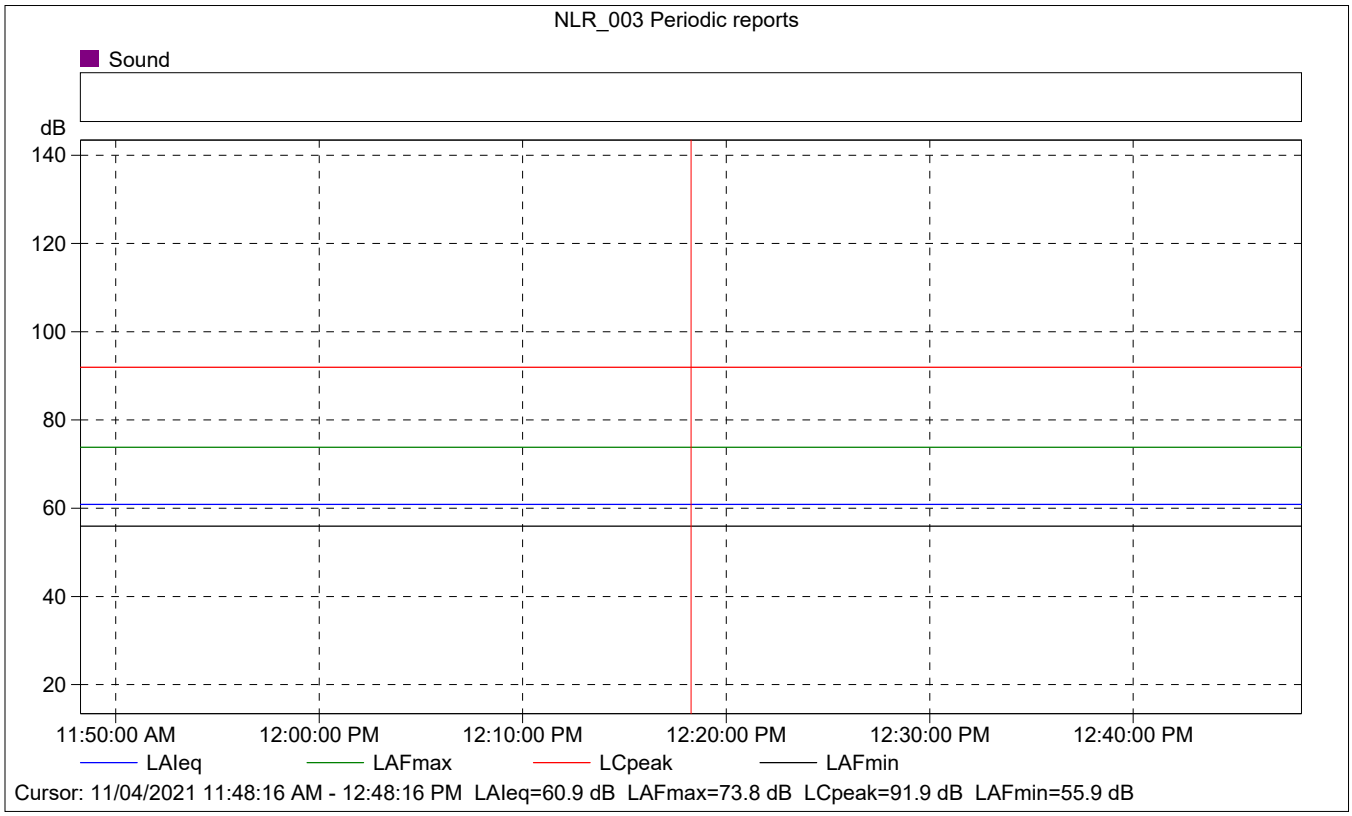

NLR_003
%
Based on LAF , 10ms Class width: 0.2 dB 11/04/2021 11:48:16 AM - 11:58:16 AM
100
90
80
70
60
50
40
30
20
10
0
20
30
40
50
60
70
80
90
100
110
120
130
140
dB
L1 = 63.2 dB
L5 = 61.2 dB
L10 = 60.4 dB
L50 = 58.6 dB
L90 = 57.3 dB
L95 = 57.1 dB
L99 = 56.6 dB
Level
Cumulative
Cursor: [78.2 ; 78.4[dB Level: 0.0% Cumulative: 0.0%



NLR_003

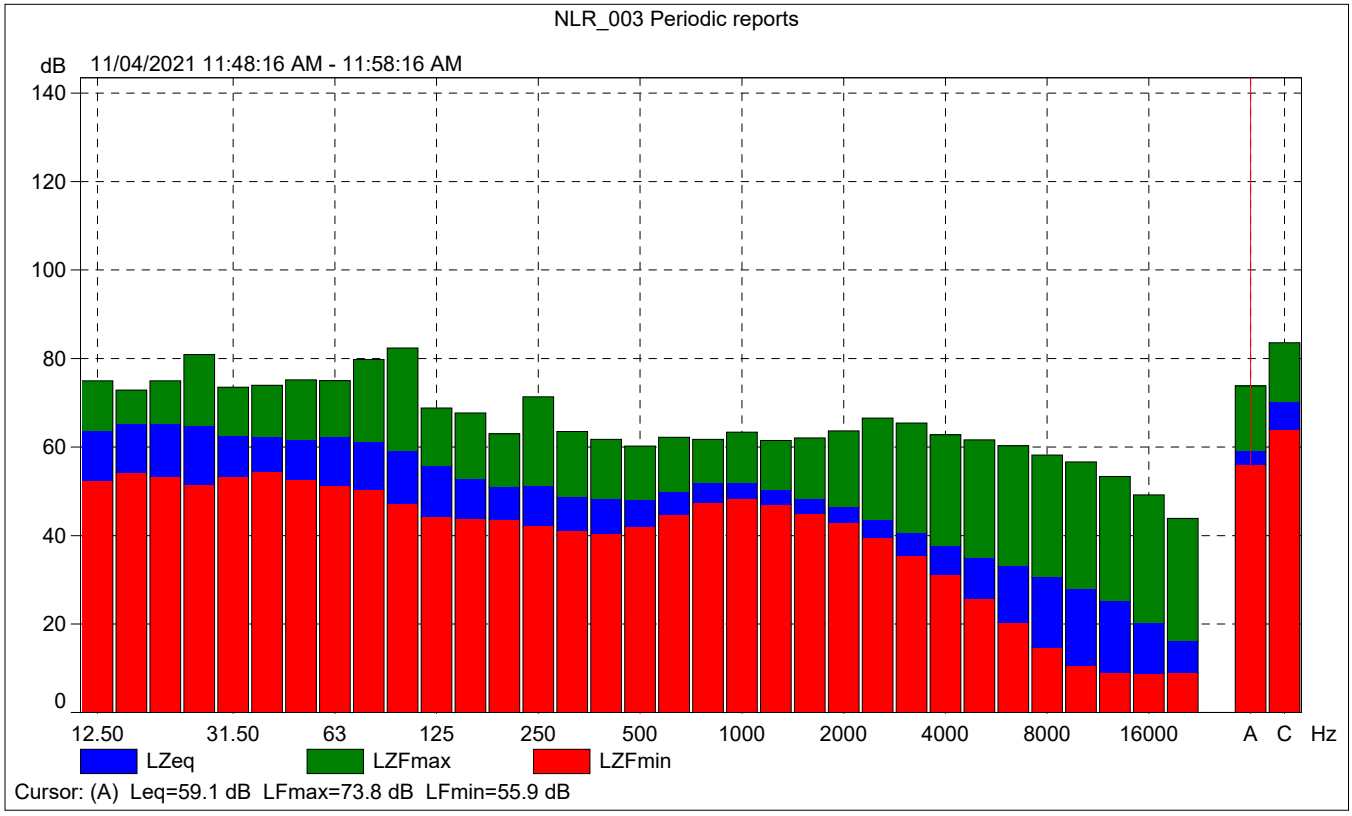
	Start time	Elapsed time	LAIeq [dB]	LAFmax [dB]	LAFmin [dB]
Value			60.1	60.2	59.4
Time	11:53:15 AM	0:00:01			
Date	11/04/2021				

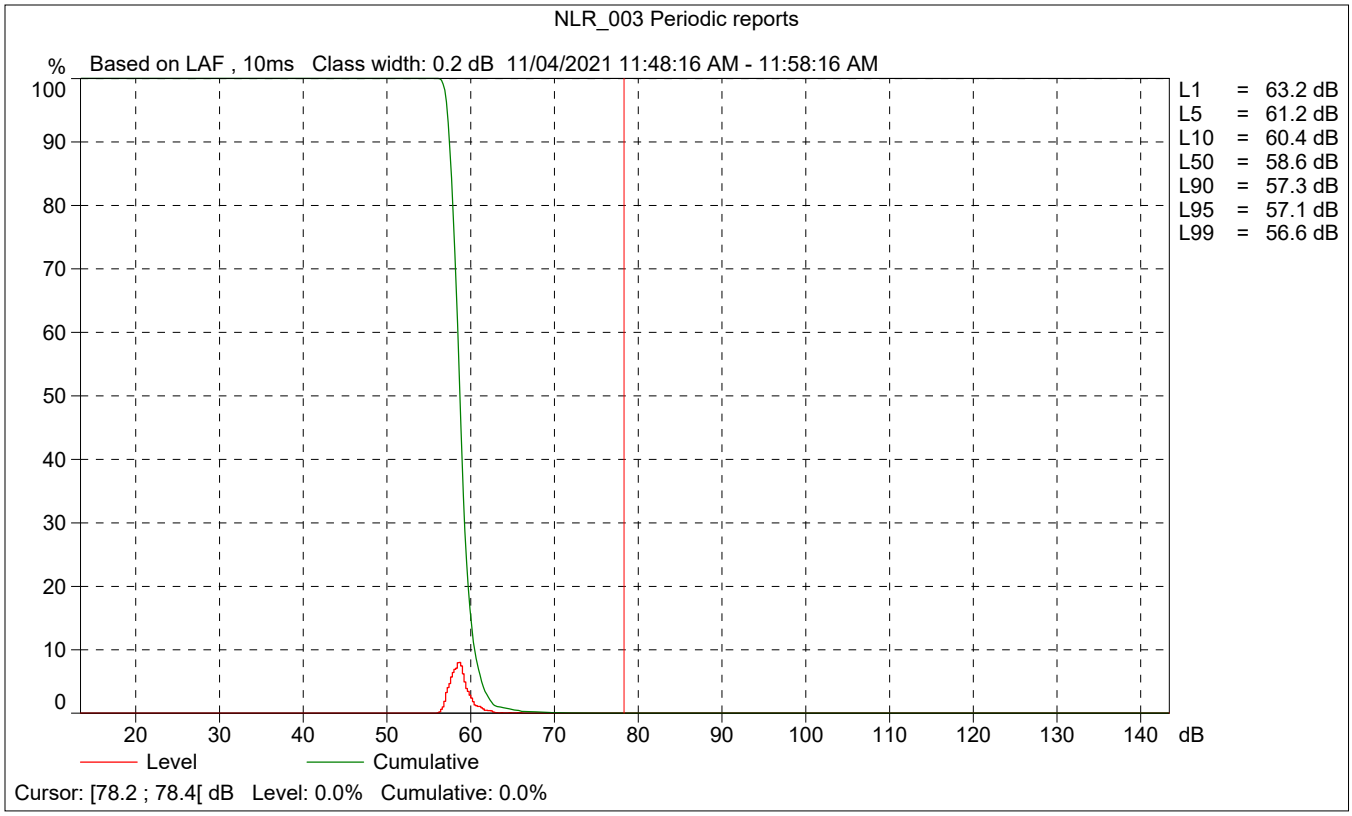

NLR_003
dB
11/04/2021 11:53:15 AM - 11:53:16 AM
140
120
100
80
60
40
20
0
12.50
31.50
63
125
250
500
1000
2000
4000
8000
16000
A
C
Hz
LZeq
Cursor: (A) Leq=59.7 dB


NLR_003 Periodic reports
Sound
dB
140
120
100
80
60
40
20
11:50:00 AM
12:00:00 PM
12:10:00 PM
12:20:00 PM
12:30:00 PM
12:40:00 PM
LAIeq
LAFmax
LCpeak
LAFmin
Cursor: 11/04/2021 11:48:16 AM - 12:48:16 PM LAIeq=60.9 dB LAFmax=73.8 dB LCpeak=91.9 dB LAFmin=55.9 dB

NLR_003 Periodic reports

	Start time	Elapsed time	Overload [%]	LAIeq [dB]	LAFmax [dB]	LAFmin [dB]
Value			0.00	60.9	73.8	55.9
Time	11:48:16 AM	0:10:00				
Date	11/04/2021					




NLR_003 Periodic reports
% Based on LAF , 10ms Class width: 0.2 dB 11/04/2021 11:48:16 AM - 11:58:16 AM
100
90
80
70
60
50
40
30
20
10
0
20 30 40 50 60 70 80 90 100 110 120 130 140 dB
L1 = 63.2 dB
L5 = 61.2 dB
L10 = 60.4 dB
L50 = 58.6 dB
L90 = 57.3 dB
L95 = 57.1 dB
L99 = 56.6 dB
Level
Cumulative
Cursor: [78.2 ; 78.4[dB Level: 0.0% Cumulative: 0.0%

TRAFFIC NOISE LEVELS AND NOISE CONTOURS

Project Number: 186794
Project Name: 270-282 North Los Robles Avenue Project
Scenario: Existing

Background Information

Model Description: FHWA Highway Noise Prediction Model (FHWA-RD-77-108) with California Vehicle Noise (CALVENO) Emission Levels.
Source of Traffic Volumes: Iteris, Inc. (January 2022)
Community Noise Descriptor: L_{dn}: _____ CNEL: x

Assumed 24-Hour Traffic Distribution:	Day	Evening	Night
Total ADT Volumes	77.50%	12.90%	9.60%
Medium-Duty Trucks	84.80%	4.90%	10.30%
Heavy-Duty Trucks	86.50%	2.70%	10.80%

Analysis Condition				Design		Vehicle Mix		Distance from Centerline of Roadway					
		Median	ADT	Speed	Alpha	Medium	Heavy	CNEL at	Distance to Contour				Calc
Roadway, Segment	Lanes	Width	Volume	(mph)	Factor	Trucks	Trucks	100 Feet	70 CNEL	65 CNEL	60 CNEL	55 CNEL	Dist
Euclid Avenue													
Between Corson Street and Walnut Street	2	0	1,010	30	0.5	1.8%	0.7%	47.9	-	-	-	34	100
Oakland Avenue													
Between Corson Street and Walnut Street	2	0	531	25	0.5	1.8%	0.7%	43.6	-	-	-	-	100
Madison Avenue													
Between Corson Street and Walnut Street	2	0	1,559	25	0.5	1.8%	0.7%	48.3	-	-	-	36	100
El Molino Avenue													
Between Corson Street and Walnut Street	2	0	6,921	25	0.5	1.8%	0.7%	54.8	-	-	45	96	100

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

TRAFFIC NOISE LEVELS AND NOISE CONTOURS

Project Number: 186794
Project Name: 270-282 North Los Robles Avenue Project
Scenario: Existing+Project

Background Information

Model Description: FHWA Highway Noise Prediction Model (FHWA-RD-77-108) with California Vehicle Noise (CALVENO) Emission Levels.
Source of Traffic Volumes: Iteris, Inc. (January 2022)
Community Noise Descriptor: L_{dn}: _____ CNEL: x

Assumed 24-Hour Traffic Distribution:	Day	Evening	Night
Total ADT Volumes	77.50%	12.90%	9.60%
Medium-Duty Trucks	84.80%	4.90%	10.30%
Heavy-Duty Trucks	86.50%	2.70%	10.80%

Analysis Condition				Design		Vehicle Mix		Distance from Centerline of Roadway					
		Median	ADT	Speed	Alpha	Medium	Heavy	CNEL at	Distance to Contour				Calc
Roadway, Segment	Lanes	Width	Volume	(mph)	Factor	Trucks	Trucks	100 Feet	70 CNEL	65 CNEL	60 CNEL	55 CNEL	Dist
Euclid Avenue													
Between Corson Street and Walnut Street	2	0	1,010	30	0.5	1.8%	0.7%	47.9	-	-	-	34	100
Oakland Avenue													
Between Corson Street and Walnut Street	2	0	608	25	0.5	1.8%	0.7%	44.2	-	-	-	-	100
Madison Avenue													
Between Corson Street and Walnut Street	2	0	1,559	25	0.5	1.8%	0.7%	48.3	-	-	-	36	100
El Molino Avenue													
Between Corson Street and Walnut Street	2	0	6,985	25	0.5	1.8%	0.7%	54.8	-	-	45	97	100

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

iteris®

282 N Los Robles Avenue Transportation Impact Analysis CEQA Evaluation

Final Report

January 31, 2022

Submitted to:

11547.22 | Prepared by **Iteris, Inc.**

Innovating Through Informatics™

TABLE OF CONTENTS

TABLES

FIGURES

1 INTRODUCTION

This report summarizes the results of a transportation analysis for the proposed multi-family residential development project, hereinafter referred to as the "project", located at 282 North Los Robles Avenue in the City of Pasadena, CA. This report provides CEQA analysis including the net changes in vehicle miles traveled (VMT) per capita, vehicle trips per capita (VT), the project impact on service population proximity access to transit and bike facilities and walk accessibility score.

1.1 Project Description

The proposed project consists of a 6-story, 105-unit multi-family residential development with subterranean parking. The proposed project will have 161 parking spaces. The project site currently consists of a public surface parking lot. Vehicle access to the new subterranean parking garage would be provided at the northeastern end of the site on Corson Street. **Figure 1** illustrates the project site plan.

Legend

1. Natural Color Concrete Paving
2. Dog Run
3. Boulder, typ.
4. Bench, typ.
5. Gate, typ.
6. Fence, typ.
7. Planter
8. Tree, typ.
9. Cafe Table, typ.

NOT TO SCALE

TREE REMOVAL AND REPLACEMENT

TREE #	REMOVAL TREE	DHB	H	S	REPLACEMENT TREE	Size
4	Phoneix canariensis Canary Island Date Palm	BT-40'	48'	20'	Geijera parviflora Australian Willow	36" Box
5	Sequioa sempervirens Redwood	29.4	45'	0	Geijera parviflora Australian Willow	36" Box
6	Sequioa sempervirens Redwood	24.3	50'	27'	Geijera parviflora Australian Willow	36" Box
7	Sequioa sempervirens Redwood	29.4	35'	0	Geijera parviflora Australian Willow	36" Box

2 EXISTING TRANSPORTATION NETWORK

This section describes the roadway system and transit service within the project vicinity.

2.1 Existing Street System

The existing configurations of the transportation network within the study area are described below:

Marengo Avenue is a City Connector that is oriented in a north-south direction. The roadway consists of two lanes in each direction. On-street parking is provided south of Walnut Street and north of Maple Street. Shared-bike lanes are provided along the roadway. The roadway has a posted speed limit of 35 mph northbound and 25 mph southbound.

Euclid Avenue is an Access Roadway that is oriented in a north-south direction consisting of one lane in each direction. On-street parking is provided on both sides of the roadway.

Los Robles Avenue is a City Connector that is oriented in a north-south direction. The roadway consists of two lanes in each direction. On-street parking is provided south of Walnut Street. The roadway has a posted speed limit of 30 mph.

Oakland Avenue is an Access Roadway that is oriented in a north-south direction consisting of one lane in each direction. On-street parking is provided on both sides of the roadway.

El Molino Avenue is a Neighborhood Connector that is oriented in a north-south direction. The roadway consists of one lane in each direction On-street parking is provided on both sides of the roadway. The roadway has a posted speed limit of 25 mph northbound and 30 mph southbound.

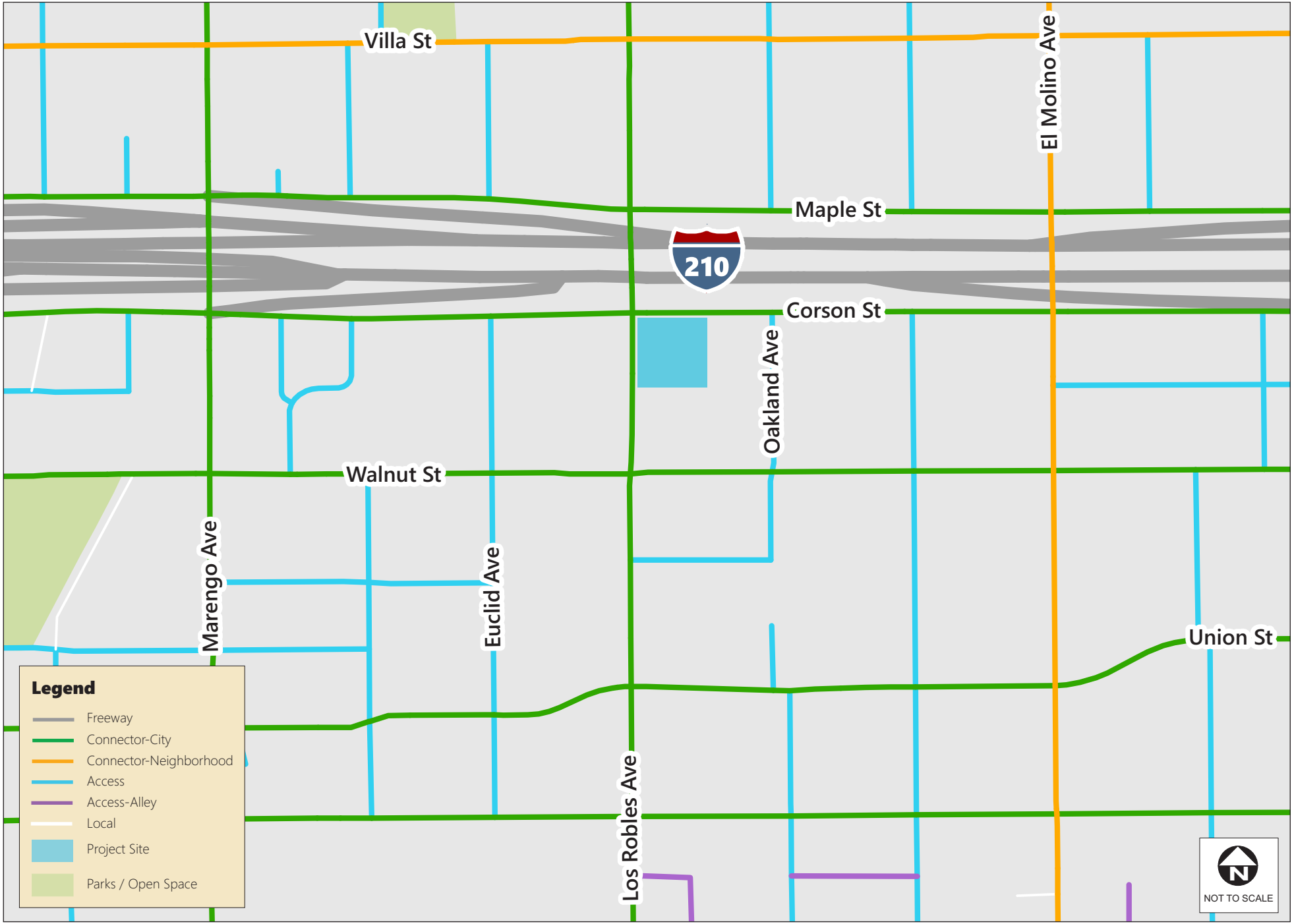
Maple Street is a City Connector that is oriented in an east-west direction. The roadway consists of two lanes of traffic, traveling westbound only. Early morning and evening only on-street parking is provided on the north side of the street. Bike lane is provided going westbound. The roadway has a posted speed limit of 35 mph.

Corson Street is a City Connector that is oriented in an east-west direction. The roadway consists of two lanes of traffic, traveling eastbound only. On-street parking is not provided. A bike lane is provided in the westbound direction. The roadway has a posted speed limit of 35 mph.

Walnut Street is a City Connector that is oriented in an east-west direction. The roadway consists of two lanes in each direction. On-street parking is not provided. The roadway has a posted speed limit of 35 mph.

Union Street is a City Connector that is oriented in an east-west direction. The roadway consists of three lanes of traffic, traveling westbound only. On-street parking is provided on both sides. The roadway has a posted speed limit of 25 mph.

Figure 2 shows the existing street network and classifications in the study area.



iteris

City of Pasadena
282 N Los Robles
Transportation Impact Analysis

Figure 2
Roadway Classification

2.2 Existing Transit Service

LA Metro, LADOT Transit, and Pasadena Transit are the main transit service providers in the study area. The bus stop locations are summarized in **Table 1**.

Table 1: Existing Transit Service

Location	LA Metro Route	Pasadena Transit	LADOT Transit
Marengo Avenue / Corson Street: Northwest corner	None	20cc	None
Marengo Avenue / Corson Street: Northeast corner	None	20cw	None
Marengo Avenue / Walnut Street: Northwest corner	256	20cc 40	None
Marengo Avenue / Walnut Street: Southeast corner	None	40	None
Garfield Avenue / Walnut Street: Northside (westbound)	None	40	549
Garfield Avenue / Walnut Street: Southside (eastbound)	None	40	549
Los Robles Avenue / Maple Street: Southeast corner	662	40	None
Los Robles Avenue / Walnut Street: Northwest corner	None	40	None
Los Robles Avenue / Walnut Street: Northeast corner	662	40	None
Los Robles Avenue / Walnut Street: Southwest corner	662	None	None
Los Robles Avenue / Union Street: Northeast corner	662	None	None
Los Robles Avenue / Union Street: Southwest corner	662	None	None

3 TRANSPORTATION ANALYSIS METHODOLOGY

This section discusses the methodologies and thresholds used in the CEQA transportation analysis. There are several performance measures that are analyzed for this study. These performance measures assess the quality of walking, biking, transit, and vehicular activity in the City:

- Vehicle Miles Traveled (VMT) per Capita;
- Vehicle Trips (VT) per Capita;
- Proximity and Quality of the Bicycle Network;
- Proximity and Quality of the Transit Network; and
- Pedestrian Accessibility.

Analyzing these performance measures is critical to being consistent with the sustainability goals of the General Plan and evaluating different travel modes to understand the needs of the community. After the performance measures are calculated, the values are compared to the City of Pasadena CEQA thresholds of significance to determine significant impact. **Table 2** details the thresholds of significance used in the study.

Table 2: City of Pasadena CEQA Thresholds of Significance

Metric	Description	Impact Threshold
VMT per Capita	Vehicle Miles Traveled (VMT) in the City of Pasadena per service population (population + jobs/employees)	Net change in VMT per capita is 16.8% below Citywide average baseline **2017 Baseline: 35.6** **16.8% Below Baseline Threshold: 29.6**
VT per Capita	Vehicle Trips (VT) in the City of Pasadena per service population	Net change in VT per service population is 16.8% below Citywide average baseline **2017 Baseline: 4.2** **16.8% Below Baseline Threshold: 3.5**
Proximity and Quality of Bicycle Network	Percent of service population within a ¼ mile of bicycle facility types.	Any decrease in baseline Citywide service population within a ¼ mile of Level 1 or 2 bike facilities. **2017 Baseline**: **32.3%**
Proximity and Quality of Transit Network	Percent of service population located within a ¼ mile of transit facility	Any decrease in baseline Citywide service population within a ¼ miles of Level 1 or 2 transit facilities. **2017 Baseline: 66.8%**
Pedestrian Accessibility	The Pedestrian Accessibility Score uses the mix of destinations and a network-based walkshed to evaluate walkability	Any decrease in the Citywide Pedestrian Accessibility Score **2017 Baseline: 3.9**

3.1 Vehicle Miles Traveled per Capita

VMT per capita is calculated by aggregating the miles traveled for trips from the City of Pasadena Travel Demand Model, which is derived from the Southern California Association of Governments (SCAG) regional model. The total VMT consists of 100% of the miles traveled for trips that start and finish within the City and 100% of the miles traveled for trips with one end outside of the City. The total VMT is divided by the City's total service population (population + jobs/employees) to derive VMT per capita.

VMT tends to increase with the addition of number of people/residents in the population. Therefore, the City can reduce VMT per capita with strategic land use policies that reduce the distance average Pasadena residents travel daily and building more developments in areas with access to diverse modes of transportation such as transit and bikes.

3.2 Vehicle Trips per Capita

VT per capita is the sum of the origins and destination trips within the City, which is generated by the City of Pasadena Travel Demand Model. Regional VT is calculated by aggregating the VT within the City and 100% of the VT that either start or end in the City with one trip end outside of the City. The final City's VT is divided by the City's total service population (population + jobs/employees).

Similar to the VMT, VT tends to increase with the addition of number of people/residents in the population. Therefore, the City can reduce VT per capita with strategic land use policies that reduce the distance average Pasadena residents travel daily and building more developments in areas with access to diverse modes of transportation such as transit and bikes.

3.3 Proximity and Quality of Bicycle Network

The proximity and quality of bicycle network is measured by the percent of the City's service population, which are residents and number of jobs/employees, within a quarter mile of bicycle facility types. There are three levels of bicycle facilities based on the City's Bicycle Transportation Plan, and those three levels are summarized in **Table 3**.

Table 3: Bicycle Facilities Hierarchy

Level	Description	Facilities Included
1	Advanced Facilities	Bike Paths Multipurpose Paths Cycle Tracks/Protected Bike Lanes
2	Dedicated Facilities	Buffered Bike Lanes Bike Lanes Bike Boulevards
3	Basic Facilities	Bike Routes Enhanced Bike Routes Emphasized Bikeways

For the analysis, total service population within a quarter-mile buffer of levels 1 and 2 bicycle networks was identified.

3.4 Proximity and Quality of Transit Network

The proximity and quality of transit network is measured by the percent of the City's service population within a quarter mile of transit facility types. There are three levels of transit facilities as summarized in **Table 4**.

Table 4: Transit Facilities Hierarchy

Level	Facilities Included
1	Includes all Gold Line stops as well as corridors with transit service, Whether it be a single route or multiple routes combined, with headways of five minutes or less during peak periods.
2	Includes corridors with transit headways of between six and 15 minutes in peak periods.
3	Includes corridors with transit headways of 16 minutes of more at peak periods.

For the analysis, total service population within a quarter-mile buffer of levels 1 and 2 transit networks was identified.

3.5 Pedestrian Accessibility

Pedestrian accessibility score is calculated by measuring the average walkability in the project TAZ, based on an accessibility metric. The metric consists of number of land use types accessible to a resident or an employee in the project TAZ within a 5-minute walk. The land uses used in the metric are:

- Retail
- Personal Services
- Restaurant
- Entertainment
- Office (including private sector and government offices)
- Medical (including medical office and hospital uses)
- Culture (including churches, religious, and other cultural uses)
- Park and Open Space
- School (including elementary and high schools)
- College

4 TRANSPORTATION IMPACT ANALYSIS

This section includes the CEQA transportation analysis utilizing the methodologies described in Section 3.

4.1 VMT and VT Analysis

VMT per Capita and VT per Capita are analyzed using the City's travel demand model which uses TransCAD to simulate travel volumes and patterns for the City of Pasadena. **Table 5** summarizes the results of the proposed project's VMT and VT impacts on the transportation system using the travel demand model and performance measure module. The results are based on a project's motorized and non-motorized travel patterns, trip length, and surrounding land uses, and the City's transportation network. **Appendix A** includes the model output module used to calculate the performances measures.

As summarized in **Table 5**, the incremental/net change in both VMT per capita and VT per capita as a result of the project is not forecast to exceed the thresholds set forth in the City's guidelines (i.e., 16.8% below baseline values).

Table 5: VMT and VT Performance Measures Analysis Results

Transportation Performance Measures	16.8% Baseline Value	Project-related Incremental Change	Impact?
VMT Per Capita	29.6 VMT per Capita	+13.0 VMT per Capita	No
VT Per Capita	3.5 VT per Capita	+ 2.6 VT per Capita	No

4.2 Proximity and Quality of Bicycle and Transit Networks

The proposed 105-unit multi-family residential development project would increase the service population on the site as compared to the existing use. As such, citywide service population in the existing plus project scenario would be greater than the citywide service population in the existing scenario. **Table 6** summarizes the existing and existing plus project evaluation of the Proximity and Quality of Bicycle and Transit networks.

As summarized in **Table 6**, the project does not exceed the Proximity and Quality of Bicycle and Transit Network thresholds.

Table 6: Proximity and Quality of Bicycle and Transit Network Performance Measures Analysis Results

Transportation Performance Measures	Existing Value	Existing Plus Project Value	Impact?
Proximity and Quality of Bicycle Network	32.3% of population and jobs	≥ 32.3% of population and jobs	No
Proximity and Quality of Transit Network	66.8% of population and jobs	≥ 66.8% of population and jobs	No

4.3 Pedestrian Accessibility

Given the average walkability in the zone because of the number of land use types accessible to the service population, the Pedestrian Accessibility score would not be decreased. Therefore, the project would not exceed the Pedestrian Accessibility threshold. **Table 7** summarizes the existing and existing plus project evaluation of the pedestrian accessibility. As summarized in **Table 7**, the project does not exceed the pedestrian accessibility threshold.

Table 7: Pedestrian Accessibility Analysis Results

Transportation Performance Measures	Existing Value	Existing Plus Project Value	Impact?
Pedestrian Accessibility	C – 3.9 land use types	C – 3.9 land use types	No

5 CONCLUSIONS

Iteris prepared a CEQA transportation impact analysis for the proposed multi-family residential development project, located at 282 North Los Robles Avenue in the City of Pasadena. The proposed project consists of a 6-story, 105-unit multi-family residential development with subterranean parking. The project site currently consists of a public surface parking lot. Vehicle access to the new subterranean parking garage would be provided at the northeastern end of the site on Corson Street.

The following describe the results of the CEQA analysis:

- The project is not forecast to exceed the VMT per Capita threshold.
- The project is not forecast to exceed the VT per Capita threshold.
- The project is not forecast to exceed the Proximity and Quality of Bicycle Network Thresholds.
- The project is not forecast to exceed the Proximity and Quality of Transit Network thresholds.
- The project is not forecast to exceed the Pedestrian Accessibility threshold.

282 N Los Robles Avenue
Transportation Impact Analysis
CEQA Evaluation
Technical Appendix

Submitted to:

11547.22 | Prepared by **Iteris, Inc.**

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APPENDIX A – TDF MODEL OUTPUTS

Daily Trips	Internal	External
Internal	381,823	335,711
External	335,711	534,566

Pop	137,111
Emp	113,160
Ext. Factor	100%

FINAL REDUCED DAILY VMT BY SPEED BIN					EMFAC
Speed	**Internal**	**External**	**Regional**	**Total**	**INPUT**
5	178	0	5,270	5,447	0%
10	1,338	653	28,825	30,815	0%
15	10,030	3,121	89,038	102,190	1%
20	18,972	11,183	184,491	214,646	2%
25	108,243	24,254	344,112	476,610	5%
30	513,408	115,665	676,500	1,305,573	15%
35	855,624	261,725	760,341	1,877,690	21%
40	154,443	89,756	477,373	721,573	8%
45	102,773	41,603	366,190	510,566	6%
50	79,373	14,013	441,102	534,489	6%
55	70,046	169,321	460,491	699,859	8%
60	97,053	37,199	425,077	559,329	6%
65	505,957	90,543	319,500	916,001	10%
70	1,882	412	801,738	804,032	11%
75	0	0	137,649	137,649	
80	0	0	0	0	
85	0	0	0	0	
SUM	**2,519,321**	**859,449**	**5,517,699**	**8,896,469**	**100%**

TOTAL RAW DAILY SUMMARY					
Metric	**Internal**	**External**	**Regional**	**Total**	**Capita**
VMT	2,519,321	859,449	5,517,699	8,896,469	35.5
VT	381,823	671,423	-	1,053,246	4.2
Length	6.6	1.3	-	8.4	-

REDUCED DAILY SUMMARY					
Metric	**Internal**	**External**	**Regional**	**Total**	**Capita**
VMT	2,519,321	859,449	5,517,699	8,896,469	35.5
VT	381,823	671,423	-	1,053,246	4.2
Length	6.6	1.3	-	8.4	-

FINAL DAILY SCENARIO SUMMARY					
Pop	**Emp**	**VMT**	**VT**	**VMT/Cap**	**VT/Cap**
137,111	113,160	8,896,469	1,053,246	35.5	4.2

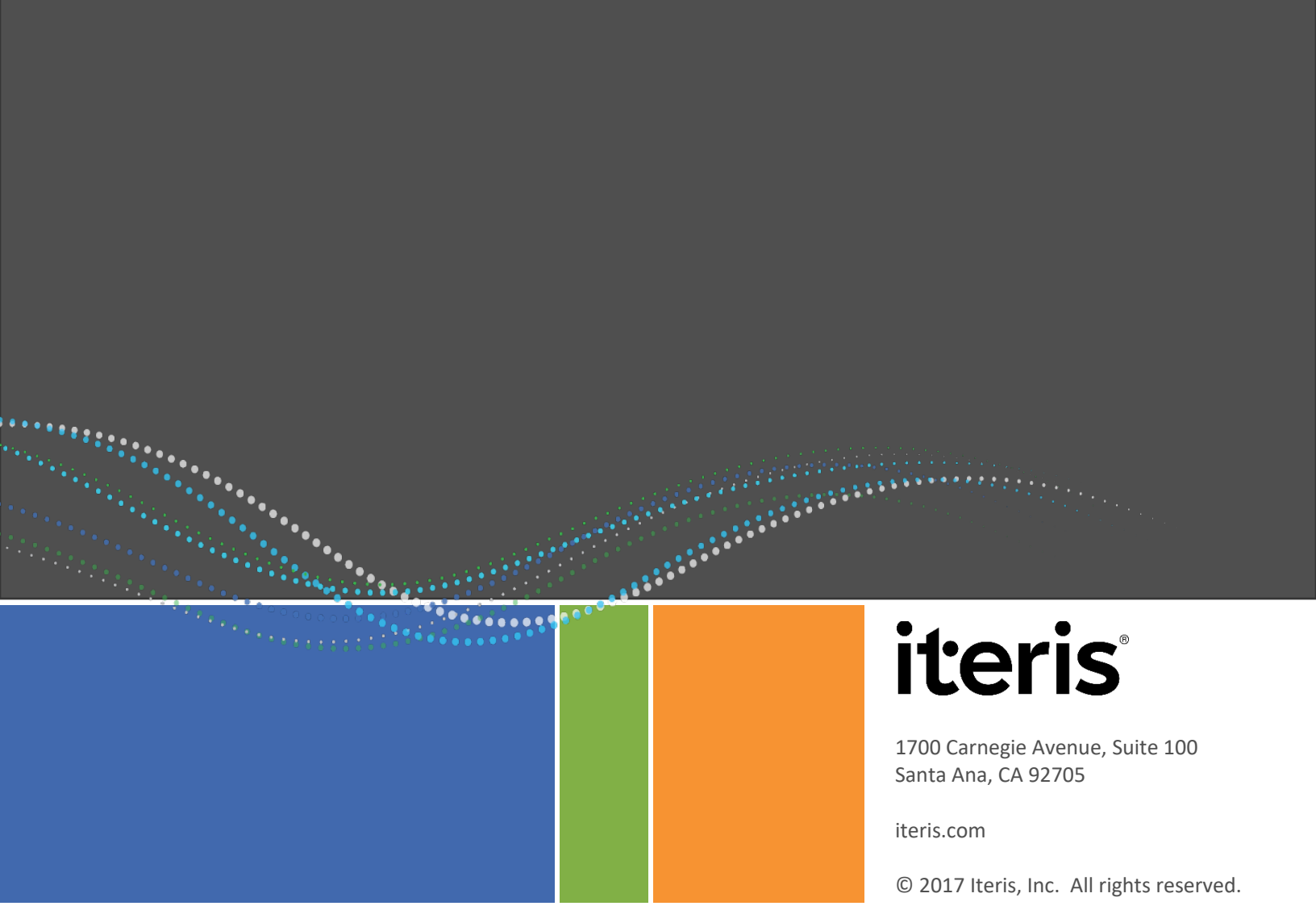
2017 EXISTING SUMMARY					
Pop	**Emp**	**VMT**	**VT**	**VMT/Cap**	**VT/Cap**
136,911	113,160	8,893,871	1,052,731	35.6	4.2

INCREMENTAL SCENARIO RESULTS					
Pop	**Emp**	**VMT**	**VT**	**VMT/Cap**	**VT/Cap**
200	0	2,597	515	13.0	2.6
				PASS	PASS

Pasadena Project Level Performance Criteria

Project: 282 N Los Robles

METRIC	DESCRIPTION	IMPACT THRESHOLD	EXISTING VALUE	PLUS PROJECT VALUE	IMPACT
VMT Per Capita	Vehicle Miles Traveled (VMT) in the City of Pasadena per service population (population + jobs)	Net change in VMT per service population is 16.8% below Citywide average baseline 2017 Baseline: 35.6	29.6 VMT per capita	13 VMT per capita	No
VT Per Capita	Vehicle Trips (VT) in the City of Pasadena per service population	Net change in VT per service population is 16.8% below Citywide average baseline 2017 Baseline: 4.2	3.5 VT per capita	2.6 VT per capita	No
Proximity and Quality of Bicycle Network	Percent of service population within a ¼ mile of bicycle facility types	Any decrease in baseline Citywide service population within a ¼ mile of Level 1 or 2 bike facilities	32.3% of population and jobs	32.3% of population and jobs	No
Proximity and Quality of Transit Network	Percent of service population located within a ¼ mile of transit facility types	Any decrease in baseline Citywide service population within a ¼ mile of Level 1 or 2 transit facilities	66.8% of population and jobs	66.8% of population and jobs	No
Pedestrian Accessibility	The Pedestrian Accessibility Score uses the mix of destinations and a network-based walk shed to evaluate walkability	Any decrease in the Citywide Pedestrian Accessibility Score	C – 3.9 land use types	C – 3.9 land use types	No



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