



# LAB FIVE SOCCER CENTER PROJECT

CEQA Class 32

Categorical Exemption Report

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**LEAD AGENCY: CITY OF GARDENA**

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This report serves as the technical documentation of the environmental analysis for the proposed Lab Five Soccer Center Project (Project) in the City of Gardena. The analysis is intended to document whether the Project is eligible for a Class 32 Categorical Exemption (CE) under the California Environmental Quality Act (CEQA).

## 1.0 INTRODUCTION

CEQA Guidelines Section 15332, In-fill Development Projects, states a Class 32 consists of projects characterized as in-fill development meeting the following conditions:

- (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.

## 2.0 PROJECT DESCRIPTION

### 2.1 Project Location

The Lab Five Soccer Center Project (Project) site is located in the City of Gardena within the County of Los Angeles; refer to Exhibit 1, Regional Vicinity. The Project site is approximately 1.5 acres located at 14000 Halldale Avenue (APN 6102-020-021); refer to Exhibit 2, Project Location.

Regional access to the site is provided via the Harbor Freeway (Interstate [I] 110) to the east, the Artesia Freeway (SR-91) to the south, and the Glen Anderson Freeway (I-105) to the north of the site. Local access to the site is provided directly from Halldale Avenue. Within the project area, Halldale Avenue is accessed from West 139<sup>th</sup> Street to the north and 141<sup>st</sup> Street to the south. Both 139<sup>th</sup> and 141<sup>st</sup> Streets are accessed by Normandie Avenue on the east and Western Avenue on the west. There is one driveway along Halldale Avenue at the southwest corner of the Project site.

### 2.2 Existing Setting

#### On-Site Land Uses

The Project site was recently occupied by a hauling and demolition business. The Project site is primarily paved with a concrete slab and contains one two-story office structure and a single-story storage building situated adjacent to Brighton Avenue. A 10-foot high block wall surrounds the perimeter of the Project site. Swinging metal gates are located across the site's driveway. A sidewalk and landscape planter are located adjacent to the Project site along Brighton Avenue and a portion of Halldale Avenue.

## General Plan and Zoning

According to the City of Gardena Land Use Map (General Plan Land Use Element Figure LU-2), the Project site is designated Industrial. The Industrial land use designation allows for a wide variety of clean and environmentally friendly industries, technology-related uses and supporting facilities, and business parks. The maximum floor area ratio (FAR) is 1.0 in general; up to 2.0 for specific uses described in the Zoning Code. The City of Gardena Zoning Map identifies the zoning for the Project site as M-1 (Industrial).

## Surrounding Uses

Uses surrounding the Project site include:

- North and West: Directly north and west of the Project site are four single-family residences fronting 139<sup>th</sup> Street and Halldale Avenue zoned M-1. North of 139<sup>th</sup> Street are commercial/industrial uses zoned M-1. West of Halldale Avenue are commercial/industrial uses zoned M-2.
- East: The Project site is bounded on the east by Brighton Avenue. East of Brighton Avenue are a single-family residence and multi-family residential (Poinsettia Gardens) uses, as well as commercial/industrial uses. Areas to the east of the Project site are zoned M-1.
- South: Directly south of the Project site is a refuse container storage yard, zoned M-1.

## 2.3 Project Characteristics

The Applicant proposes to construct a 5-a-side soccer center facility at the approximately 1.5-acre site. The proposed Lab Five Soccer Center would consist of seven 50-feet by 98-feet soccer fields with low rebound walls, netting, and 20-foot high light poles illuminated by LED down lights; refer to Exhibit 3, Proposed Site Plan and Exhibit 4, Proposed Typical Soccer Field Elevations. The center would be open 9:00 AM to 11:00 PM seven days a week. However, three of the soccer fields (fields 5, 6, and 7) would only be available for use from 9:00 AM to 10:00 PM.

The existing office building (2,786 square feet) would be retained and the storage building (200 square feet) would be removed to allow for an outdoor seating area. Minor interior improvements would be made to the existing office building and approximately 878 square feet of the existing 2,786-square-foot office would be converted to an incidental café use for patrons of the Lab Five Soccer center; refer to Exhibit 5, Proposed First Floor Plan. The existing restroom facilities would also be reconstructed to provide three new single-use occupancy accessible restrooms. The exterior of the existing office structure would primarily remain unchanged; the existing door would be replaced and the structure would be painted; refer to Exhibit 6, Existing and Proposed Building Elevations.

The perimeter concrete wall would be retained. The portion of the wall extending adjacent to the existing driveway, within the interior of the site, and the swinging metal gates that extend across the driveway would be removed. The driveway would be extended within the interior of the site to provide access to the proposed parking area. The Project would include 40 parking spaces. A proposed concrete walkway would extend from the northwestern corner of the parking area between the proposed soccer fields to the office and café building. A pedestrian gate would provide access to the Project site from Brighton Avenue. Bicycle racks would be provided adjacent to the office and café building.

Existing landscaping adjacent to the Project site and Brighton and Halldale Avenues would remain. New landscaping, including trees, groundcover and shrubs would be installed adjacent to the proposed parking area and trees would be provided within the proposed concrete walkway; refer to Exhibit 7, Proposed Landscape Plan.

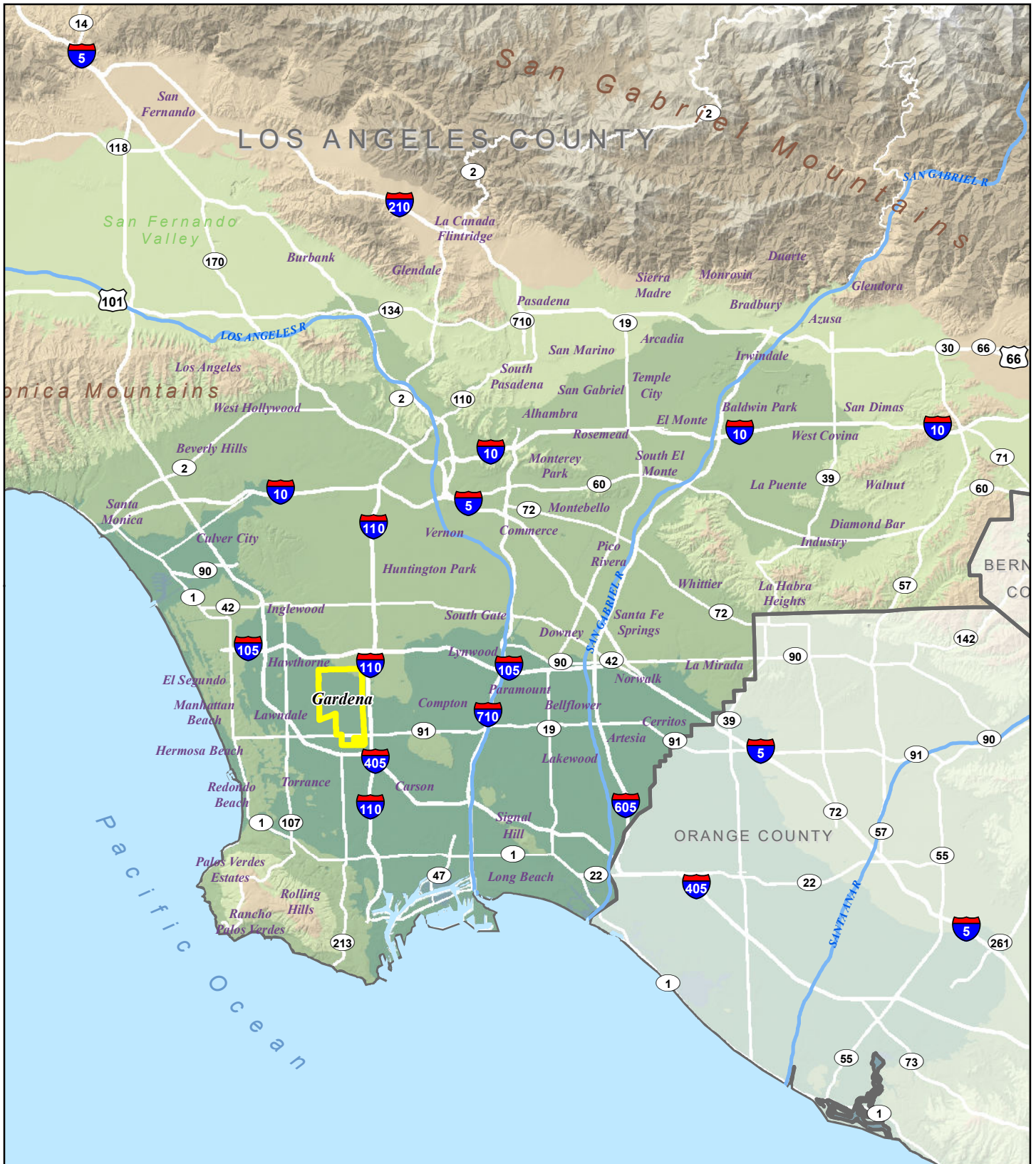
The proposed Project would continue to be served by existing utilities within the Project area that serve the Project site.

The Project is proposed to be constructed in a single phase with construction anticipated to begin in late 2021 and be completed in early 2022.

#### Discretionary Approvals

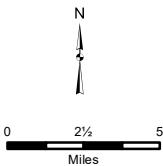
The Project is consistent with the General Plan land use and zoning designations for the site and would require the following discretionary approvals:

- Conditional Use Permit – to allow for the proposed use and alternative parking
- Site Plan Review



**Legend**

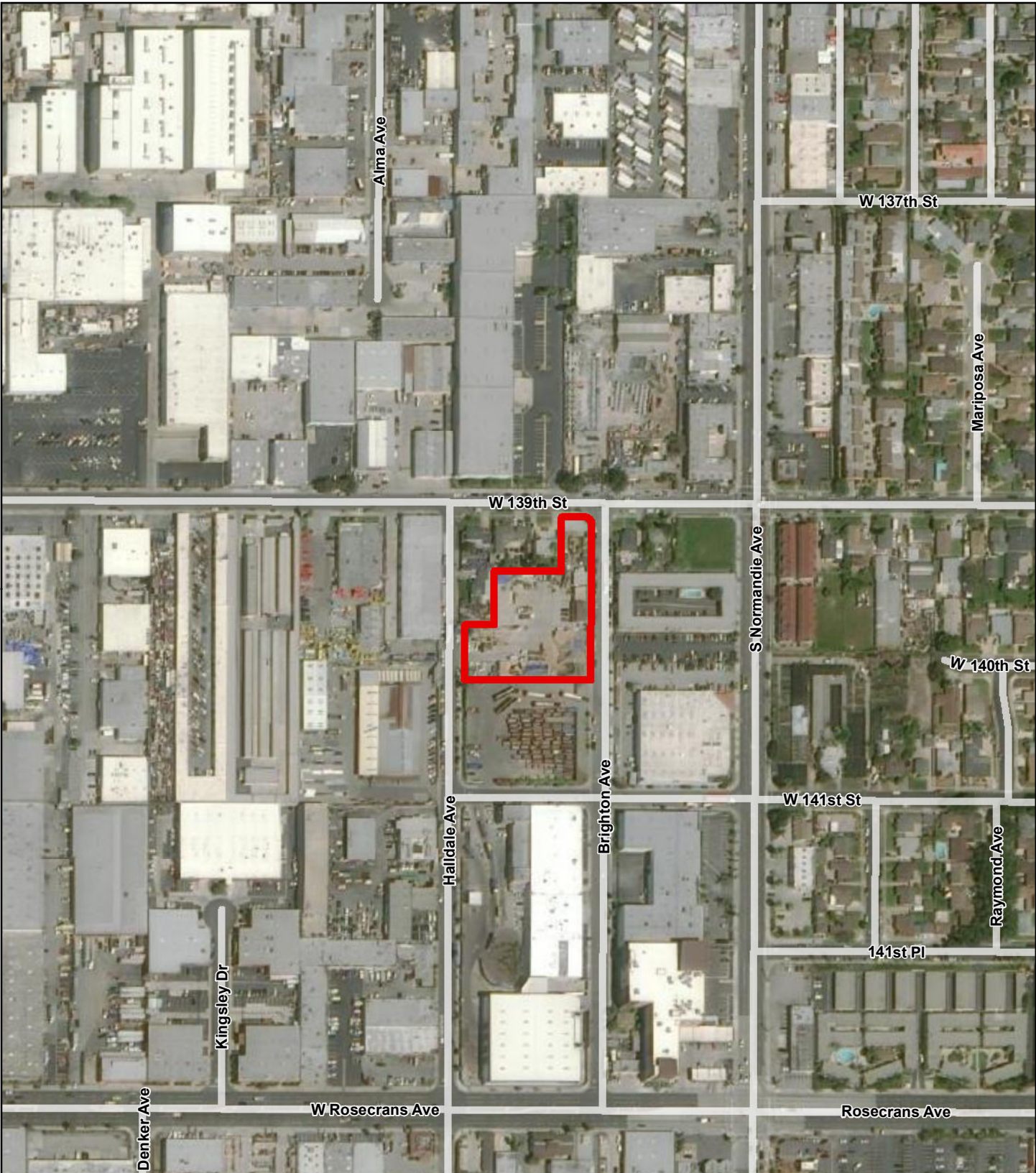
- City of Gardena
- County Boundary




**CITY OF GARDENA  
LAB FIVE SOCCER CENTER  
CEQA CLASS 32 CATEGORICAL EXEMPTION**

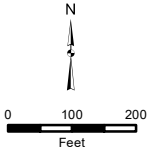
**Exhibit 1. Regional Vicinity**

Sources: CalAtlas: Los Angeles County. Map date: September 21, 2021.



**Legend**

 Project Boundary  
(APN 6102-020-021)



**CITY OF GARDENA**  
**LAB FIVE SOCCER CENTER**  
**CEQA CLASS 32 CATEGORICAL EXEMPTION**

**Exhibit 2. Project Location**




*Sources: ArcGIS Online World Imagery Map Service, 4/15/2020;  
 Los Angeles County. Map date: September 21, 2021.*

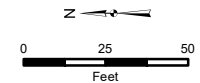
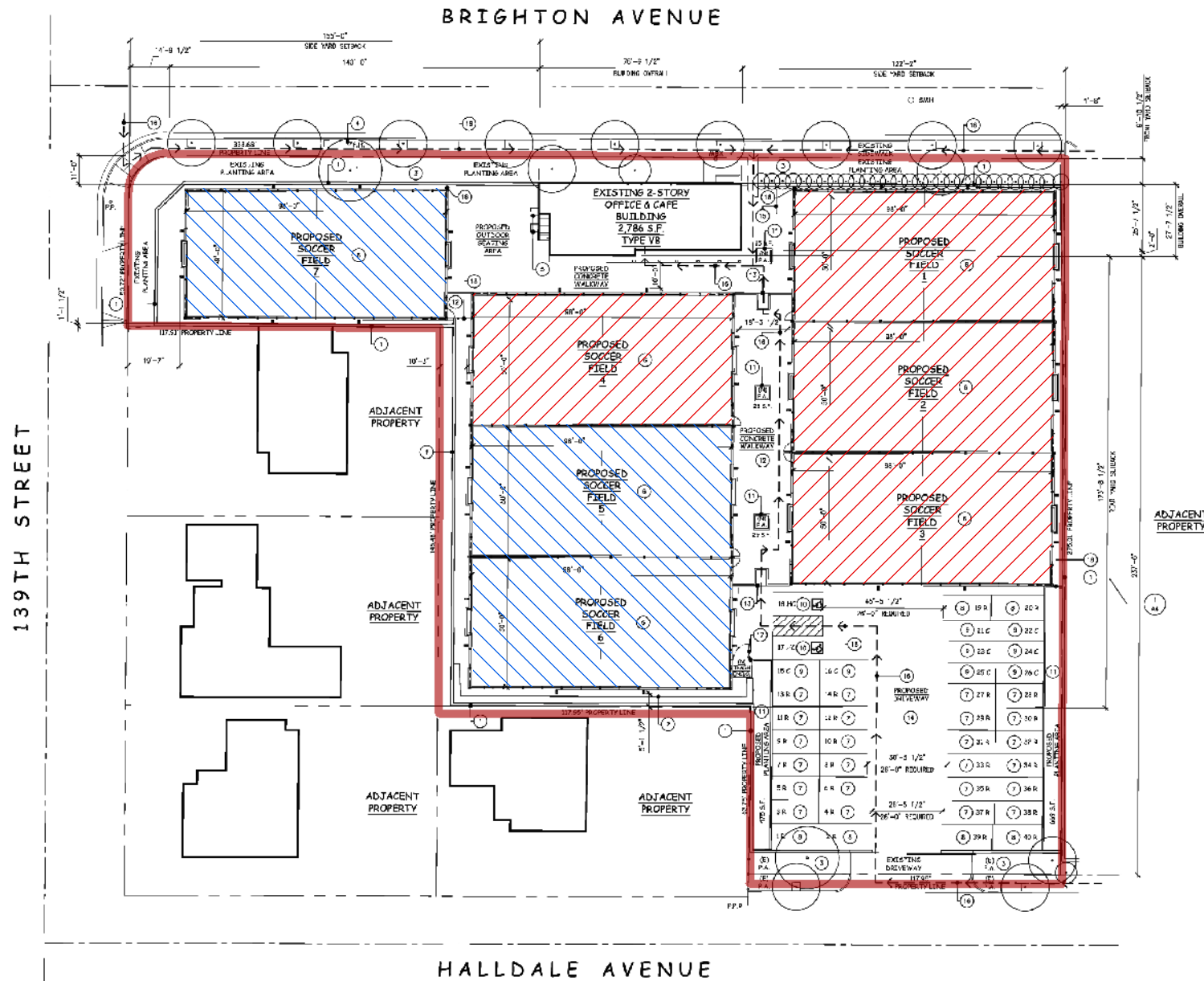


CITY OF GARDENA  
 LAB FIVE SOCCER CENTER  
 CEQA CLASS 32  
 CATEGORICAL EXEMPTION

Exhibit 3.  
 Proposed Site Plan

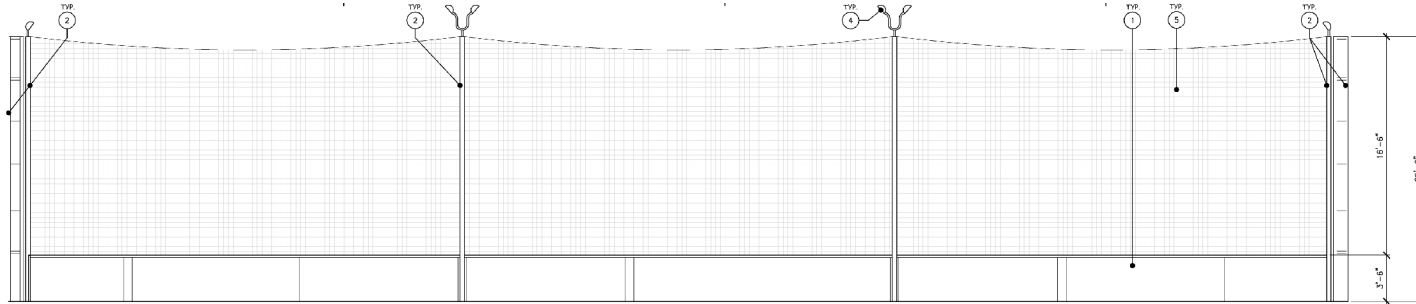
Legend

-  Project Boundary
- Operational Hours**
-  9am-11pm
-  9am-10pm

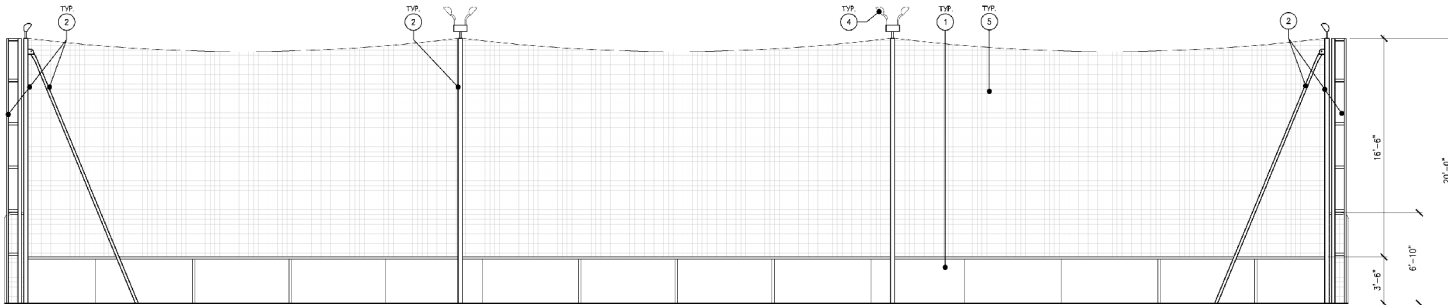


CITY OF GARDENA  
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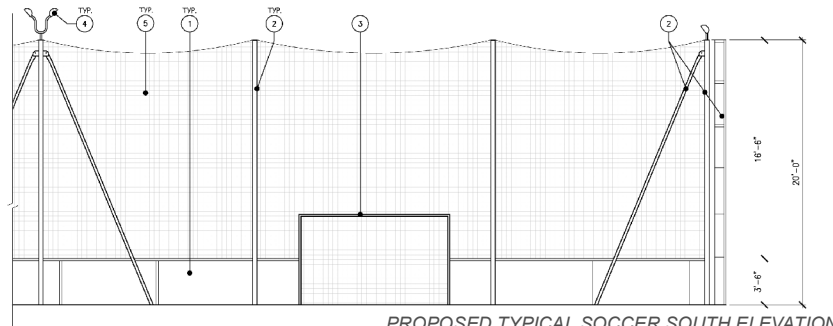
Exhibit 4.  
 Proposed Typical  
 Soccer Field Elevations



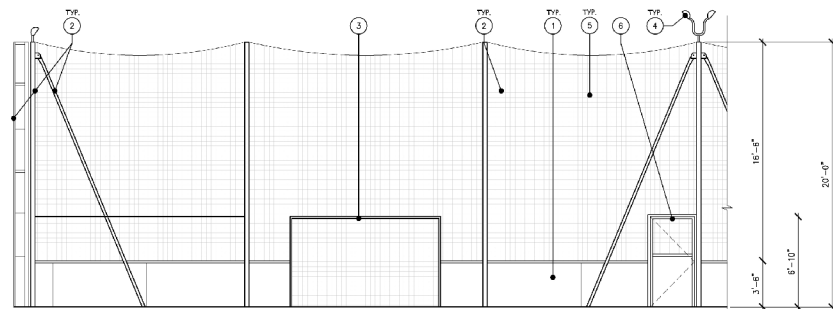
PROPOSED TYPICAL SOCCER FIELD WEST ELEVATION



PROPOSED TYPICAL SOCCER FIELD EAST ELEVATION



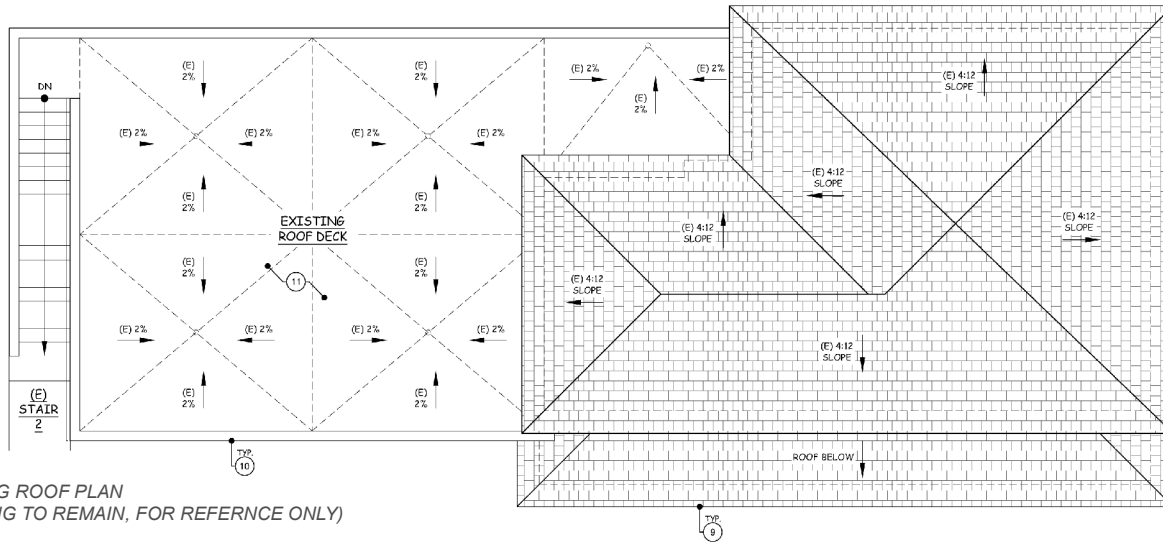
PROPOSED TYPICAL SOCCER SOUTH ELEVATION



PROPOSED TYPICAL SOCCER NORTH ELEVATION

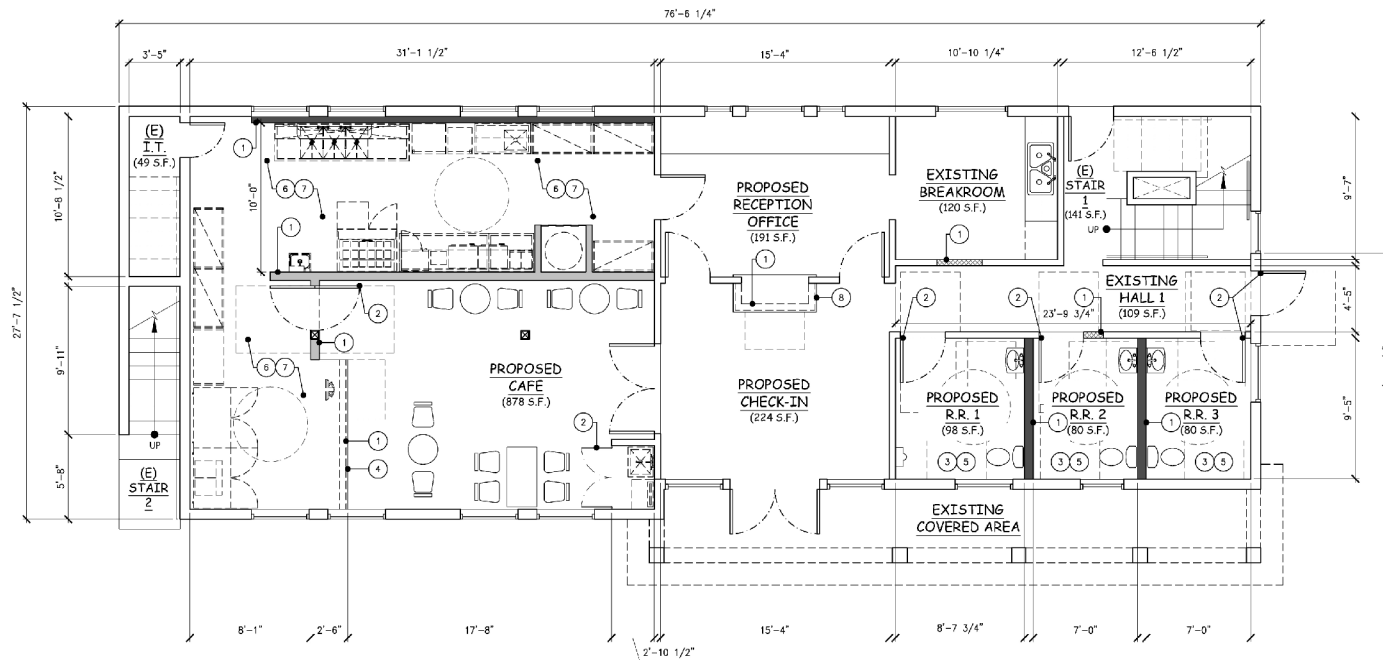
CITY OF GARDENA  
 LAB FIVE SOCCER CENTER  
 CEQA CLASS 32  
 CATEGORICAL EXEMPTION

Exhibit 5.  
 Proposed First Floor Plan

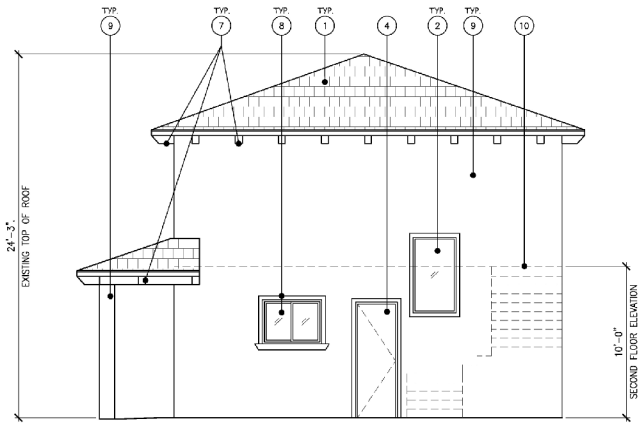


EXISTING ROOF PLAN  
 (EXISTING TO REMAIN, FOR REFERENCE ONLY)

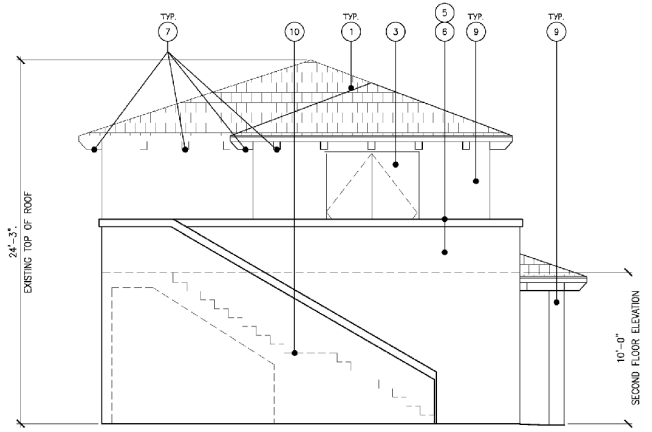
PROPOSED FIRST FLOOR PLAN



Sources: R.E.A.J. Architecture 5/28/2021. Map date: September 21, 2021.



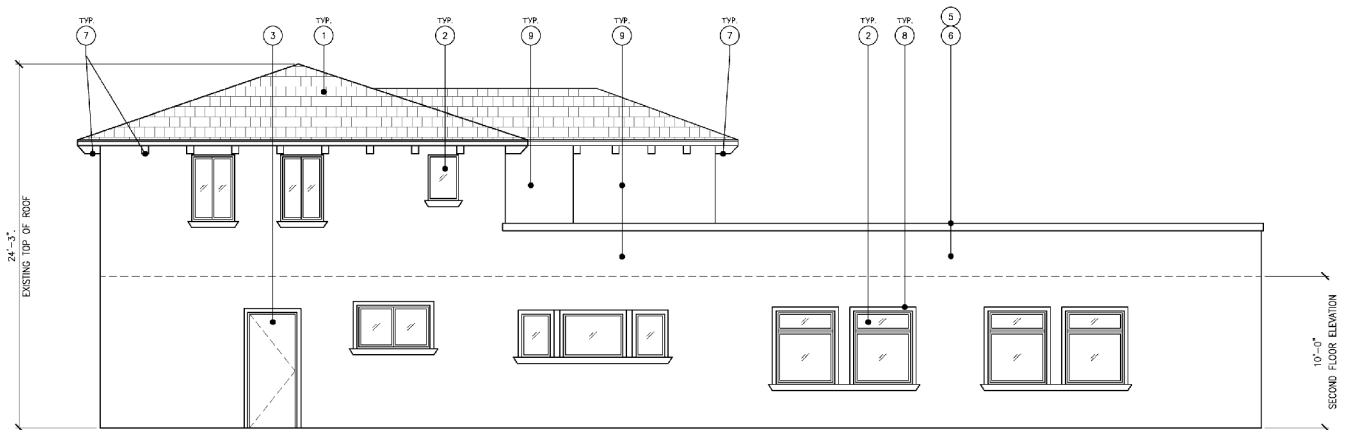
EXISTING & PROPOSED  
BUILDING SOUTH ELEVATION



EXISTING & PROPOSED  
BUILDING NORTH ELEVATION



EXISTING & PROPOSED  
BUILDING WEST ELEVATION



EXISTING & PROPOSED  
BUILDING EAST ELEVATION

**CITY OF GARDENA  
LAB FIVE SOCCER CENTER  
CEQA CLASS 32 CATEGORICAL EXEMPTION**

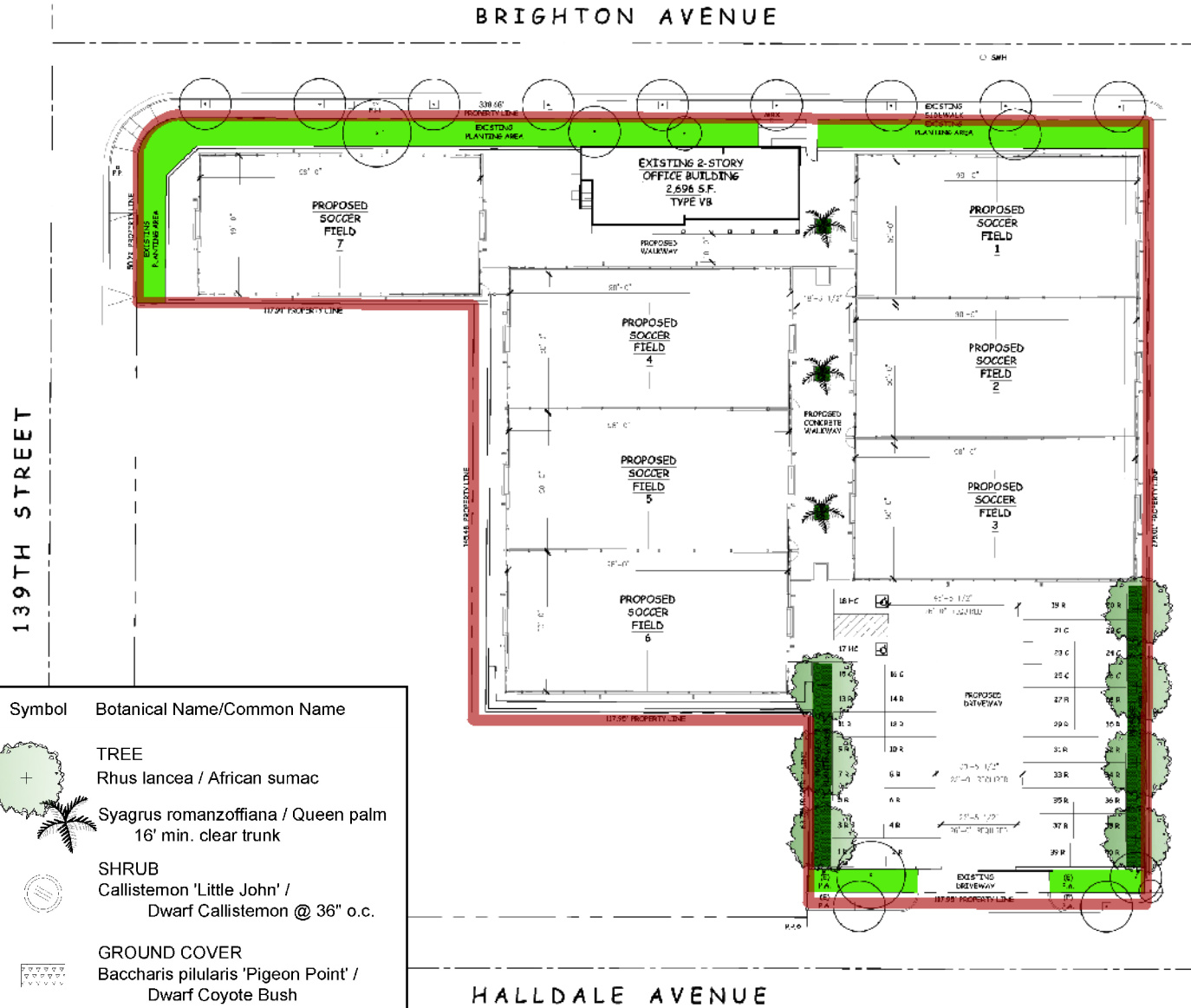
**Exhibit 6. Existing and Proposed Building Elevations**







CITY OF GARDENA  
 LAB FIVE SOCCER CENTER  
 CEQA CLASS 32  
 CATEGORICAL EXEMPTION

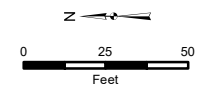
Exhibit 7.  
 Proposed  
 Landscape Plan

Legend

 Project Boundary



Symbol	Botanical Name/Common Name
	<b>TREE</b> Rhus lancea / African sumac
	Syagrus romanzoffiana / Queen palm 16' min. clear trunk
	<b>SHRUB</b> Callistemon 'Little John' / Dwarf Callistemon @ 36" o.c.
	<b>GROUND COVER</b> Baccharis pilularis 'Pigeon Point' / Dwarf Coyote Bush 559 sf @ 36" o.c. = 61 plants
	PROPOSED LANDSCAPE
	EXISTING LANDSCAPE TO REMAIN



Sources: R.E.A.J. Architecture 5/28/2021. Map date: September 21, 2021.

### 3.0 CLASS 32 CATEGORICAL EXEMPTION CRITERIA ANALYSIS

**Criterion (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.*

#### **General Plan**

According to the City of Gardena Land Use Map (General Plan Land Use Element Figure LU-2), the Project site is designated Industrial. The Industrial land use designation allows for a wide variety of clean and environmentally friendly industries, technology-related uses and supporting facilities, and business parks. The maximum floor area ratio (FAR) is 1.0 in general; up to 2.0 for specific uses described in the Zoning Code.

The Project is consistent with the Industrial land use designation and would not exceed the maximum FAR of 1.0 allowed within the Industrial land use designation. Further, the Project would be consistent with applicable General Plan policies.

#### **Zoning**

The Project site is zoned M-1 (Industrial), which allows for a variety of uses. The Project proposes a commercial soccer facility, which would be consistent with the M-1 zoning for the site with approval of a Conditional Use Permit (CUP). The proposed development would meet all property development standards for the M-1 Zone as established by Gardena Municipal Code 18.36.060 with approval of the CUP for alternative parking.

**Criterion (b)** *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 comprised of one Assessor parcel (APN 6102-020-021) totaling approximately 1.5 acres located at 14000 Halldale Avenue in the City of Gardena. As described in Section 2.0, Project Description, the Project site is located within a developed urban area with commercial, industrial, and residential uses located within the immediate area; refer to [Exhibit 2](#).

**Criterion (c)** *The project site has no value as habitat for endangered, rare or threatened species.*

The Project site is primarily paved and includes a two-story office building and single-story storage building. A mix of trees, bushes and shrubs are located around the perimeter of the Project site, adjacent to Halldale and Brighton Avenues; however, the Project site is highly disturbed and does not contain any habitat suitable for endangered, rare, or threatened species. Similarly, the Project area is located within a highly developed area of the City and does not provide habitat suitable for endangered, rare, or threatened species.

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

## **TRAFFIC**

The following analysis is based in part on the Transportation Memorandum prepared for the Lab Five Soccer Center Project (Transportation Analysis) prepared by Kittelson & Associates; refer to [Appendix A, Transportation Analysis](#).

### **Conflict with any Program, Plan, Ordinance or Policy**

#### **Transit Facilities**

The Project site and surrounding area is served by GTrans and LA Metro. GTrans provides public transportation services in the South Bay, including the cities of Gardena, Hawthorne, Compton, Carson, Harbor City, Lawndale and Los Angeles. Within the Project area, GTrans Line 2 operates on a loop circling Western, Imperial Highway, Vermont, Normandie and PCH. The closest stop to the Project site is located at Vermont Avenue and Rosecrans, approximately 0.75-mile from the Project site. Line 2 typically operates on weekdays from approximately 4:40 AM to 10:00 PM with 15- to 30-minute headways (the time between bus arrivals). On weekends, Line 2 operates from approximately 5:00 AM to 9:30 PM with 15- to 40-minute headways.

LA Metro Route 125 operates primarily along Rosecrans Avenue between the Norwalk Station and El Segundo on weekdays from approximately 4:19 AM to 8:20 PM, with approximately 20-minute headways, and on weekends beginning at 5:03 AM with approximately 30-minute headways. The nearest stop to the Project site is at Rosecrans and Normandie Avenues, approximately 0.25-mile south of the Project site.

The Project site would continue to be served by the existing transit system and would not conflict with a program plan, ordinance, or policy addressing transit and impacts would be less than significant.

#### **Roadway Facilities**

Halldale and Brighton Avenues provide access to the Project site via 139<sup>th</sup> and 141<sup>st</sup> Streets. Normandie Avenue is located one block to the east of the Project site. According to the Gardena General Plan, Normandie Avenue is a Major Collector. A Major Collector serves as an intermediate route to carry traffic between collector roadways and arterial roadways. Access to adjacent land uses is generally unrestricted. Normandie Avenue provides two lanes of travel in each direction with a center turn lane. The Gardena General Plan identifies 139<sup>th</sup> Street as a Collector. The primary function of collector roadways is to connect a defined geographic area of the city. These roadways are intended to move traffic from a local roadway to a secondary roadway. They are intended to provide access to all types of land uses and generally have no limitations on access. The Project does not propose any changes to roadways adjacent to or within the vicinity of the Project site. The Project site would continue to be accessed from the driveway located on Halldale Avenue.

#### **Bicycle Facilities**

There are no bicycle facilities adjacent to the Project site. 139<sup>th</sup> Street, between Budlong and Van Ness Avenues, is an Existing Class III Bike Route. The City adopted the South Bay Bicycle Master Plan (Bicycle Master Plan), which is a multi-jurisdictional bicycle master plan intended to guide the development and maintenance of a comprehensive bicycle network and set of programs throughout the cities in the South Bay, including Gardena. The Bicycle Master Plan (Figure 4-3) identifies proposed bicycle facilities within

Gardena. Halldale Avenue, south of 139<sup>th</sup> Street and adjacent to the Project site, is identified as a proposed Bike Friendly Street. A Bike Friendly Street is defined as local roads that have been enhanced with treatments that prioritize bicycle travel. These treatments include wayfinding signage, pavement markings, and traffic calming. The Project does not propose any modifications to 139<sup>th</sup> Street or Halldale Avenue that would conflict with the existing Class III Bike Route or conflict with the proposed Bike Friendly Street. The Project would not conflict with a program plan, ordinance, or policy addressing bicycle facilities and impacts would be less than significant.

### **Pedestrian Facilities**

Sidewalks are located adjacent to the Project site along Brighton and Halldale Avenues. However, the sidewalk on Halldale Avenue terminates and does not extend further north to 139<sup>th</sup> Street. The Project would not modify the existing sidewalks with the exception that existing damaged sidewalks fronting the Project site would be repaired as part of the Project. Pedestrian access to the Project site would be maintained along Brighton Avenue and at the driveway on Halldale Avenue. The Project would not conflict with a program, plan, ordinance or policy addressing pedestrian facilities and impacts would be less than significant.

### **Consistency with CEQA Guidelines Section 15064.3, subdivision (b)**

The City's *SB 743 Implementation Transportation Analysis Updates* (Transportation Analysis Guidelines), includes criteria for individual project screening, which can be used to screen projects that are expected to generate low vehicles miles traveled (VMT) out of a detailed VMT analysis. The City's three VMT screening criteria and determinations include:

- **Project Type Screening:** Projects that generate less than 110 daily trips may be screened from conducting a VMT analysis. This screening criterion does not apply since the Project is expected to generate more than 110 daily trips. The Project is expected to generate 198 daily trips.
- **Transit Proximity Screening:** Projects located within a High-Quality Transit Area (HQTA) would be screened from a detailed VMT analysis if the project has certain characteristics:
  - Has a Floor Area Ratio (FAR) of less than 0.75 (for office, retail, hotel, and industrial projects) or less than 20 units per acre (for residential projects).
  - Includes more parking for use by residents, customers, or employees than required by the City (unless additional parking is being provided for design feasibility, such as completing the floor of a subterranean or structured parking facility, or if additional parking is located within the project site to serve adjacent uses).
  - Is inconsistent with the applicable Sustainable Communities Strategy (as determined by the City).
  - Replaces affordable residential units with a smaller number of moderate- or high-income residential units.

The Project site is located within a frequent transit area (within a half-mile radius of an existing or planned major transit stop, or an existing stop along a high-quality transit corridor, which has fixed route bus service with service intervals no longer than 15 minutes during peak commute hours). In addition, this project would meet the other criteria necessary to screen out due to transit proximity:



- The FAR/density requirement does not apply since this is not an office, retail, hotel, industrial, or residential project.
- The Project would supply 40 parking spaces on site, which does not exceed City requirements.
- The Project is consistent with the Southern California Association of Governments (SCAG) Sustainable Communities Strategy (SCS) (more information on SCS consistency is provided below).
- The Project would not replace residential units.

The proposed project is consistent with the SCAG SCS for the following reasons:

- The proposed Project does not include a change from residential uses to employment uses (e.g., office and industrial) or vice versa, and is thus consistent with SCAG's land use projections for the area. In addition, the Project is a conditionally permitted use and would be consistent with the zoning for the site.
- The project furthers goals from the SCAG SCS, including:
  - The Project is located in an area with high-quality bus service and furthers the goals of: improving mobility, accessibility, reliability, and travel safety for people and goods; increasing person and goods movement and travel choices within the transportation system; reducing greenhouse gas emissions and improving air quality; and, focusing growth near destinations and mobility options.
  - By encouraging sports and recreation activities, the Project furthers the goal of supporting healthy and equitable communities.

Therefore, the Project can be screened out of requiring a detailed VMT analysis under the transit proximity screening criteria.

- **Low VMT Area Screening:** Projects that are assessed using home-based VMT per resident (such as residential projects) or home-based work VMT per employee (such as offices) in a low-VMT generating area may be screened from a VMT analysis. This Project is a unique use that would not be analyzed using either of these VMT metrics, as it is not a residential use, and the number of employees is not directly correlated to the activity level of the soccer fields. As such, this screening criteria would not apply to this Project.

To be screened out of a detailed VMT analysis, a Project would need to satisfy at least one of the VMT screening criteria. Given that the proposed Project is located within a low VMT area, the Project meets the Low VMT Area Screening and a detailed VMT analysis would not be required. Projects located within a low VMT generating area are presumed to have a less than significant impact. Thus, the Project would not conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b).

#### **Hazards Due to a Geometric Design Feature or Incompatible Use**

The Project would not provide any off-site roadway improvements that could substantially increase hazards due to a design feature. The Project would utilize the existing driveway at the southwest corner of the Project site. Thus, no impacts would occur in this regard.

#### **Emergency Access**

The Project would not modify the roadways adjacent to the site; the Project site would continue to be accessible from Halldale and Brighton Avenues in the event of an emergency. There is the potential that

traffic lanes located immediately adjacent to the Project site may be temporarily closed or controlled by construction personnel during construction activities. Any temporary closure would be required to receive permission from the traffic authority in accordance with Gardena Municipal Code Section 13.56.430, *Road Closure or Interference with Highway Use*. However, this would be temporary and emergency access to the Project site and surrounding area would be required to be maintained at all times. Additionally, all construction staging would occur within the boundaries of the Project site and would not interfere with circulation along arterials, or any other nearby roadways.

Prior to the issuance of a building permit, the applicant is required to submit appropriate plans for plan review to ensure compliance with zoning, building, and fire codes. The Los Angeles County Fire Department (LACFD) would review the Project for access requirements, minimum roadway widths, fire apparatus access roads, fire lanes, signage, access devices and gates, access walkways, among other requirements to ensure adequate emergency access would be provided to and within the Project site. Thus, Project construction and operation would not result in inadequate emergency access.

**NOISE**

The following analysis is based on the *Lab Five Soccer at Gardena Noise Impact Study*, September 27, 2021 (Noise Study) prepared by MD Acoustics; refer to [Appendix B, Noise Study](#).

**Short-Term Construction Noise**

Construction noise associated with each phase of the Project was calculated at the adjacent residences utilizing methodology presented in the FHWA Roadway Construction Noise Model together with several key construction parameters including distance to each sensitive receiver, equipment usage, percent usage factor, and baseline parameters for the Project site. Construction equipment typically moves back and forth across the site, and it is an industry standard to use the acoustical center of the site to model average construction noise levels.

The anticipated construction equipment was split into two phases, site preparation and building construction. Noise levels associated with each phase are shown in [Table 1, Construction Noise Level by Phase \(dBA, Leq\)](#).

**Table 1  
Construction Noise Level by Phase (dBA, Leq)**

Activity	Noise Levels at Nearest Sensitive Receptor	
	Leq	Lmax
Site Preparation	66	72
Building Construction	64	69
Notes: Construction Modeling Worksheets provided in Appendix B.		

As shown in [Table 1](#), Project construction noise would range between 64 to 66 dBA Leq and 69 to 72 dBA Lmax at nearby sensitive receptors. Construction noise is considered a short-term impact and would be considered significant if construction activities occur outside the allowable times as described in the City's General Plan and Municipal Code. However, the Project would be required to adhere to Gardena Municipal Code Section 8.36.080(G) which outlines the allowed times for construction. Thus, this impact would be less than significant.

**Long-Term Operational Noise**

The worst-case stationary noise was modeled using SoundPLAN 3D acoustical modeling software. This worst-case scenario models all operational noise operating at the same time for the full duration of an hour. The model utilizes the sound level data for the proposed Project activities, which includes parking and soccer activities. There is an existing 10-foot wall surrounding the Project site included in the model.

Seven receptors were modeled to accurately evaluate the proposed Project’s operational noise impact to adjacent land uses; refer to [Appendix B](#) for further information regarding the receptors. Both daytime and nighttime ambient noise levels are calculated. It is noted that nighttime (between 10:00 pm and 11:00 pm) the soccer center would operate a reduced dBA capacity. Worst-case, Project only operational noise levels are anticipated to range between 35 to 49 dBA Leq at the modeled noise receptors.

[Table 2, Worst-Case Predicted Operational Daytime Noise Levels \(dBA, Leq\)](#), identifies Project plus ambient daytime noise level projections. As indicated in [Table 2](#), daytime noise levels are anticipated to be 56 dBA leq during the day at the receptors during operational hours.

**Table 2  
 Worst-Case Predicted Operational Daytime Noise Levels (dBA, Leq)**

Receptor <sup>1</sup>	Existing Day Ambient Noise Level <sup>2</sup>	Full Capacity Project Noise Level <sup>3</sup>	Total Combined Noise Level	Daytime Land Use Noise Limit <sup>4</sup>	Change in Noise Level as Result of Project
R1	56	39	56	70	0
R2	56	49	56	56	0
R3	56	43	56	56	0
R4	56	48	56	56	0
R5	56	49	56	70	0
R6	56	46	56	70	0
R7	56	43	56	72	0

Notes:51. R1 and R5 are industrial and R2 through R4 are residential.  
 2. FHWA projection calibrated to LT1 and traffic counts.  
 3. Refer to Exhibit F in Appendix B for the operation noise level projections at each receptor.  
 4. Per Gardena Municipal Code Section 8.36.040(C) if the ambient exceeds the noise standard the ambient becomes the noise standard.

[Table 3, Worst-Case Predicted Operational Nighttime Noise Levels \(dBA, Leq\)](#), identifies Project plus ambient nighttime noise level projections. As indicated in [Table 3](#), nighttime noise levels are anticipated to be 55 dBA leq during the nighttime at the receptors during operational hours.

**Table 3**  
**Worst-Case Predicted Operational Nighttime Noise Levels (dBA, Leq)**

Receptor <sup>1</sup>	Existing Night Ambient Noise Level <sup>2</sup>	Full Capacity Project Noise Level <sup>3</sup>	Total Combined Noise Level	Nighttime Land Use Noise Limit <sup>4</sup>	Change in Noise Level as Result of Project
R1	55	35	55	70	0
R2	55	45	55	55	0
R3	55	39	55	55	0
R4	55	45	55	55	0
R5	55	47	56	70	1
R6	55	44	55	70	0
R7	55	41	55	70	0

Notes: 1. R1 and R5 are industrial and R2 through R4 are residential.  
 2. FHWA projection calibrated to LT1 and traffic counts.  
 3. Refer to Exhibit F in Appendix B for the operation noise level projections at each receptor.  
 4. Per Gardena Municipal Code Section 8.36.040(C) if the ambient exceeds the noise standard the ambient becomes the noise standard.

As demonstrated in Tables 2 and 3, the combined noise levels do not exceed the City’s noise limits established by Gardena Municipal Code Section 8.36.040, which stipulates a 70 dBA industrial noise limit and a residential noise limit that cannot exceed the ambient in cases such as this where the ambient exceeds the noise limit. Therefore, the Project would have a less than significant impact.

**Groundborne Vibration or Noise**

Construction activities can produce vibration that may be felt by adjacent land uses. The Caltrans Transportation and Construction Induced Vibration Guidance Manual provides general thresholds and guidelines as to the vibration damage potential from vibration impacts.

Construction equipment has the potential to get as close as 25 feet to the adjacent residential buildings. At this distance, a large bulldozer would yield a worst-case 0.089 PPV (in/sec) which would be perceptible but would not result in architectural damage. It is also acknowledged that construction activities would occur throughout the Project site and would not be concentrated at the point closest to the nearest residential structures. Construction vibration impacts would be less than significant.

**AIR QUALITY**

**Air Quality Management Plan Consistency**

The Project site is located within the South Coast Air Basin (SCAB), which is under the South Coast Air Quality Management District’s (SCAQMD’s) jurisdiction. The SCAQMD is required, pursuant to the Federal Clean Air Act (FCAA), to reduce emissions of criteria pollutants for which SCAB is in non-attainment. To reduce such emissions, the SCAQMD drafted the 2016 Air Quality Management Plan (AQMP). The 2016 AQMP establishes a program of rules and regulations directed at reducing air pollutant emissions and achieving State (California) and national air quality standards. The 2016 AQMP is a regional and multi-agency effort including the SCAQMD, the California Air Resources Board (CARB), the Southern California Association of Governments (SCAG), and the USEPA. The AQMP’s pollutant control strategies are based on the latest scientific and technical information and planning assumptions, including SCAG’s 2016

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 proposed Project is subject to the SCAQMD's AQMP.

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

- **Consistency Criterion No. 1:** A proposed project would not result in an increase in the frequency or severity of existing air quality violations, or cause or contribute to new violations, or delay the timely attainment of the AQMP's air quality standards or the interim emissions reductions.
- **Consistency Criterion No. 2:** A proposed project would not exceed the AQMP's assumptions or increments based on the years of the project build-out phase.

Consistency Criterion No. 1 refers to the California Ambient Air Quality Standards (CAAQS) and National Ambient Air Quality Standards (NAAQS). As shown in Tables 4 and 5, the proposed Project construction and operational emissions would be below SCAQMD's thresholds. As the Project would not generate localized construction or regional construction or operational emissions that would exceed SCAQMD thresholds of significance, the Project would not violate any air quality standards. Thus, no impact is expected, and the Project would be consistent with the first criterion.

Consistency Criterion No. 2 refers to SCAG's growth forecasts and associated assumptions included in the AQMP. The future air quality levels projected in the AQMP are based on SCAG's growth projections, which are based, in part, on the general plans of cities located within the SCAG region. Therefore, projects that are consistent with the applicable assumptions used in the development of the AQMP would not jeopardize attainment of the air quality levels identified in the AQMP, even if they exceed the SCAQMD's recommended daily emissions thresholds.

With respect to determining consistency with Consistency Criterion No. 2, it is important to recognize that air quality planning within the air 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.

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

Growth projections included in the 2016 AQMP form the basis for the projections of air pollutant emissions and are based on the General Plan land use designations and SCAG's 2016-2040 Regional Transportation Plan/Sustainability Communities Strategy (2016-2040 RTP/SCS) demographics forecasts.<sup>1</sup> The population, housing, and employment forecasts within the 2016-2040 RTP/SCS are based on local general plans as well as input from local governments, such as the City of Gardena. The SCAQMD has

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<sup>1</sup> Although SCAG has adopted *the 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS)* (Connect SoCal), the SCAQMD has not released an updated AQMP that utilizes information from *Connect SoCal*; SCAQMD is planning to release the updated AQMP in 2022. Therefore, this analysis is based on the 2016-2040 RTP/SCS.

incorporated these same demographic growth forecasts for various socioeconomic categories (e.g., population, housing, employment) into the 2016 AQMP. The Project would not require a General Plan amendment and is consistent with the zoning subject to a CUP to operate the proposed facility. The Project would be within the population, housing, and employment projections anticipated and planned for by the City's General Plan and would not increase growth beyond the AQMP's projections.

2. *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 measures identified by the SCAQMD would be required as identified in the discussions below. As such, the proposed Project meets this 2016 AQMP consistency criterion.

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

Land use planning strategies set forth in the 2016 AQMP are primarily based on the 2016-2040 RTP/SCS. The Project would be consistent with the actions and strategies of the 2016-2040 RTP/SCS. For example, the Project would be an infill development, which is consistent with various goals within the 2016-2040 RTP/SCS. Additionally, the Project would be located near public transit, thereby supporting the 2016-2040 RTP/SCS goal of focusing new growth around transit.

In conclusion, the determination of 2016 AQMP consistency is primarily concerned with the long-term influence of a project on air quality in the air 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. Further, the proposed Project's long-term influence on air quality in the air basin 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 be consistent with the above criteria and impacts would be less than significant.

## **Cumulative Impacts**

Construction Impacts. Project construction activities would generate short-term emissions of criteria air pollutants. The criteria pollutants of primary concern within the Project site include ozone-precursor pollutants (i.e., Reactive Organic Gases [ROG] and NOx) and PM<sub>10</sub> and PM<sub>2.5</sub>. Construction-generated emissions are short term and temporary, lasting only while construction activities occur, but would be considered a significant air quality impact if the volume of pollutants generated exceeds the SCAQMD's thresholds of significance.

The Project's construction-related emissions were calculated using the CARB-approved CalEEMod computer program, which is designed to model emissions for land use development projects, based on typical construction requirements. Construction of the proposed Project is anticipated to begin in late 2021 and be completed in early 2022; refer to Appendix C, Air Quality Modeling, for additional information.

Table 4, Construction-Related Emissions, presents the anticipated daily construction emissions.

As shown in Table 4, all criteria pollutant emissions would remain below their respective thresholds. While impacts would be considered less than significant, the proposed Project would be subject to compliance with SCAQMD Rules 402, 403, and 1113, which would further reduce specific construction-related emissions. As the proposed Project emissions would not worsen ambient air quality, create additional violations of federal and state standards, or delay SCAB's goal for meeting attainment standards, impacts associated with Project construction emissions would be less than significant.

**Table 4**  
**Construction-Related Emissions**

Construction Year	Pollutant (lbs per day) <sup>1</sup>					
	ROG	NO <sub>x</sub>	CO	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
2021	2.0	20.5	15.1	<0.1	3.8	2.2
2022	1.8	13.1	14.0	<0.1	1.0	0.7
<i>SCAQMD Thresholds</i>	<i>75</i>	<i>100</i>	<i>550</i>	<i>150</i>	<i>150</i>	<i>55</i>
<b><i>Is Threshold Exceeded?</i></b>	<b><i>No</i></b>	<b><i>No</i></b>	<b><i>No</i></b>	<b><i>No</i></b>	<b><i>No</i></b>	<b><i>No</i></b>
Source: CalEEMod version 2020.4.0; refer to <a href="#">Appendix C</a> for detailed model input/output data.						
Notes: ROG = reactive organic gases; NO <sub>x</sub> = nitrogen oxides; CO = carbon monoxide; SO <sub>x</sub> = sulfur oxides; PM <sub>10</sub> = particulate matter up to 10 microns; PM <sub>2.5</sub> = particulate matter up to 2.5 microns; lbs = pounds.						
SCAQMD Rule 403 Fugitive Dust applied. The Rule 403 reduction/credits include the following: 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. Reductions percentages from the SCAQMD CEQA Handbook (Tables XI-A through XI-E) were applied. No mitigation was applied to construction equipment; refer to Appendix C for model outputs. Emissions were calculated using CalEEMod, version 2016.3.2. Winter emissions represent worst-case scenario.						

Operational Emissions Impacts. The Project’s operational emissions would be associated primarily with motor vehicle use. Mobile sources emissions are generated from vehicle operations associated with Project operations. CalEEMod was used to calculate pollutants emissions from vehicular trips generated from the proposed Project. CalEEMod default inputs for vehicle mix and trip distances were unaltered for this analysis. Estimated emissions from Project operations are summarized in [Table 5, Operational-Related Emissions](#). Note that emissions rates differ from summer to winter because weather factors are dependent on the season and these factors affect pollutant mixing, dispersion, ozone formation, and other factors.

As shown in [Table 5](#), emission calculations generated from CalEEMod demonstrate that Project operations would not exceed the SCAQMD thresholds for any criteria air pollutants. Therefore, Project operational impacts would be less than significant.

As shown in [Table 5](#), the Project’s unmitigated area source emissions would not exceed SCAQMD thresholds for either the winter or summer seasons. Therefore, impacts would be less than significant.

Energy source emissions would be generated due to the Project’s electricity usage, which would be minimal. The Project’s primary uses of electricity would be for outdoor lighting. As shown in [Table 5](#), the Project’s unmitigated energy source emissions would not exceed SCAQMD thresholds for criteria pollutants. As such, the Project would not violate any air quality standards or contribute substantially to an existing or projected air quality violation. Therefore, the Project’s operational air quality impacts would be less than significant.

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<sub>x</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> are all pollutants of regional concern. NO<sub>x</sub> and ROG react with sunlight to form O<sub>3</sub>, known as photochemical smog. Additionally, wind currents readily transport PM<sub>10</sub> and PM<sub>2.5</sub>. However, CO tends to be a localized pollutant, dispersing rapidly at the source.

Project-generated vehicle emissions have been estimated using CalEEMod, as recommended by the SCAQMD. As shown in [Table 5](#), mobile source emissions would not exceed SCAQMD thresholds for criteria

pollutants. Therefore, the Project’s air quality impacts associated with mobile source emissions would be less than significant.

**Table 5  
 Operational-Related Emissions**

Emissions Source	Pollutant (lbs per day) <sup>1</sup>					
	ROG	NO <sub>x</sub>	CO	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
<b>Proposed Project Summer Emissions</b>						
Area Source Emissions	<0.1	0	<0.1	<0.1	0	0
Energy Emissions	0	0	0	0	0	0
Mobile Emissions <sup>2</sup>	0.6	0.6	5.8	<0.1	1.2	0.3
<b>Total Emissions<sup>3</sup></b>	<b>0.6</b>	<b>0.6</b>	<b>5.8</b>	<b>&lt;0.1</b>	<b>1.2</b>	<b>0.3</b>
<i>SCAQMD Threshold</i>	<i>55</i>	<i>55</i>	<i>550</i>	<i>150</i>	<i>150</i>	<i>55</i>
<i>Is Threshold Exceeded?</i>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>
<b>Proposed Project Winter Emissions</b>						
Area Source Emissions	<0.1	0	<0.1	<0.1	0	0
Energy Emissions	0	0	0	0	0	0
Mobile Emissions <sup>2</sup>	0.6	0.7	5.7	<0.1	1.2	0.3
<b>Total Emissions<sup>3</sup></b>	<b>0.6</b>	<b>0.7</b>	<b>5.7</b>	<b>&lt;0.1</b>	<b>1.2</b>	<b>0.3</b>
<i>SCAQMD Threshold</i>	<i>55</i>	<i>55</i>	<i>550</i>	<i>150</i>	<i>150</i>	<i>55</i>
<i>Is Threshold Exceeded?</i>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>
Refer to <a href="#">Appendix C</a> for detailed model input/output data.						
Notes: ROG = reactive organic gases; NO <sub>x</sub> = nitrogen oxides; CO = carbon monoxide; SO <sub>x</sub> = sulfur oxides; PM <sub>10</sub> = particulate matter up to 10 microns; PM <sub>2.5</sub> = particulate matter up to 2.5 microns; lbs = pounds.						
1. Emissions were calculated using CalEEMod, version 2020.4.0.						
2. The mobile source emissions were calculated using the trip generation data provided in the Transportation Memorandum prepared for the Lab Five Soccer Center Project (Transportation Analysis) prepared by Kittelson & Associates; refer to <a href="#">Appendix A, Transportation Analysis</a> .						
3. The numbers may be slightly off due to rounding.						

*Cumulative Conclusion*

SCAB is designated nonattainment for O<sub>3</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> for State standards and nonattainment for O<sub>3</sub> and PM<sub>2.5</sub> for Federal standards. As discussed above, the Project’s construction-related emissions by themselves would not exceed the SCAQMD significance thresholds for criteria pollutants.

Since these thresholds indicate whether individual Project emissions have the potential to affect cumulative regional air quality, it can be expected that the Project-related construction emissions would not be cumulatively considerable. The SCAQMD has developed strategies to reduce criteria pollutant emissions outlined in the AQMP pursuant to the federal Clean Air Act mandates. The analysis assumed fugitive dust controls would be utilized during construction, including frequent water applications. SCAQMD rules, mandates, and compliance with adopted AQMP emissions control measures would also be imposed on construction projects throughout the SCAB, which would include related cumulative projects. As concluded above, the Project’s construction-related impacts would be less than significant. Compliance with SCAQMD rules and regulations would further minimize the proposed Project’s construction-related emissions. Therefore, Project-related construction emissions, in combination with those from other projects in the area, would not substantially deteriorate the local air quality. The Project’s construction-related emissions would not result in a cumulatively considerable contribution to significant cumulative air quality impacts.



The SCAQMD has not established separate significance thresholds for cumulative operational emissions. The nature of air emissions is largely a cumulative impact. As a result, no single project is sufficient in size to, by itself, result in nonattainment of ambient air quality standards. Instead, individual project emissions contribute to existing cumulatively significant adverse air quality impacts. The SCAQMD developed the operational thresholds of significance based on the level above which individual project emissions would result in a cumulatively considerable contribution to SCAB's existing air quality conditions. Therefore, a project that exceeds the SCAQMD operational thresholds would also be a cumulatively considerable contribution to a significant cumulative impact.

As shown in [Table 5](#), the Project's operational emissions would not exceed SCAQMD thresholds. As a result, the Project's operational emissions would not result in a cumulatively considerable contribution to significant cumulative air quality impacts. Additionally, adherence to SCAQMD rules and regulations would alleviate potential impacts related to cumulative conditions on a project-by-project basis. Project operations would not contribute a cumulatively considerable net increase of any nonattainment criteria pollutant and impacts would be less than significant.

### **Sensitive Receptors**

The nearest sensitive receptors to the Project site are the residences located immediately north and west of the Project site. To identify impacts to sensitive receptors, the SCAQMD recommends addressing localized significance thresholds (LSTs) for construction. 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]) for guidance. The LST methodology assists lead agencies in analyzing localized impacts associated with Project-specific emissions.

Localized Construction Significance Analysis. The maximum daily disturbed acreage would be 1.5 acres (the gross area of the Project site). The appropriate SRA for the LSTs is the Southwest Coastal LA County area (SRA 3), since SRA 3 includes the Project site. LSTs apply to CO, NO<sub>x</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub>. The SCAQMD produced look-up tables for projects that disturb areas less than or equal to 2.0 acres. As stated, Project construction is anticipated to disturb a maximum of 1.5 acres in a single day.

The SCAQMD's methodology states that "off-site mobile emissions from the Project should not be included in the emissions compared to LSTs". Therefore, for purposes of the construction LST analysis, only emissions included in the CalEEMod "on-site" emissions outputs were considered. LST thresholds are provided for distances to sensitive receptors of 25, 50, 100, 200, and 500 meters. Therefore, as recommended by the SCAQMD, LSTs for receptors located at 25 meters were utilized in this analysis for receptors closer than 25 meters. [Table 6, \*Localized Significance of Construction Emissions\*](#), presents the results of localized emissions during proposed Project construction.

**Table 6**  
**Localized Significance of Construction Emissions**

Construction Activity	NO <sub>x</sub>	CO	PM <sub>10</sub>	PM <sub>2.5</sub>
Site Preparation	17.4	7.6	6.0	3.6
Grading	20.2	9.8	8.0	4.3
Demolition	19.7	14.5	1.1	1.0
Paving	9.3	10.7	0.5	0.5
Architectural Coating	1.4	1.8	0.1	0.1
Building Construction	12.5	12.7	0.6	0.6
<i>SCAQMD Localized Screening Thresholds</i>	<i>131</i>	<i>967</i>	<i>8</i>	<i>5</i>
<b>Exceed SCAQMD Thresholds?</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>
Source: CalEEMod Version 2020.4.0; refer to Appendix C for model outputs				
Notes: NO <sub>x</sub> = nitrogen oxides; CO = carbon monoxide; PM <sub>10</sub> = particulate matter up to 10 microns; PM <sub>2.5</sub> = particulate matter up to 2.5 microns; lbs = pounds.				
Emissions reflect on-site construction emissions only, per SCAQMD guidance.				

As shown in [Table 6](#), the emissions of these pollutants on the peak day of Project construction would not result in significant concentrations of pollutants at nearby sensitive receptors. Further, the Project would be subject to compliance with SCAQMD Rules 402, 403, and 1113, which would further reduce specific construction-related emissions. Therefore, the proposed Project would result in a less than significant impact concerning LSTs during construction activities.

Localized Operational Significance Analysis. [Table 7, Localized Significance of Operational Emissions](#), provides the on-site operational emissions compared to the LST thresholds.

**Table 7**  
**Localized Significance of Operational Emissions**

Maximum Emissions	NO <sub>x</sub>	CO	PM <sub>10</sub>	PM <sub>2.5</sub>
On-Site Emissions (Area Sources)	0	<0.1	0	0
<i>SCAQMD Localized Screening Thresholds</i>	<i>131</i>	<i>967</i>	<i>2</i>	<i>1</i>
<b>Exceed SCAQMD Thresholds?</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>
Source: CalEEMod Version 2020.4.0; refer to Appendix C for model outputs				
Notes: NO <sub>x</sub> = nitrogen oxides; CO = carbon monoxide; PM <sub>10</sub> = particulate matter up to 10 microns; PM <sub>2.5</sub> = particulate matter up to 2.5 microns; lbs = pounds.				

As indicated in [Table 7](#), the maximum daily emissions of pollutants during Project operations would not result in significant concentrations of pollutants at nearby sensitive receptors. Therefore, the proposed Project would result in a less than significant impact concerning LSTs during operational activities.

The Project would not involve the use, storage, or processing of carcinogenic or non-carcinogenic toxic air contaminants, and no significant toxic airborne emissions would result from operation of the proposed Project. Construction activities are subject to the regulations and laws relating to toxic air pollutants at the regional, State, and federal level that would protect sensitive receptors from substantial concentrations of these emissions. Therefore, impacts associated with the release of toxic air contaminants would be less than significant.

### Criteria Pollutant Health Impacts

On December 24, 2018, the California Supreme Court issued an opinion identifying the need to provide sufficient information connecting a project's air emissions to health impacts or explain why such information could not be ascertained (*Sierra Club v. County of Fresno [Friant Ranch, L.P.]* [2018] 6 Cal.5th 502). The SCAQMD has set its CEQA significance thresholds based on the FCAA, which defines a major stationary source (in extreme ozone nonattainment areas such as the SCAB) as emitting 10 tons per year. The thresholds correlate with the trigger levels for the federal New Source Review (NSR) Program and SCAQMD Rule 1303 for new or modified sources. The NSR Program was created by the FCAA to ensure that stationary sources of air pollution are constructed or modified in a manner that is consistent with attainment of health-based federal ambient air quality standards. The federal ambient air quality standards establish the levels of air quality necessary, with an adequate margin of safety, to protect the public health. Therefore, projects that do not exceed the SCAQMD's mass emissions thresholds would not violate any air quality standards or contribute substantially to an existing or projected air quality violation and no criteria pollutant health impacts would occur.

NO<sub>x</sub> and ROG are precursor emissions that form ozone in the atmosphere in the presence of sunlight where the pollutants undergo complex chemical reactions. It takes time and the influence of meteorological conditions for these reactions to occur, so ozone may be formed at a distance downwind from the sources. Breathing ground-level ozone can result in health effects that include: reduced lung function, inflammation of airways, throat irritation, pain, burning, or discomfort in the chest when taking a deep breath, chest tightness, wheezing, or shortness of breath. In addition to these effects, evidence from observational studies strongly indicates that higher daily ozone concentrations are associated with increased asthma attacks, increased hospital admissions, increased daily mortality, and other markers of morbidity. The consistency and coherence of the evidence for effects upon asthmatics suggests that ozone can make asthma symptoms worse and can increase sensitivity to asthma triggers.

According to the SCAQMD's 2016 AQMP, ozone, NO<sub>x</sub>, and ROG have been decreasing in the SCAB since 1975 and are projected to continue to decrease in the future. Although vehicle miles traveled (VMT) in the SCAB continue to increase, NO<sub>x</sub> and ROG levels are decreasing because of the mandated controls on motor vehicles and the replacement of older polluting vehicles with lower-emitting vehicles. NO<sub>x</sub> emissions from electric utilities have also decreased due to the use of cleaner fuels and renewable energy. The 2016 AQMP demonstrates how the SCAQMD's control strategy to meet the 8-hour ozone standard in 2023 would lead to sufficient NO<sub>x</sub> emission reductions to attain the 1-hour ozone standard by 2022. In addition, since NO<sub>x</sub> emissions also lead to the formation of PM<sub>2.5</sub>, the NO<sub>x</sub> reductions needed to meet the ozone standards will likewise lead to improvement of PM<sub>2.5</sub> levels and attainment of PM<sub>2.5</sub> standards.

The SCAQMD's air quality modeling demonstrates that NO<sub>x</sub> reductions prove to be much more effective in reducing ozone levels and will also lead to a significant decrease in PM<sub>2.5</sub> concentrations. NO<sub>x</sub>-emitting stationary sources regulated by the SCAQMD include Regional Clean Air Incentives Market (RECLAIM) facilities (e.g., refineries, power plants, etc.), natural gas combustion equipment (e.g., boilers, heaters, engines, burners, flares) and other combustion sources that burn wood or propane. The 2016 AQMP identifies robust NO<sub>x</sub> reductions from new regulations on RECLAIM facilities, non-refinery flares, commercial cooking, and residential and commercial appliances. Such combustion sources are already heavily regulated with the lowest NO<sub>x</sub> emissions levels achievable but there are opportunities to require and accelerate replacement with cleaner zero-emission alternatives, such as residential and commercial furnaces, pool heaters, and backup power equipment. The AQMP plans to achieve such replacements through a combination of regulations and incentives. Technology-forcing regulations can drive development and commercialization of clean technologies, with future year requirements for new or

existing equipment. Incentives can then accelerate deployment and enhance public acceptability of new technologies.

The 2016 AQMP also emphasized that beginning in 2012, continued implementation of previously adopted regulations will lead to NO<sub>x</sub> emission reductions of 68 percent by 2023 and 80 percent by 2031. With the addition of 2016 AQMP proposed regulatory measures, a 30 percent reduction of NO<sub>x</sub> from stationary sources is expected in the 15-year period between 2008 and 2023. This is in addition to significant NO<sub>x</sub> reductions from stationary sources achieved in the decades prior to 2008.

As previously discussed, Project emissions would be less than significant and would not exceed SCAQMD thresholds; refer to [Table 4](#) and [Table 5](#). Localized effects of on-site Project emissions on nearby receptors were also found to be less than significant; refer to [Table 6](#) and [Table 7](#). The LSTs represent the maximum emissions from a Project that are not expected to cause or contribute to an exceedance of the most stringent applicable NAAQS or CAAQS. The LSTs were developed by the SCAQMD based on the ambient concentrations of that pollutant for each SRA and distance to the nearest sensitive receptor. The ambient air quality standards establish the levels of air quality necessary, with an adequate margin of safety, to protect public health, including protecting the health of sensitive populations such as asthmatics, children, and the elderly. As shown above, Project-related emissions would not exceed the regional thresholds or the LSTs, and therefore would not exceed the ambient air quality standards or cause an increase in the frequency or severity of existing violations of air quality standards. Therefore, sensitive receptors would not be exposed to criteria pollutant levels more than the health-based ambient air quality standards.

### **Carbon Monoxide Hotspots**

An analysis of CO “hot spots” is needed to determine whether the change in the level of service of an intersection resulting from the proposed Project would have the potential to result in exceedances of the CAAQS or NAAQS. It has long been recognized that CO exceedances are caused by vehicular emissions, primarily when vehicles are idling at intersections. Vehicle emissions standards have become increasingly stringent in the last 20 years. Currently, the CO standard in California is a maximum of 3.4 grams per mile for passenger cars (requirements for certain vehicles are more stringent). With the turnover of older vehicles, introduction of cleaner fuels, and implementation of control technology on industrial facilities, CO concentrations have steadily declined.

Accordingly, with the steadily decreasing CO emissions from vehicles, even very busy intersections do not result in exceedances of the CO standard. The 2016 AQMP is the most recent version that addresses CO concentrations. As part of the SCAQMD CO Hotspot Analysis, the Wilshire Boulevard/Veteran Avenue intersection, one of the most congested intersections in Southern California with approximately 100,000 average daily traffic (ADT), was modeled for CO concentrations. This modeling effort identified a CO concentration high of 4.6 ppm, which is well below the 35-ppm Federal standard. The proposed Project would not produce the volume of traffic required to generate a CO hot spot in the context of SCAQMD’s CO Hotspot Analysis. As the CO hotspots were not experienced at the Wilshire Boulevard/Veteran Avenue intersection even as it accommodates 100,000 ADT, it can be reasonably inferred that CO hotspots would not be experienced at any Project area intersections from the 198 ADT attributable to the proposed Project. Therefore, impacts would be less than significant.

### **Construction-Related Diesel Particulate Matter**

Project construction would generate diesel particulate matter (DPM) emissions from the use of off-road diesel equipment required. The amount to which the receptors are exposed (a function of concentration and duration of exposure) is the primary factor used to determine health risk (i.e., potential exposure to

toxic air contaminants (TAC) emission levels that exceed applicable standards). Health-related risks associated with diesel-exhaust emissions are primarily linked to long-term exposure and the associated risk of contracting cancer.

The closest sensitive receptors to the Project site are located immediately adjacent to the north and west of the site. The use of diesel-powered construction equipment would be temporary and episodic and occur throughout the Project site. The duration of exposure would be short and exhaust from construction equipment would dissipate rapidly. Current models and methodologies for conducting health risk assessments are associated with longer-term exposure periods of 9, 30, and 70 years, which do not correlate well with the temporary and highly variable nature of construction activities.

California Office of Environmental Health Hazard Assessment has not identified short-term health effects from diesel particulate matter (DPM). Construction is temporary and would be transient throughout the site (i.e., move from location to location) and would not generate emissions in a fixed location for extended periods of time. Construction activities would be subject to and would comply with California regulations limiting the idling of heavy-duty construction equipment to no more than five minutes to further reduce nearby sensitive receptors' exposure to temporary and variable DPM emissions. For these reasons, DPM generated by Project construction activities, in and of itself, would not expose sensitive receptors to substantial amounts of air toxins and the proposed Project would result in a less than significant impact.

### **Objectionable Odors**

Odors that could be generated by construction activities are required to follow SCAQMD Rule 402 to prevent odor nuisances on sensitive land uses. SCAQMD Rule 402, Nuisance, states:

*A person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.*

During construction, emissions from construction equipment, such as diesel exhaust, and volatile organic compounds from architectural coatings and paving activities may generate odors. However, these odors would be temporary, are not expected to affect a substantial number of people and would disperse rapidly. Therefore, impacts related to odors associated with the Project's construction-related activities would be less than significant.

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.

### **WATER QUALITY**

Short-term impacts related to water quality could occur during the construction phase associated with the development of the site. Construction-related erosion effects would be addressed through compliance with the NPDES program's Construction General Permit. Construction activity subject to this General Permit includes any construction or demolition activity, including, but not limited to, clearing, grading, grubbing, or excavation, or any other activity that results in a land disturbance of equal to or

greater than 1.0 acre. The Project site is approximately 1.5 acres and therefore would be subject to the General Permit. To obtain coverage under the General Permit, dischargers are required to file with the State Water Resources Control Board (SWRCB) the Permit Registration Documents (PRDs), which include a Notice of Intent (NOI) and other compliance-related documents. The General Permit requires development and implementation of a Stormwater Pollution Prevention Plan (SWPPP) and monitoring plan, which must include erosion-control and sediment-control Best Management Practices (BMPs) that would meet or exceed measures required by the General Permit to control potential construction-related pollutants. Erosion-control BMPs are designed to prevent erosion, whereas sediment controls are designed to trap sediment once it has been mobilized.

The Project would also be subject to Gardena Municipal Code Chapter 8.70, Stormwater and Runoff Pollution Control. Chapter 8.70 is intended to reduce the quality of pollutants being discharged to the waters of the United States through: the elimination of non-stormwater discharges to the municipal stormwater system; the elimination of discharge of pollutants into the municipal storm drain system; the reduction of pollutants in stormwater discharges to the maximum extent practicable; the protection and enhancement of the quality of the waters of the United States in a manner consistent with the provisions of the Clean Water Act.

Compliance with the NPDES and Gardena Municipal Code requirements would ensure the Project's construction-related activities would not violate any water quality standards or otherwise substantially degrade surface or groundwater quality, resulting in a less than significant impact.

**Criterion (e) *The site can be adequately served by all required utilities and public services.***

The Project site has historically been used for a hauling and demolition business and all required utilities and public services are available to serve the proposed Project. Utility infrastructure is located within the surrounding area and serves the existing site. The Project would not require significant expansion of utilities and public services beyond existing conditions.

## 4.0 EXCEPTIONS TO CATEGORICAL EXEMPTIONS ANALYSIS

The following are exceptions to CEs pursuant to CEQA Guidelines 15300.2, Exceptions:

**Exception 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 all instances, except where the project may impact on an environmental resource of hazardous or critical concern where designated, precisely mapped, and officially adopted pursuant to law by federal, state or local agencies.**

Exception (a) is specifically applicable to CE Classes 3, 4, 5, 6, and 11. The Project does not qualify for any of these classes. The Project is being considered and analyzed under a Class 32 CE. Thus, this exception is not applicable.

**Exception 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.**

There are no projects currently proposed or known within the Project area of the same type. The Project is consistent with the General Plan land use (i.e., Industrial) anticipated for the site. The Project would not result in a significant environmental impact and would not contribute to a significant cumulative impact. Exception (b) would not apply to the Project.

**Exception c) Significant Effect. A categorical exemption shall not be used for an activity where there is a reasonable possibility that they activity will have a significant effect on the environment due to unusual circumstances.**

There are no unusual circumstances associated with the Project site or the Project. The Project site is located within an urbanized area of the City and does not include any site-specific environmental conditions that would preclude the proposed development. The Project proposes to construct a 5-a-side soccer center facility at the approximately 1.5-acre site. The proposed Project is consistent with the General Plan land use (i.e., Industrial) designation. Exception (c) would not apply to the Project.

**Exception 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.**

There are no officially-designated or eligible State Scenic Highways within proximity to the Project site. Thus, the proposed Project would not result in damage to scenic resources within an officially designated State Scenic Highway. Exception (d) would not apply to the Project.

**Exception 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.**

Government Code Section 65962.5 requires the DTSC and SWRCB to compile and update a regulatory sites listing (per the criteria of the Section). The California Department of Health Services is also required to compile and update, as appropriate, a list of all public drinking water wells that contain detectable levels of organic contaminants and that are subject to water analysis pursuant to Section 116395 of the Health and Safety Code. Section 65962.5 requires the local enforcement agency, as designated pursuant to Section 18051 of Title 14 of the California Code of Regulations, to compile, as appropriate, a list of all solid waste disposal facilities from which there is a known migration of hazardous waste. The Project site is not listed pursuant to Government Code Section 65962.5.<sup>2</sup> Thus, Exception (e) would not apply to the Project.

**Exception 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.**

The Project site does not contain any historical resources. Further, there are no structures or resources within the surrounding area listed as historic resources. The Project would not cause a substantial adverse change in the significance of a historical resource and Exception (f) would not apply.

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<sup>2</sup> California Environmental Protection Agency, Cortese List Data Resources, <https://calepa.ca.gov/sitecleanup/corteseelist/>, accessed September 20, 2021.



## 5.0 CONCLUSION

Based on the analysis provided herein, the proposed Lab Five Soccer Center Project meets the criteria for a Class 32 Categorical Exemption pursuant to Section 15332 of the CEQA Guidelines.

## 6.0 REFERENCES

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[https://arb.ca.gov/emfac/?utm\\_medium=email&utm\\_source=govdelivery](https://arb.ca.gov/emfac/?utm_medium=email&utm_source=govdelivery)
- California Department of Transportation, *Scenic Highways System Lists, List of eligible and officially designated State Scenic Highways*, <https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways>, accessed April 15, 2021.
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- City of Gardena, *Gardena Municipal Code*, current through Ordinance 1831, passed July 27, 2021.
- GoogleEarth, 2021.
- Kittelson & Associates, *Lab Five Soccer Center Transportation Memorandum*, September 22, 2021.
- MD Acoustics, *Lab Five Soccer at Gardena Noise Impact Study*, September 27, 2021.
- South Coast Air Quality Management District, *CEQA Air Quality Handbook*, 1993,  
<https://www.aqmd.gov/home/rules-compliance/ceqa/air-quality-analysis-handbook#>
- South Coast Air Quality Management District, *Final Localized Significance Threshold Methodology*, June 2003, Revised July 2008. <https://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/final-lst-methodology-document.pdf?sfvrsn=2>
- South Coast Air Quality Management District, *Localized Significance Thresholds Methodology – Appendix C*, Revised October 21, 2009.
- South Coast Air Quality Management District, *Final 2016 AQMP*, <http://www.aqmd.gov/home/air-quality/clean-air-plans/air-quality-mgt-plan/final-2016-aqmp>
- Southern California Association of Governments, *2016-2040 Regional Transportation Plan/Sustainable Communities Strategy*, April 2016, <http://scagrtpscs.net/Pages/FINAL2016RTPSCS.aspx>
- The South Bay Bicycle Master Plan*, November 2011.

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# Appendix A

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## MEMORANDUM

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Date: September 22, 2021 Project #26676  
To: City of Gardena  
From: Michael Sahimi and Tim Erney, Kittelson & Associates, Inc.  
Project: Lab Five Soccer Center  
Subject: Transportation Memorandum

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This transportation memorandum summarizes estimated trip generation, the California Environmental Quality Act (CEQA) vehicle miles traveled (VMT) analysis, and the non-CEQA local transportation assessment for the proposed Lab Five Soccer Center (project), located at 14000 Halldale Avenue in the City of Gardena, California. This memo includes the following sections:

- Project Description
- Trip Generation Estimates
- VMT Impact Assessment
- Local Transportation Assessment
- Summary and Conclusions

The analysis methodologies and contents of this assessment are based on the City's *SB 743 Implementation Transportation Analysis Updates* (June 2020).

### PROJECT DESCRIPTION

The project site is located at 14000 Halldale Avenue in the City of Gardena, between Halldale Avenue and Brighton Avenue south of 139<sup>th</sup> Street. The project site is within in an industrial zone and was previously used for a hauling and demolition business. The project will be on a 1.5-acre lot and includes the development of seven (7) 50-foot by 98-foot soccer fields designed for five versus five games. The project also includes remodeling an existing two-story 2,786 square foot office building, in which 878 square feet will be converted to an incidental café use for the patrons of the soccer center. A total of 40 on-site parking spaces will also be provided, which would be accessed via a proposed driveway on Halldale Avenue located approximately 275 feet south of 139<sup>th</sup> Street.

The hours of operation for the soccer center are anticipated to be 9:00 AM to 11:00 PM.

The project location is shown in Figure 1. The current proposed site plan is shown in Figure 2.



**City of  
Gardena**

0 0.25 Miles



**W El Segundo Blvd**

**W 135th St**

**139th St**

**W 141st St**

**W Rosecrans Ave**


**Haldale Ave**


**Brighton Ave**

**S Western Ave**

**Normandie Ave**



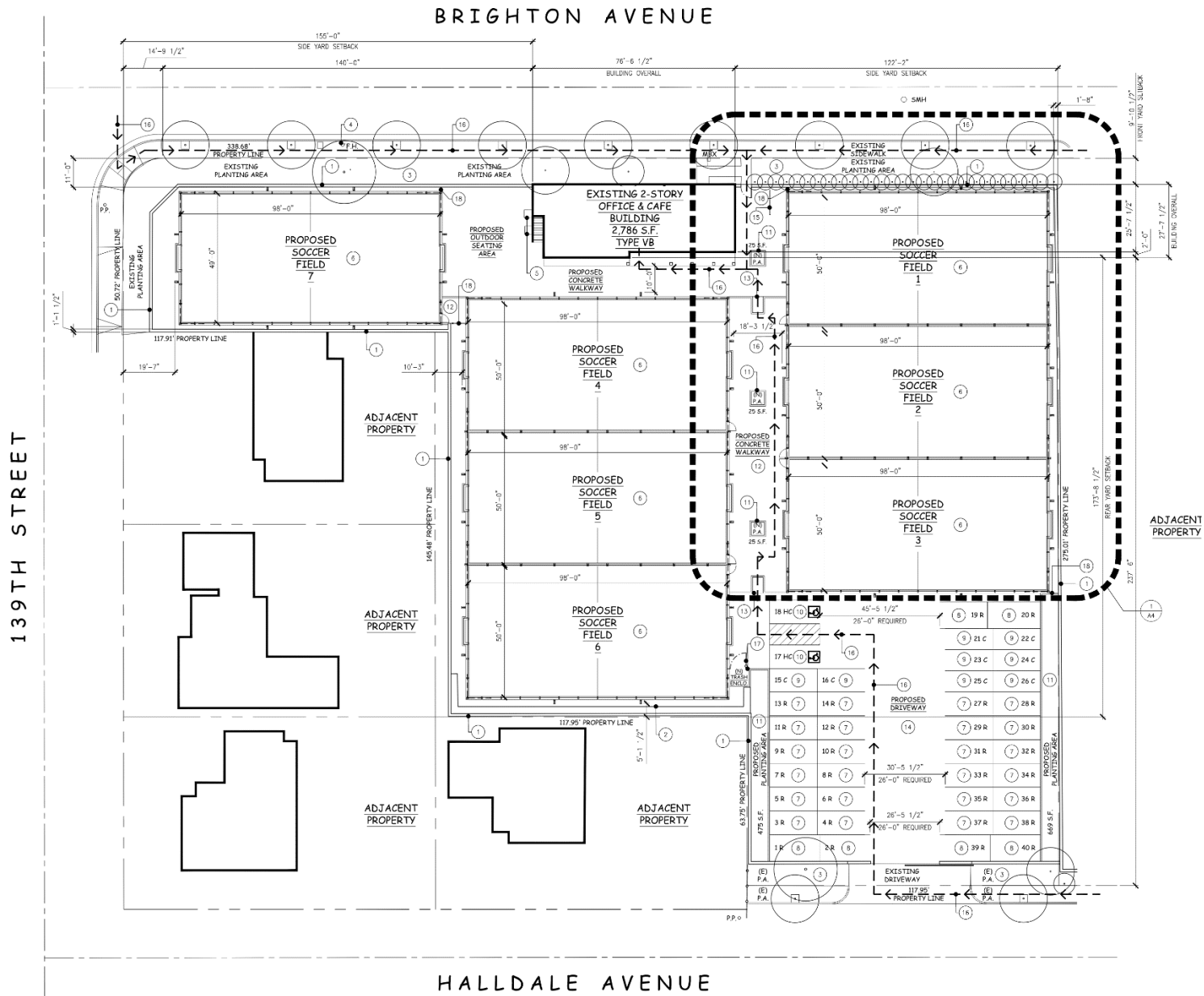
 Project Location

 City of Gardena

**Project Location  
Gardena, California**

**Figure  
1**

Figure 2: Project Site Plan



## TRIP GENERATION ESTIMATES

Given that this project consists of a non-standard use that is not included in traditional trip generation rate sources such as the Institute of Transportation Engineers (ITE) Trip Generation Manual, trip generation rates were estimated using data collected at a comparable site. The existing Lab Five soccer center located at 9740 Telfair Avenue in the City of Pacoima was previously chosen as a comparable site for the project's parking study prepared by Walker Consultants in May 2021. This location has eight soccer fields, plus parking.

For the purposes of this analysis, inbound and outbound trips were collected at the Pacoima site during one weekday to develop per-field trip generation rates, which were then used to develop trip generation estimates for the proposed project. Given that the soccer fields are the project's primary trip-generating use supported by other buildings on the site, it is appropriate to develop per-field rates from the Pacoima site and apply them to the proposed Gardena site. Since some patrons of the Pacoima location park off-site and walk to the center. As such, driveway counts were conducted, including both vehicles and pedestrians. While bicycle counts were also collected, no bicyclists were observed entering or leaving the site. For the purpose of estimating vehicle trip generation, inbound and outbound pedestrian trips were conservatively included as vehicle trips.

The data collected at the Pacoima site was used to estimate per-field trip generation rates for four time periods:

- Weekday daily
- Weekday AM peak hour – This represents the peak hourly trip generation during the weekday AM peak period of the local roadway network (from 7:00 AM to 9:00 AM). Note that the estimated weekday AM trip generation rate is 0.0 per field, since no activity was observed at the Pacoima site during the AM hours; this is consistent with the proposed project's hours of operation.
- Weekday PM peak hour – This represents the peak hourly trip generation during the weekday PM peak period of the local roadway network (from 4:00 PM to 6:00 PM).
- Project weekday peak hour – This represents the project's hour of highest trip generation for the entirety of the day, which occurred from 7:15 PM to 8:15 PM. Note that this period is included for informational purposes, as City's transportation analysis requirements does not require the evaluation of a project's peak hour of activity.

The inbound and outbound trip generation rates were derived from the eight-field Pacoima site (driveway counts were divided by 8 to obtain rates, with inbound/outbound percentages based on the driveway trip patterns). Rates were then applied to the proposed seven-field project in Gardena. As shown in Table 1, the proposed project is expected to generate 198 weekday daily vehicle trips, 0 weekday AM peak hour vehicle trips, and 7 weekday PM peak hour vehicle trips. The project is also expected to generate 60 vehicle trips during its peak hour of trip generation (provided for informational purposes).



**Table 1: Project Trip Generation Estimate**

Trip Generation Rates										
Rate	Daily	AM Peak Hour			PM Peak Hour			Project Weekday Peak Hour		
		In	Out	Total	In	Out	Total	In	Out	Total
Per field	28.25	--	--	0.00	75%	25%	1.00	83%	17%	8.63
Trip Generation Estimates										
Size	Daily	AM Peak Hour			PM Peak Hour			Project Weekday Peak Hour		
		In	Out	Total	In	Out	Total	In	Out	Total
7 fields	198	0	0	0	5	2	7	50	10	60

Source: Kittelson & Associates, Inc., 2021.

Note: These rates were derived from driveway counts collected at the comparable Pacoima site. The weekday AM and weekday PM peak hour trip generation rates represent the project's expected peak hourly trip generation during the morning and evening peak periods of the local roadway network (7:00-9:00 AM and 4:00-6:00 PM, respectively). The project weekday peak hour trip generation rate represents the project's hour of highest trip generation for the entirety of the day (7:15-8:15 PM).

## VMT IMPACT ASSESSMENT

The City's transportation analysis guidelines include criteria for individual project screening, which can be used to screen projects that are expected to generate low VMT out of a detailed VMT analysis. The City's three VMT screening criteria and determinations are listed below.

### (1) Project Type Screening

Projects that generate fewer than 110 daily trips, local-serving retail projects less than 50,000 square feet, and affordable housing projects may be screened from conducting a VMT analysis. Since the project would generate approximately 198 daily trips, is not a retail project, and is not an affordable housing project, none of these conditions would apply to this project.

### (2) Transit Proximity Screening

Projects located within a high-quality transit area would be screened from a detailed VMT analysis if the project does not have certain characteristics. This screening criteria cannot be applied if the project:

- Has a Floor Area Ratio (FAR) of less than 0.75 (for office, retail, hotel, and industrial projects) or less than 20 units per acre (for residential projects).
- Includes more parking for use by residents, customers, or employees than required by the City (unless additional parking is being provided for design feasibility, such as completing the floor of a subterranean or structured parking facility, or if additional parking is located within the project site to serve adjacent uses).
- Is inconsistent with the applicable Sustainable Communities Strategy (as determined by the City).
- Replaces affordable residential units with a smaller number of moderate- or high-income residential units.

According to Figure 3 in the City's guidelines, the proposed project site is located within a frequent transit area (within a half-mile radius of an existing or planned major transit stop, or an existing stop along a high-quality transit corridor, which has fixed route bus service with service intervals no longer than 15 minutes during peak commute hours). In addition, this project would meet the other criteria necessary to screen out due to transit proximity:

- The FAR/density requirement does not apply since this is not an office, retail, hotel, industrial, or residential project.
- The project's parking supply would not exceed City requirements.
- The Project is consistent with the Southern California Association of Governments (SCAG) Sustainable Communities Strategy (SCS) (more information on SCS consistency is provided below).
- The project would not replace residential units.

The proposed project is consistent with the SCAG SCS for the following reasons:

- The proposed project does not include a change from residential uses to employment uses (e.g., office and industrial) or vice versa, and is thus consistent with SCAG's land use projections for the area. In addition, the project would be obtaining a conditional use permit as opposed to requiring a change to the City's zoning map.
- The project furthers goals from the SCAG SCS, including:
  - The project is located in an area with high-quality bus service and furthers the goals of: improving mobility, accessibility, reliability, and travel safety for people and goods; increasing person and goods movement and travel choices within the transportation system; reducing greenhouse gas emissions and improving air quality; and, focusing growth near destinations and mobility options.
  - By encouraging sports and recreation activities, the project furthers the goal of supporting healthy and equitable communities.

Therefore, the project can be screened out of requiring a detailed VMT analysis under the transit proximity screening criteria.

### (3) Low VMT Area Screening

Projects that are assessed using home-based VMT per resident (such as residential projects) or home-based work VMT per employee (such as offices) in a low-VMT generating area may be screened from a VMT analysis. This project is a unique use that would not be analyzed using either of these VMT metrics, as it is not a residential use, and the number of employees is not directly correlated to the activity level of the soccer fields. As such, this screening criteria would not apply to this project.

## Screening Analysis Results

To be screened out of a detailed VMT analysis, a project would need to satisfy at least one of the VMT screening criteria. Given that this project meets the requirements for transit proximity screening, it is screened out of a detailed VMT analysis. Therefore, the project would result in a **less-than-significant** VMT impact.

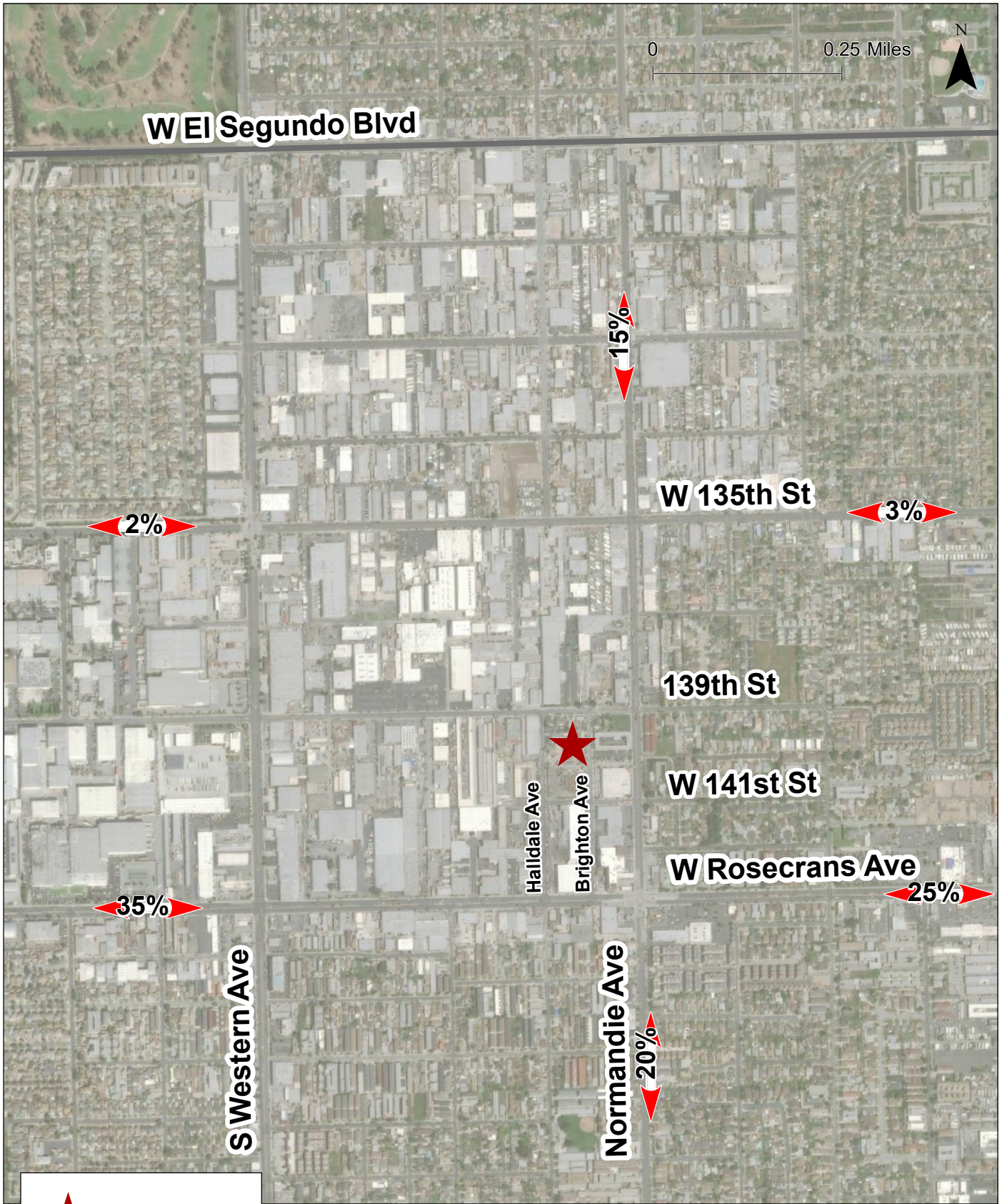
## LOCAL TRANSPORTATION ASSESSMENT

To fulfill the City's local transportation assessment requirements, this section summarizes the trip generation, trip distribution, and trip assignment for the proposed project. As documented above and summarized in Table 1, the project is expected to generate 198 weekday daily vehicle trips, 0 weekday AM peak hour vehicle trips, and 7 weekday PM peak hour vehicle trips (while the project is estimated to generate 60 vehicle trips during its peak hour of trip generation, that hour is not within the standard AM and PM peak study periods). Given that the project is expected to generate fewer than 20 peak hour vehicle trips, this local transportation assessment summarizes project trip distribution and assignment; a cumulative project review and level of service (LOS) analysis are not required and have not been conducted.

For this analysis, project trip distribution was estimated using existing vehicle volumes and traffic patterns on adjacent arterial roadways such as Rosecrans Avenue and Normandie Avenue. Generally, it is expected that the majority of project trips would travel in the eastbound/westbound directions compared to the northbound/southbound directions based on recent traffic counts in the study area. Project trip distribution percentages are shown in Figure 3.

Based on these trip distribution estimates, the weekday PM peak hour project trips were assigned to the study area roadways based on local travel patterns, the locations of nearby freeway on- and off-ramps, and local roadway configurations and traffic controls. The weekday PM inbound and outbound project trip assignments are shown in Figure 4 and Figure 5.

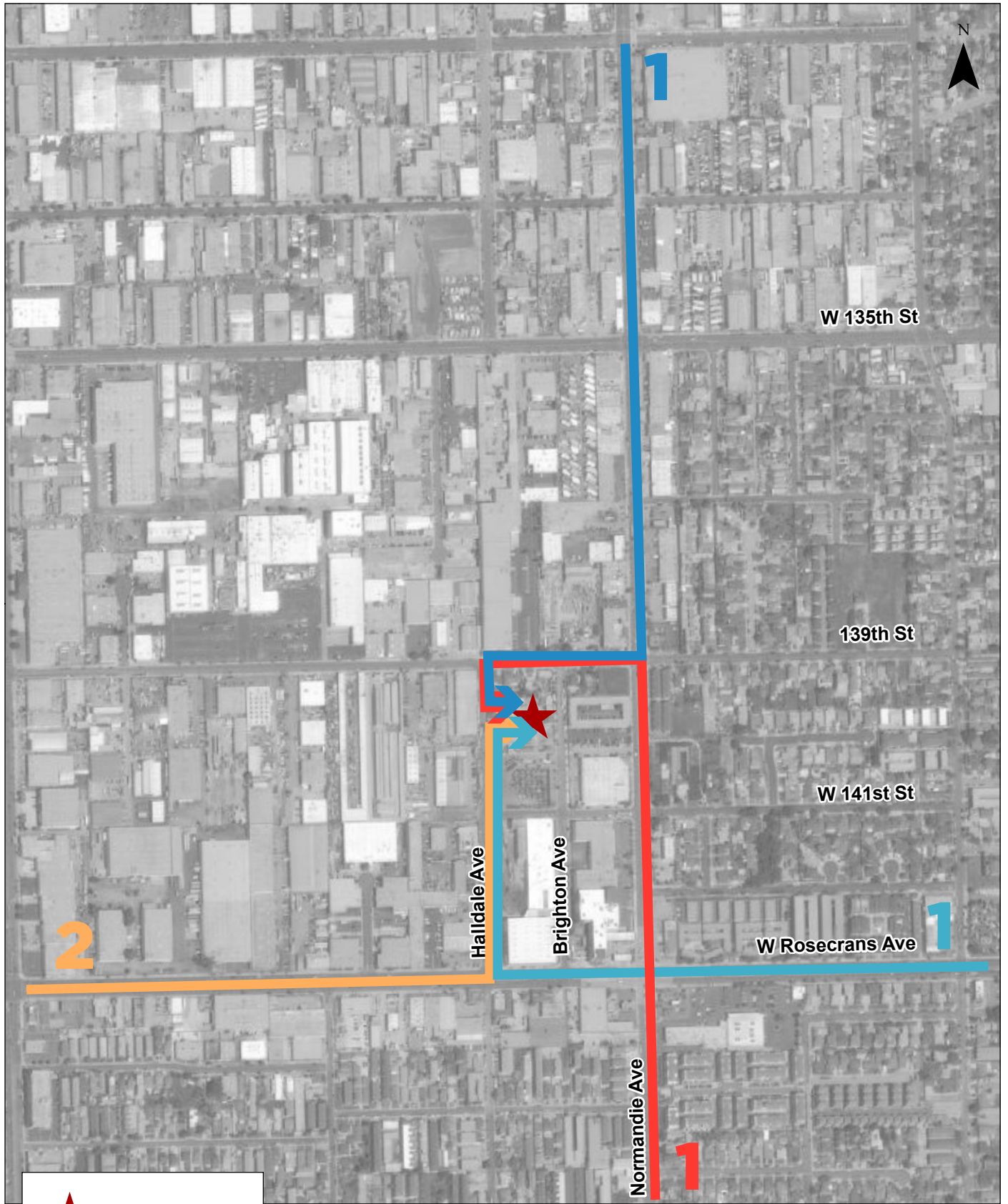
H:\2020\20676 - Gardena Lab 5 Soccer Center\GIS\Figure 03 - Project Trip Distribution.mxd - msahimi - 2:27 PM 9/9/2021



 Project Location  
 City of Gardena

**Project Trip Distribution  
Gardena, California**

**Figure  
3**



 Project Location  
 City of Gardena

**PM Peak Hour Project Trip Assignment  
(Inbound)  
Gardena, California**

Figure  
**4**



 Project Location  
 City of Gardena

**PM Peak Hour Project Trip Assignment  
(Outbound)  
Gardena, California**

Figure  
**5**

## SUMMARY AND CONCLUSIONS

The following summarizes the findings of the CEQA VMT impact assessment:

- Per the City's guidelines, the project can be screened out of a detailed VMT analysis since it meets the requirements for transit proximity screening.
- Since the project screens out of a detailed VMT analysis, it would result in a **less-than-significant** VMT impact.

The following summarizes the findings of the non-CEQA local transportation assessment:

- The proposed project is expected to generate 198 weekday daily vehicle trips, 0 weekday AM peak hour vehicle trips, and 7 weekday PM peak hour vehicle trips.
- Project trips are expected to mostly travel in the eastbound/westbound directions primarily along Rosecrans Avenue, as well as parallel roads such as 139<sup>th</sup> Street. Northbound/southbound trips are expected to primarily travel along Normandie Avenue.

### **Attachment A: Pacoima Site Data Collection Sheet**

## Attachment A: Pacoima Site Data Collection Sheet



### Trip Generation Study

Location: Lab Five Soccer Dwy, 9740 Telfair Ave  
 City: Pacoima, CA

Date: 8/25/2021  
 Day: Wednesday

TIME	Vehicle				PEDS						BIKES					
	IN		OUT		IN			OUT			IN		OUT			
	NR	SL	WL	WR	NR	SL	ET	WL	WT	WR	NR	SL	ET	WL	WT	WR
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	1	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 PM	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
6:45 PM	7	4	1	0	2	0	0	0	0	2	0	0	0	0	0	0
7:00 PM	3	9	1	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 PM	8	3	0	1	1	1	0	0	0	0	0	0	0	0	0	0
7:30 PM	6	6	0	0	2	0	0	0	1	0	0	0	0	0	0	0
7:45 PM	6	7	2	0	1	2	1	0	0	0	0	0	0	0	0	0
8:00 PM	11	1	6	2	0	1	0	0	0	0	0	0	0	0	0	0
8:15 PM	1	1	2	1	3	2	0	0	0	0	0	0	0	0	0	0
8:30 PM	0	2	3	1	0	3	0	0	0	0	0	0	0	0	0	0
8:45 PM	1	2	1	2	0	0	0	0	0	0	0	0	0	0	0	0
9:00 PM	0	1	6	4	0	0	3	0	1	0	0	0	0	0	0	0
9:15 PM	1	0	11	10	1	0	0	1	0	4	0	0	0	0	0	0
9:30 PM	0	0	7	3	0	0	0	0	4	0	0	0	0	0	0	0
9:45 PM	0	0	1	5	0	0	0	0	0	0	0	0	0	0	0	0
10:00 PM	0	1	5	4	0	0	0	0	2	0	0	0	0	0	0	0
10:15 PM	0	0	4	3	0	0	0	0	0	0	0	0	0	0	0	0
10:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 PM	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0
11:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Totals</b>	<b>48</b>	<b>41</b>	<b>51</b>	<b>38</b>	<b>8</b>	<b>15</b>	<b>1</b>	<b>5</b>	<b>0</b>	<b>16</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

For Peds and Bikes sidewalk movement



# Appendix B

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# Lab Five Soccer at Gardena

## Noise Impact Study

### City of Gardena, CA

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## **1.0 Introduction**

### **1.1 Purpose of Analysis and Study Objectives**

This noise assessment was prepared to evaluate the potential noise impacts for the project study area and to recommend noise mitigation measures, if necessary, to minimize the potential noise impacts. The assessment was conducted and compared to the noise standards set forth by the Federal, State, and Local agencies. Consistent with the City's Noise Guidelines, the project must demonstrate compliance to the applicable noise criterion as outlined within the City's Noise Element and Municipal Code.

The following is provided in this report:

- A description of the study area and the proposed project
- Information regarding the fundamentals of noise
- A description of the local noise guidelines and standards
- An analysis of traffic noise impacts to the project site
- An analysis of railroad noise impacts to the project site
- An analysis of construction noise impacts

### **1.2 Site Location and Study Area**

The project site is located at 1400 Halldale Avenue, in the City of Gardena, California, as shown in Exhibit A. The project site is located in an industrial zone with industrial buildings surrounding the site mainly. There are several residential homes abutting the subject property and across the street from Brighton Avenue.

The main existing source of noise is traffic on Normandie Ave and industrial activities.

### **1.3 Proposed Project Description**

The Project proposes to develop an industrial site into a soccer facility with seven 50 ft by 98 ft soccer fields. In addition, there is an existing 2-story, 2,786 SF of an office building in which 878 SF will be converted to an incidental café use for the patrons of the soccer center. Also, the proposed scope of work includes reconstruction of existing restrooms to 3 new single-use occupancy accessible restrooms. The project includes a proposal of 40 parking spaces – 2 handicapped parking spaces, 8 compact tandem parking spaces, and 30 standard tandem parking spaces. The site plan used for this is illustrated in Exhibit B.

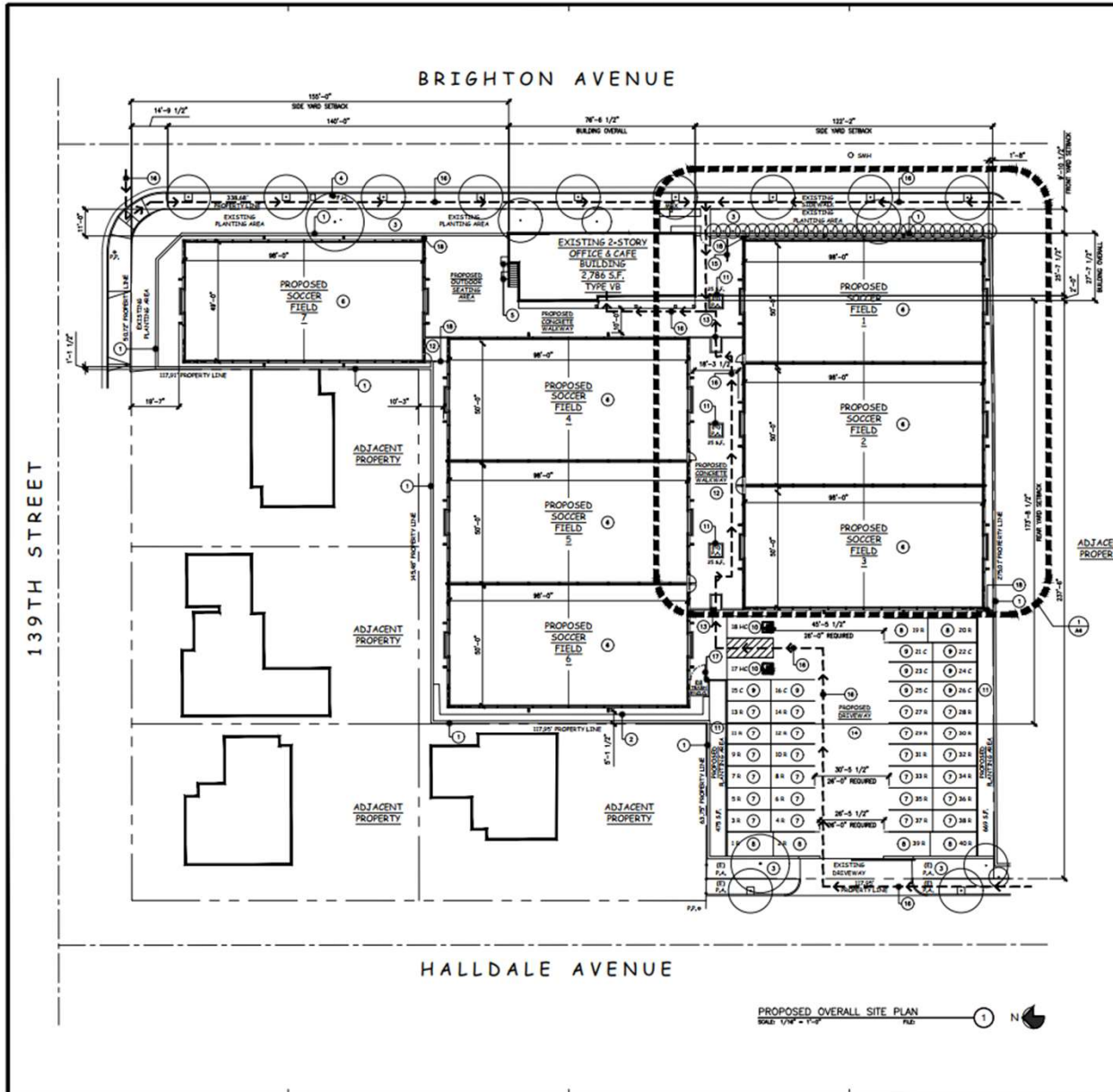
### **1.4 Noise Study Summary**

The operational-only levels at the property lines will range between 35 dBA Leq to 49 dBA Leq. The project plus ambient levels will range from 55 dBA Leq to 56 dBA Leq. All levels fall within the City of Gardena limits of 70 dBA in industrial areas and no increase in the ambient in residential areas (as the existing ambient already exceeds the residential limit). The project site is below 62 dBA.

Exhibit A  
Location Map



# Exhibit B Site Plan



- SITE PLAN KEYNOTES:**
- ① EXISTING 10'-0" HIGH CMU PROPERTY WALL TO REMAIN
  - ② EXISTING 10'-0" HIGH CONCRETE WALL TO REMAIN
  - ③ EXISTING PLANTING AREA TO REMAIN
  - ④ EXISTING FIRE HYDRANT TO REMAIN
  - ⑤ EXISTING HVAC UNIT TO REMAIN
  - ⑥ PROPOSED SOCCER FIELD, 7 TOTAL
  - ⑦ PROPOSED 9'-0" X 18'-0" STANDARD PARKING SPACE
  - ⑧ PROPOSED 10'-0" X 20'-0" STANDARD PARKING SPACE
  - ⑨ PROPOSED 8'-0" X 18'-0" COMPACT PARKING SPACE
  - ⑩ PROPOSED 9'-0" X 18'-0" ACCESSIBLE PARKING SPACE
  - ⑪ PROPOSED 5'-0" X 5'-0" PLANTING AREA
  - ⑫ PROPOSED CONCRETE WALKWAY
  - ⑬ PROPOSED ACCESSIBLE CURB RAMP @ 1:12 SLOPE MAX.
  - ⑭ PROPOSED DRIVEWAY
  - ⑮ PROPOSED LOCATION OF POTENTIAL BIKE BACK FOR (11) BICYCLE PARKING SPACES
  - ⑯ PATH OF TRAVEL FROM PUBLIC RIGHT-OF-WAY
  - ⑰ PROPOSED 6'-0" HIGH CHAIN-LINK FENCE TRASH ENCLOSURE WITH A 6'-0" WIDE SWINGING GATE
  - ⑱ PROPOSED 6'-0" HIGH CHAIN-LINK FENCE

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CONDITIONAL USE PERMIT  
 SUBMITTAL SET

PROJECT  
 LAB FIVE SOCCER @ GARDENA

Sheet Title  
 PROPOSED OVERALL  
 SITE PLAN

Scale: 1/4" = 1'-0"  
 Date: 05/28/2021

266 # 20210223-04

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**A3**



## 2.0 Fundamentals of Noise

This section of the report provides basic information about noise and presents some of the terms used within the report.

### 2.1 Sound, Noise, and Acoustics

Sound is a disturbance created by a moving or vibrating source and is capable of being detected by the hearing organs. Sound may be thought of as mechanical energy of a moving object transmitted by pressure waves through a medium to a human ear. For traffic or stationary noise, the medium of concern is air. *Noise* is defined as sound that is loud, unpleasant, unexpected, or unwanted.

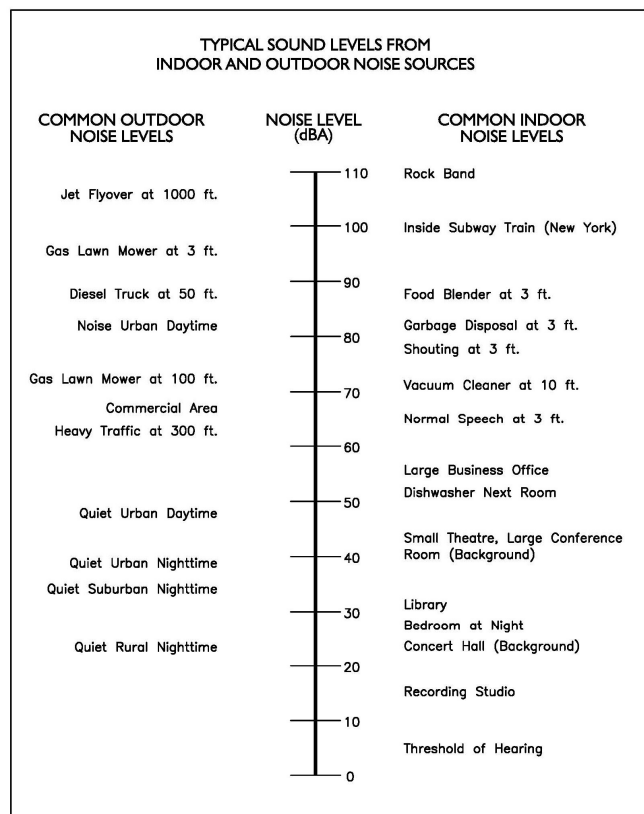
### 2.2 Frequency and Hertz

A continuous sound is described by its *frequency* (pitch) and its *amplitude* (loudness). Frequency relates to the number of pressure oscillations per second. Low-frequency sounds are low in pitch (bass sounding) and high-frequency sounds are high in pitch (squeak). These oscillations per second (cycles) are commonly referred to as Hertz (Hz). The human ear can hear from the bass pitch starting at 20 Hz to the high pitch of 20,000 Hz.

### 2.3 Sound Pressure Levels and Decibels

The *amplitude* of a sound determines its loudness. The loudness of sound increases or decreases as the amplitude increases or decreases. Sound pressure amplitude is measure in units of micro-Newton per square inch meter (N/m<sup>2</sup>), also called micro-Pascal (μPa). One μPa is approximately one hundred billionths (0.0000000001) of normal atmospheric pressure. Sound pressure level (SPL or L<sub>p</sub>) is used to describe in logarithmic units the ratio of actual sound pressures to a reference pressure squared. These units are called decibels abbreviated dB. Exhibit C illustrates references sound levels for different noise sources.

Exhibit C: Typical A-Weighted Noise Levels



### 2.4 Addition of Decibels

Because decibels are on a logarithmic scale, sound pressure levels cannot be added or subtracted by simple plus or minus addition. When two sounds or equal SPL are combined, they will produce an SPL 3 dB greater than the original single SPL. In other words, sound energy must be doubled to produce a 3 dB increase. If two sounds differ by approximately 10 dB, the higher sound level is the predominant sound.

## 2.5 Human Response to Changes in Noise Levels

In general, the healthy human ear is most sensitive to sounds between 1,000 Hz and 5,000 Hz, (A-weighted scale) and it perceives a sound within that range as being more intense than a sound with a higher or lower frequency with the same magnitude. For purposes of this report as well as with most environmental documents, the A-scale weighting is typically reported in terms of A-weighted decibel (dBA). Typically, the human ear can barely perceive the change in the noise level of 3 dB. A change in 5 dB is readily perceptible, and a change in 10 dB is perceived as being twice or half as loud. As previously discussed, a doubling of sound energy results in a 3 dB increase in sound, which means that a doubling of sound energy (e.g. doubling the volume of traffic on a highway) would result in a barely perceptible change in sound level.

## 2.6 Noise Descriptors

Noise in our daily environment fluctuates over time. Some noise levels occur in regular patterns, others are random. Some noise levels are constant while others are sporadic. Noise descriptors were created to describe the different time-varying noise levels.

**A-Weighted Sound Level:** The sound pressure level in decibels as measured on a sound level meter using the A-weighted filter network. The A-weighting filter de-emphasizes the very low and very high-frequency components of the sound in a manner similar to the response of the human ear. A numerical method of rating human judgment of loudness.

**Ambient Noise Level:** The composite of noise from all sources, near and far. In this context, the ambient noise level constitutes the normal or existing level of environmental noise at a given location.

**Community Noise Equivalent Level (CNEL):** The average equivalent A-weighted sound level during a 24-hour day, obtained after the addition of five (5) decibels to sound levels in the evening from 7:00 to 10:00 PM and after the addition of ten (10) decibels to sound levels in the night before 7:00 AM and after 10:00 PM.

**Decibel (dB):** A unit for measuring the amplitude of a sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure, which is 20 micro-pascals.

**dB(A):** A-weighted sound level (see definition above).

**Equivalent Sound Level (LEQ):** The sound level corresponding to a steady noise level over a given sample period with the same amount of acoustic energy as the actual time-varying noise level. The energy average noise level during the sample period.

**Habitable Room:** Any room meeting the requirements of the Uniform Building Code or other applicable regulations which is intended to be used for sleeping, living, cooking, or dining purposes, excluding such

enclosed spaces as closets, pantries, bath or toilet rooms, service rooms, connecting corridors, laundries, unfinished attics, foyers, storage spaces, cellars, utility rooms, and similar spaces.

**L(n)**: The A-weighted sound level exceeded during a certain percentage of the sample time. For example, L10 in the sound level exceeded 10 percent of the sample time. Similarly L50, L90, and L99, etc.

**Noise**: Any unwanted sound or sound which is undesirable because it interferes with speech and hearing, or is intense enough to damage hearing, or is otherwise annoying. The State Noise Control Act defines noise as "...excessive undesirable sound...".

**Outdoor Living Area**: Outdoor spaces that are associated with residential land uses typically used for passive recreational activities or other noise-sensitive uses. Such spaces include patio areas, barbecue areas, jacuzzi areas, etc. associated with residential uses; outdoor patient recovery or resting areas associated with hospitals, convalescent hospitals, or rest homes; outdoor areas associated with places of worship which have a significant role in services or other noise-sensitive activities; and outdoor school facilities routinely used for educational purposes which may be adversely impacted by noise. Outdoor areas usually not included in this definition are: front yard areas, driveways, greenbelts, maintenance areas and storage areas associated with residential land uses; exterior areas at hospitals that are not used for patient activities; outdoor areas associated with places of worship and principally used for short-term social gatherings; and, outdoor areas associated with school facilities that are not typically associated with educational uses prone to adverse noise impacts (for example, school play yard areas).

**Percent Noise Levels**: See L(n).

**Sound Level (Noise Level)**: The weighted sound pressure level obtained by use of a sound level meter having a standard frequency filter for attenuating part of the sound spectrum.

**Sound Level Meter**: An instrument, including a microphone, an amplifier, an output meter, and frequency weighting networks for the measurement and determination of noise and sound levels.

**Single Event Noise Exposure Level (SENEL)**: The dB(A) level which, if it lasted for one second, would produce the same A-weighted sound energy as the actual event.

## 2.7 Traffic Noise Prediction

Noise levels associated with traffic depends on a variety of factors: (1) volume of traffic, (2) speed of traffic, (3) auto, medium truck (2 axles), and heavy truck percentage (3 axles and greater), and sound propagation. A greater volume of traffic, higher speeds and truck percentages equate to a louder volume in noise. A doubling of the Average Daily Traffic (ADT) along a roadway will increase noise levels by approximately 3 dB; reasons for this are discussed in the sections above.

## 2.8 Sound Propagation

As sound propagates from a source it spreads geometrically. Sound from a small, localized source (i.e., a point source) radiates uniformly outward as it travels away from the source in a spherical pattern. The sound level attenuates at a rate of 6 dB per doubling of distance. The movement of vehicles down a roadway makes the source of the sound appear to propagate from a line (i.e., line source) rather than a point source. This line source results in the noise propagating from a roadway in a cylindrical spreading versus a spherical spreading that results from a point source. The sound level attenuates for a line source at a rate of 3 dB per doubling of distance.

As noise propagates from the source, it is affected by the ground and atmosphere. Noise models use hard site (reflective surfaces) and soft site (absorptive surfaces) to help calculate predicted noise levels. Hard site conditions assume no excessive ground absorption between the noise source and the receiver. Soft site conditions such as grass, soft dirt, or landscaping attenuate noise at a rate of 1.5 dB per doubling of distance. When added to the geometric spreading, the excess ground attenuation results in an overall noise attenuation of 4.5 dB per doubling of distance for a line source and 7.5 dB per doubling of distance for a point source.

Research has demonstrated that atmospheric conditions can have a significant effect on noise levels when noise receivers are located 200 feet from a noise source. Wind, temperature, air humidity, and turbulence can further impact how far sound can travel.

### **3.0 Regulatory Setting**

The proposed project is located in the City of Gardena and noise regulations are addressed through the efforts of various federal, state, and local government agencies. The agencies responsible for regulating noise are discussed below.

#### **3.1 Federal Regulations**

The adverse impact of noise was officially recognized by the federal government in the Noise Control Act of 1972, which serves three purposes:

- Publicize noise emission standards for interstate commerce
- Assist state and local abatement efforts
- Promote noise education and research

The Federal Office of Noise Abatement and Control (ONAC) originally was tasked with implementing the Noise Control Act. However, it was eventually eliminated leaving other federal agencies and committees to develop noise policies and programs. Some examples of these agencies are as follows: The Department of Transportation (DOT) assumed a significant role in noise control through its various agencies. The Federal Aviation Agency (FAA) is responsible to regulate noise from aircraft and airports. The Federal Highway Administration (FHWA) is responsible to regulate noise from the interstate highway system. The Occupational Safety and Health Administration (OSHA) is responsible for the prohibition of excessive noise exposure to workers.

The federal government advocates that local jurisdictions use their land use regulatory authority to arrange new development in such a way that “noise sensitive” uses are either prohibited from being constructed adjacent to a highway or that the developments are planned and constructed in such a manner that potential noise impacts are minimized.

Since the federal government has preempted the setting of standards for noise levels that can be emitted by the transportation source, the City is restricted to regulating the noise generated by the transportation system through nuisance abatement ordinances and land use planning.

#### **3.2 State Regulations**

Established in 1973, the California Department of Health Services Office of Noise Control (ONC) was instrumental in developing regulatory tools to control and abate noise for use by local agencies. One significant model is the “Land Use Compatibility for Community Noise Environments Matrix.” The matrix allows the local jurisdiction to clearly delineate the compatibility of sensitive uses with various incremental levels of noise.

The State of California has established noise insulation standards as outlined in Title 24 and the Uniform Building Code (UBC) which in some cases requires acoustical analyses to outline exterior noise levels and to ensure interior noise levels do not exceed the interior threshold. The State mandates that the legislative body of each county and city adopt a noise element as part of its comprehensive general plan.

The local noise element must recognize the land use compatibility guidelines published by the State Department of Health Services. The guidelines rank noise land use compatibility in terms of normally acceptable, conditionally acceptable, normally unacceptable, and clearly unacceptable as illustrated in Exhibit D.

**Exhibit D: Land Use Compatibility Guidelines**

Land Use Category	CNEL, dB						
	55	60	65	70	75	80	
Residential - Single family, multifamily, duplex	A	A	B	C	C		
Residential - Mobile homes	A	A	B	C	C		
Transient Lodging - Motels, hotels	A	A	B	B	C	C	
Schools, Libraries, Churches, Hospitals, Nursing Homes	A	A	B	C	C		
Auditoriums, Concert Halls, Amphitheaters, Meeting Halls	B	B	C	C			
Sports Arenas, Outdoor Spectator Sports, Amusement Parks	A	A	A	B	B		
Playgrounds, Neighborhood Parks	A	A	A	B	C		
Golf Courses, Riding Stables, Cemeteries	A	A	A	A	B	C	C
Office and Professional Buildings	A	A	A	B	B	C	
Commercial Retail, Banks, Restaurants, Theaters	A	A	A	A	B	B	C
Industrial, Manufacturing, Utilities, Wholesale, Service Stations	A	A	A	A	B	B	B
Agriculture	A	A	A	A	A	A	A

**Legend**

- A** **NORMALLY ACCEPTABLE**  
Specified land use is satisfactory based on the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.
- B** **CONDITIONALLY ACCEPTABLE**  
New construction or development should be undertaken only after a detailed analysis of the noise requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.
- C** **NORMALLY UNACCEPTABLE**  
New construction or development should generally be discouraged. If it does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.
- CLEARLY UNACCEPTABLE**  
New construction or development should generally not be undertaken.

Source: Taken in part from "Aircraft Noise Impact Planning Guidelines for Local Agencies," U.S. Dept. of Housing and Urban Development, TE/NA-472, November 1972.

### 3.3 City of Gardena Noise Regulations

The City of Gardena outlines their noise regulations and standards within the Noise Element of the City's General Plan and the Noise Ordinance located in the City's Municipal Code.

#### City of Gardena General Plan

Applicable policies and standards governing environmental noise in the City are set forth in the General Plan Noise Element. The City's noise and land use compatibility guidelines for land use planning are presented in Exhibit D. In addition to the noise standards, the City has outlined goals, policies, and implementation measures to reduce potential noise impacts and are presented below:

## Goals, Policies, and Implementation Measures

Policies, goals and implementation program measures from the Noise Element that are applicable to the proposed project are presented below.

- Goal N 1.0:** Use noise control measures to reduce the impact from transportation noise sources.
- Policy N 1.1: Minimize noise conflicts between land uses and the circulation network, and mitigate sound levels where necessary or feasible to ensure the peace and quiet of the community.
- Goal N 2.0:** Incorporate noise considerations into land use planning decisions.
- Policy N 2.2: Require noise/land use compatibility standards to guide future planning and development.
- Policy N 2.4: Require mitigation of all significant noise impacts as a condition of project approval.
- Policy N 2.5: Require proposed projects to be reviewed for compatibility with nearby noise sensitive land uses with the intent of reducing noise impacts.
- Policy N 2.7: Require new commercial/industrial operations located in proximity to existing or proposed residential areas to incorporate noise mitigation into the project design.
- Policy N 2.9: Encourage the creative use of site and building design techniques as a means to minimize noise impacts.
- Goal 3.0:** Develop measures to control non-transportation noise impacts.
- Policy N 3.3: Require compliance with construction hours to minimize the impacts of construction noise on adjacent land.

### City of Gardena Municipal Code

Sections 8.36.040 and 8.36.050 of the City's Noise Ordinance establish exterior and interior noise standards that limit how loud project operation noise can be. The allowable exterior noise levels presented in Table 1, limit project operational noise at nearby land uses; and the allowable interior noise levels presented in Table 2, limit how loud project operational noise can be inside nearby residential and mixed use structures. Subsection 8.36.040(C), states that in the event the ambient noise level exceeds the noise standard, the ambient noise level shall become the noise standard.

**Table 1: Allowable Exterior Noise Level (dBA, Leq)**

Type of Land Use	15-Minute Average Noise (dBA, Leq)		Maximum Noise Level (dBA, Lmax)	
	7 AM-10 PM	10 PM to 7 AM	7 AM-10 PM	10 PM to 7 AM
Residential	55	50	75	70
Residential portions of mixed use	60	50	80	70
Commercial	65	60	85	80
Industrial or manufacturing	70	70	90	90

Source: City of Gardena Municipal Code Section 8.36.040.  
 1) Measured noise levels are shown in Tables 3 and 4.  
 2) Lowest measured nighttime noise level (see Table 4).  
 A. The exterior noise standards, unless otherwise specifically indicated, shall apply to all property within the City. The Land Use category refers to the affected receiver property. In the event the alleged offensive noise contains a pure tone such as a whine, screech, or hum, or contains repetitive, impulsive or impact noise such as hammering or riveting, or contains music or speech conveying informational content, each of the above noise standards shall be reduced by 5 dB.  
 B. No person shall operate or cause to be operated, any source of sound at any location within the incorporated City or allow the creation of any noise on property owned, leased, occupied or otherwise controlled by such person, which causes the noise level when measured from any other property, either incorporated or unincorporated, to exceed the noise standards presented in the above table.  
 C. In the event the ambient noise level exceeds the noise standard, the ambient noise level shall become the noise standard.

**Table 2: Allowable Interior Noise Level (dBA, Leq)**

Type of Land Use	15-Minute Average Noise (dBA, Leq)		Maximum Noise Level (dBA, Lmax)	
	7 AM-10 PM	10 PM to 7 AM	7 AM-10 PM	10 PM to 7 AM
Residential	45	40	65	60
Residential portions of mixed use	45	40	70	60

Source: City of Gardena Municipal Code Section 8.36.050.  
 Notes:  
 A. The interior noise standards presented above, unless otherwise specifically indicated, shall apply to all residential dwellings with windows in their normal seasonal configuration, where such dwelling is the receiver of intrusive noise:  
 In the event the alleged offensive noise contains a pure tone such as a whine, screech, or hum, or contains repetitive, impulsive or impact noise such as hammering or riveting, or contains music or speech conveying informational content, each of the above noise standards shall be reduced by 5 dB.  
 B. No person shall operate or cause to be operated, any source of sound at any location within the incorporated City or allow the creation of any noise on property owned, leased, occupied or otherwise controlled by such person, which causes the noise level when measured within any residential dwelling, either incorporated or unincorporated, to exceed the noise standards of paragraph (A).  
 C. In the event the ambient noise level exceeds the noise standard, the ambient noise level shall become the noise standard.

**Construction Noise Regulations**

Per Section 8.36.080 of the City’s Noise Ordinance, project construction activities are explicitly exempt from the exterior and interior noise standards presented in Sections 8.36.040 and 8.36.050. Specifically, the ordinance states that “noise associated with construction, repair, remodeling, grading or demolition of any real property are exempt from the provisions in Chapter 8.36 (City of Gardena Noise Ordinance), provided said activities do not take place between the hours of 6:00 PM and 7:00 AM on weekdays between the hours of 6:00 PM and 9:00 AM on Saturday or any time on Sunday or a Federal holiday”.



## 4.0 Study Method and Procedure

The following section describes the noise modeling procedures and assumptions used for this assessment.

### 4.1 SoundPLAN Noise Model (Operational Noise)

SoundPLAN acoustical modeling software was utilized to model project operational noise at nearby sensitive receptors. The SoundPLAN software utilizes algorithms (based on the inverse square law) to calculate noise level projections. It allows the user to input specific noise sources, spectral content, sound barriers, building placement, topography, and sensitive receptor locations. It also calculates noise level increases due to the reflection of noise from hard surfaces.

Measured and referenced sound level data was utilized to model the various stationary on-site noise sources associated with project operation.

Noise associated with proposed sport, recreational, and parking areas was modeled using SoundPLAN methodology which takes into consideration the number of parking spaces and estimates the number of movements per hour per parking space. Modeling assumptions are summarized in Table 3. SoundPLAN noise modeling input and results are provided in Appendix B. At full capacity, all soccer fields are operational, and the parking lot is full. At half capacity half the soccer fields are operational and the parking lot is half full. Half capacity is expected from 10 PM to 11 PM.

**Table 3: SoundPLAN Modeling Assumptions**

Noise Source	Source Type	Source Reference	Reference Level (dBA) Sound Pressure Level
Soccer Field	Area	5' from Soccer Field	58
Parking Lot	Area (SP Parking Tool)	1 movement per hour	--

Source: SoundPLAN 8.2.

## 5.0 Existing Noise Environment

One (1) 24-hour noise measurement was conducted at the project site in order to document the existing noise environment. The measurements include the 1-hour Leq, Lmin, Lmax, and other statistical data (e.g. L2, L8). The results of the noise measurement are presented in Table 4. Noise measurement field sheets are provided in Appendix A.

**Table 4: Long-Term Noise Measurement Data for (LT1) (dBA)<sup>1</sup>**

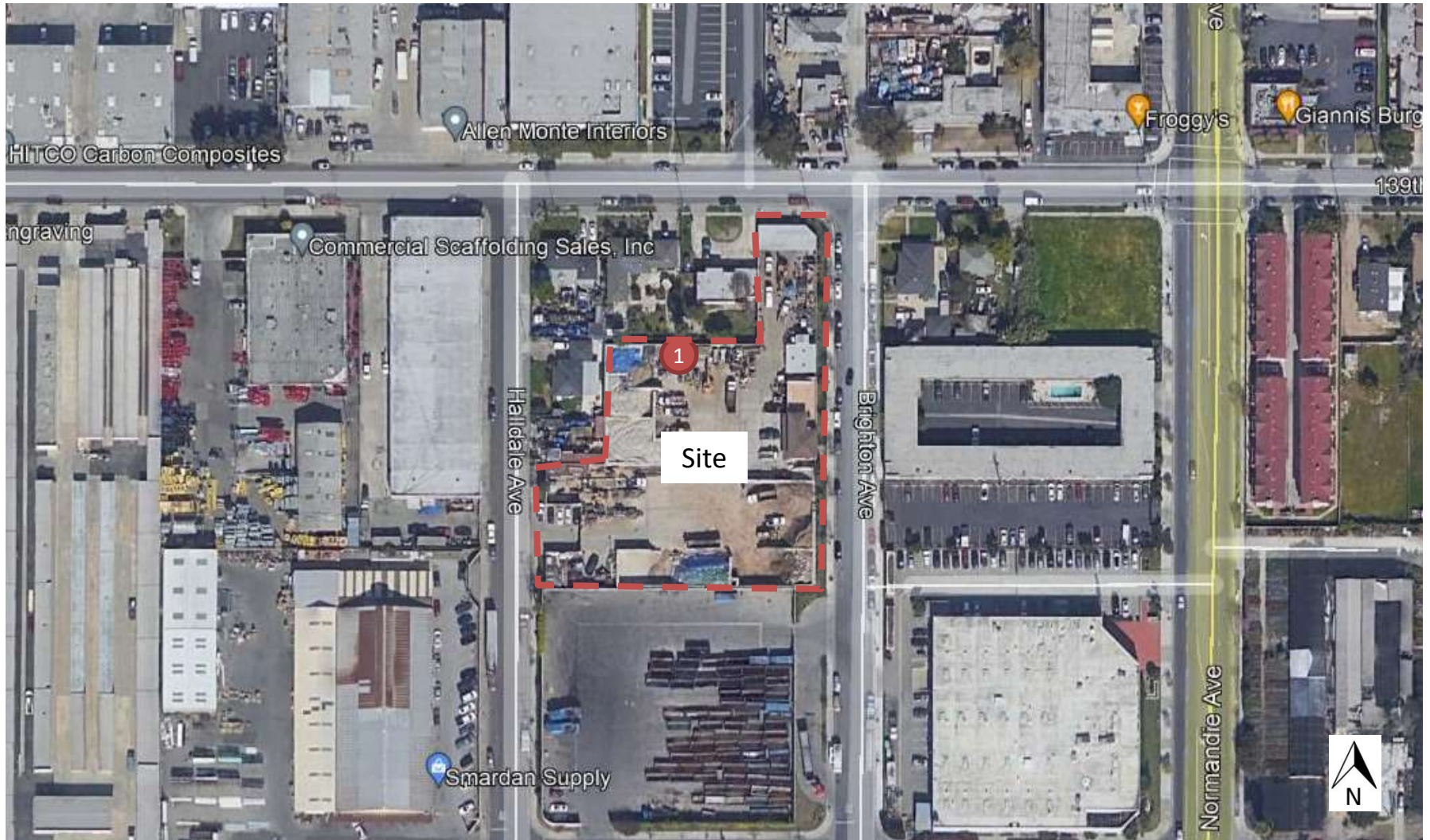
Date	Time	1-Hour dB(A)							
		LEQ	LMAX	LMIN	L2	L8	L25	L50	L90
8/25/2021	12AM-1AM	53.4	75.4	44.4	60.1	55.8	53.7	49.4	46.8
8/25/2021	1AM-2AM	51.0	73.0	42.0	57.7	53.4	51.3	47.0	44.4
8/25/2021	2AM-3AM	49.7	71.7	40.7	56.4	52.1	50.0	45.7	43.1
8/25/2021	3AM-4AM	48.0	70.0	39.0	54.7	50.4	48.3	44.0	41.4
8/25/2021	4AM-5AM	49.0	71.0	40.0	55.7	51.4	49.3	45.0	42.4
8/25/2021	5AM-6AM	52.8	74.8	43.8	59.5	55.2	53.1	48.8	46.2
8/25/2021	6AM-7AM	59.2	81.2	50.2	65.9	61.6	59.5	55.2	52.6
8/25/2021	7AM-8AM	61.5	83.5	50.6	68.2	63.9	61.8	57.5	54.9
8/25/2021	8AM-9AM	59.7	79.5	50.7	69.8	62.6	58.5	53.6	52.1
8/25/2021	9AM-10AM	59.6	80.1	50.3	66.6	62.2	59.1	53.9	52.0
8/25/2021	10AM-11AM	58.5	80.5	49.5	65.2	60.9	58.8	54.5	51.9
8/25/2021	11AM-12PM	56.2	72.6	47.8	64.0	60.5	58.2	53.5	50.8
8/25/2021	12PM-1PM	56.2	71.0	48.2	64.6	61.6	58.8	53.3	50.8
8/25/2021	1PM-2PM	55.9	72.6	49.3	61.3	59.2	58.2	53.6	51.3
8/25/2021	2PM-3PM	59.1	81.1	50.1	65.8	61.5	59.4	55.1	52.5
8/25/2021	3PM-4PM	60.3	82.3	51.3	67.0	62.7	60.6	56.3	53.7
8/25/2021	4PM-5PM	61.8	83.8	52.8	68.5	64.2	62.1	57.8	55.2
8/25/2021	5PM-6PM	61.5	83.5	52.5	68.2	63.9	61.8	57.5	54.9
8/25/2021	6PM-7PM	59.7	81.7	50.7	66.4	62.1	60.0	55.7	53.1
8/25/2021	7PM-8PM	58.4	80.4	49.4	65.1	60.8	58.7	54.4	51.8
8/25/2021	8PM-9PM	57.3	79.3	48.3	64.0	59.7	57.6	53.3	50.7
8/25/2021	9PM-10PM	55.6	78.6	47.6	63.3	59.0	56.9	52.6	50.0
8/25/2021	10PM-11PM	55.0	77.6	46.6	62.3	58.0	55.9	51.6	49.0
8/25/2021	11PM-12AM	55.0	77.0	46.0	61.7	57.4	55.3	51.0	48.4
CNEL		62.0							
Notes: <sup>1</sup> Long-term noise monitoring location (LT1) is illustrated in Exhibit E.									


The data presented in Table 4 and the field notes provided in Appendix A indicate that ambient noise levels in the project vicinity range between 55.0 and 61.8 dBA Leq during operational hours. The

overall CNEL was 62.0 dBA CNEL. The field data indicates that traffic and industrial uses are the dominant noise sources.

As a worst-case scenario, the operational noise levels will be compared to the lowest hourly daytime level of 55.6 dBA Leq and nighttime level of 55.0 dBA Leq, as the project operates from 10 PM to 11 PM.

Exhibit D  
Noise Measurement Location



 = Measurement location

## **6.0 Future Noise Environment Impacts and Mitigation**

This assessment analyzes future noise impacts to and from the project compares the results to the City's Noise Standards. Traffic noise impacts are analyzed from the adjacent subject roadways. The analysis details the estimated exterior noise levels.

### **6.1 Traffic Noise Impact**

The main source of ambient noise to the site is traffic noise and industrial uses. The CNEL levels are 62 dBA on site, which is below the normally acceptable level of 65 dBA CNEL for sports use.

The project will create approximately 198 daily trips. The main source of traffic noise to the site is Normandie Ave. which has an ADT of over 20,000 according to city-published 2018 traffic counts. The addition of 198 trips is not expected to increase the overall ambient level. Therefore, the impact is less than significant.

### **6.2 Noise Impacts to Off-Site Receptors Due to Stationary Noise Sources**

The worst-case stationary noise was modeled using SoundPLAN 3D acoustical modeling software. This worst-case scenario models all operational noise operating at the same time for the full duration of an hour. The model utilizes the sound level data for the events specified within Section 4.2 of this report which includes parking and soccer activities. There is an existing 10' wall surrounding the site included in the model.

A total of seven (7) receptors were modeled to accurately evaluate the proposed project's operational noise impact to adjacent land uses. A receptor is denoted by a yellow dot. Exhibit F shows the model with project-only operational noise for day Leq at full operational capacity. Exhibit G shows the model with project-only operational noise for day Leq at half operational capacity. Between 10 PM and 11 PM only fields 1 through 4 will be operational.

#### **Project Operational Noise Levels**

"Project only" noise levels calculated by SoundPLAN are in Exhibit F and G and illustrate how the noise will propagate at the site. Worst-case operational noise levels are anticipated to range between 35 to 49 dBA Leq at the receptors R1 – R7.

#### **Project Plus Ambient Operational Noise Levels**

Project plus ambient noise level projections are provided in Table 5 (next page). Noise levels are anticipated to be 56 dBA Leq during the day and 55 dBA Leq at night at the receptors R1 – R7 during operational hours.

<Table 5, next page>

**Table 5: Worst-Case Predicted Operational Noise Levels (dBA, Leq)**

Receptor <sup>1</sup>	Existing Day Ambient Noise Level <sup>2</sup>	Full Capacity Project Noise Level <sup>3</sup>	Total Combined Noise Level	Daytime Land Use Noise Limit <sup>4</sup>	Change in Noise Level as Result of Project
R1	56	39	56	70	0
R2	56	49	56	56	0
R3	56	43	56	56	0
R4	56	48	56	56	0
R5	56	49	56	70	0
R6	56	46	56	70	0
R7	56	43	56	70	0

Notes:

- R1 and R5 are industrial and R2 through R4 are residential.
- FHWA projection calibrated to LT1 and traffic counts.
- See Exhibit F for the operational noise level projections at said receptors.
- 8.36.040(C) If the ambient exceeds the noise standard the ambient becomes the noise standard.

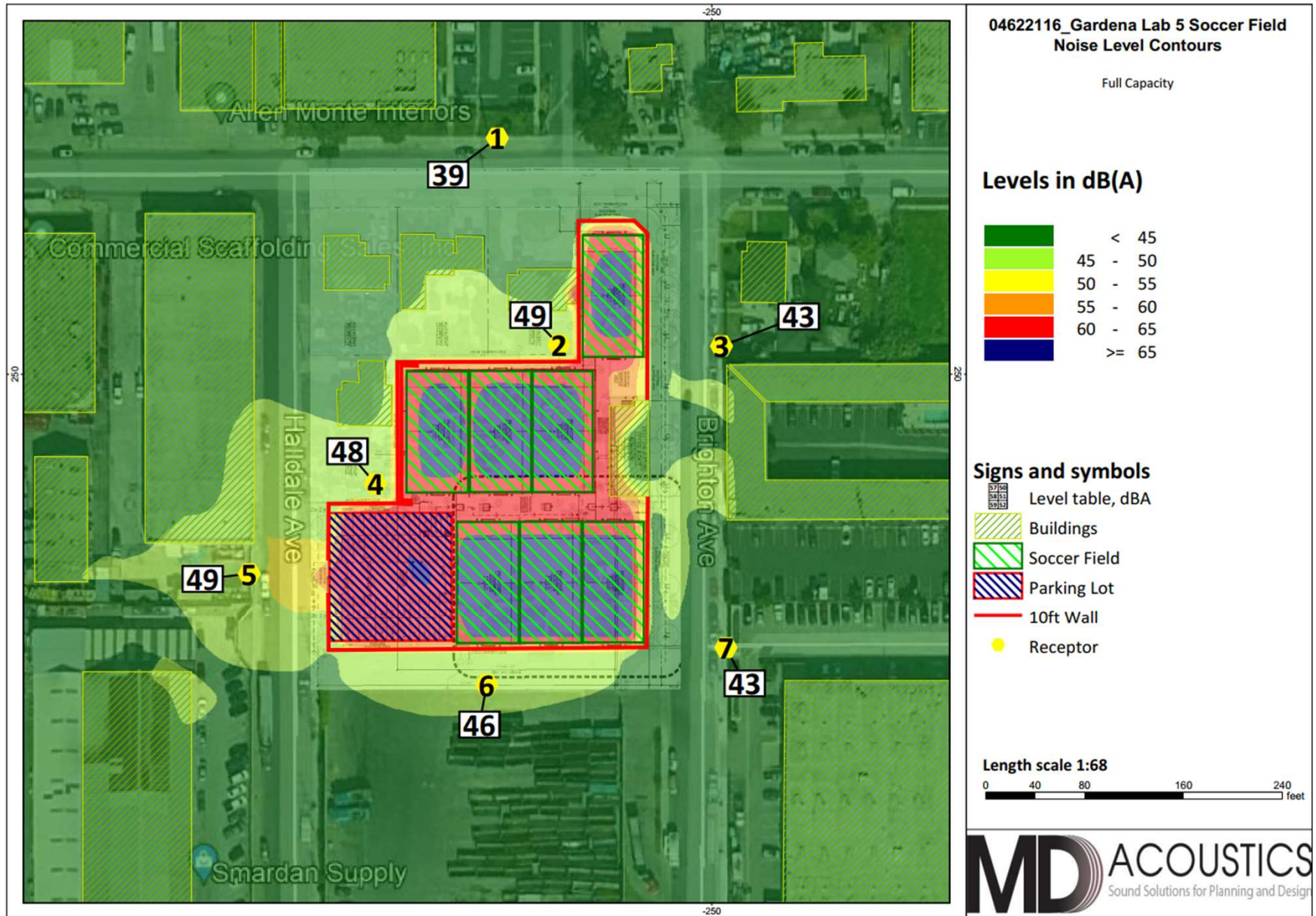
Receptor <sup>1</sup>	Existing Night Ambient Noise Level <sup>2</sup>	Half Capacity Project Noise Level <sup>3</sup>	Total Combined Noise Level	Nighttime Land Use Noise Limit <sup>4</sup>	Change in Noise Level as Result of Project
R1	55	35	55	70	0
R2	55	45	55	55	0
R3	55	39	55	55	0
R4	55	45	55	55	0
R5	55	47	56	70	1
R6	55	44	55	70	0
R7	55	41	55	70	0

Notes:

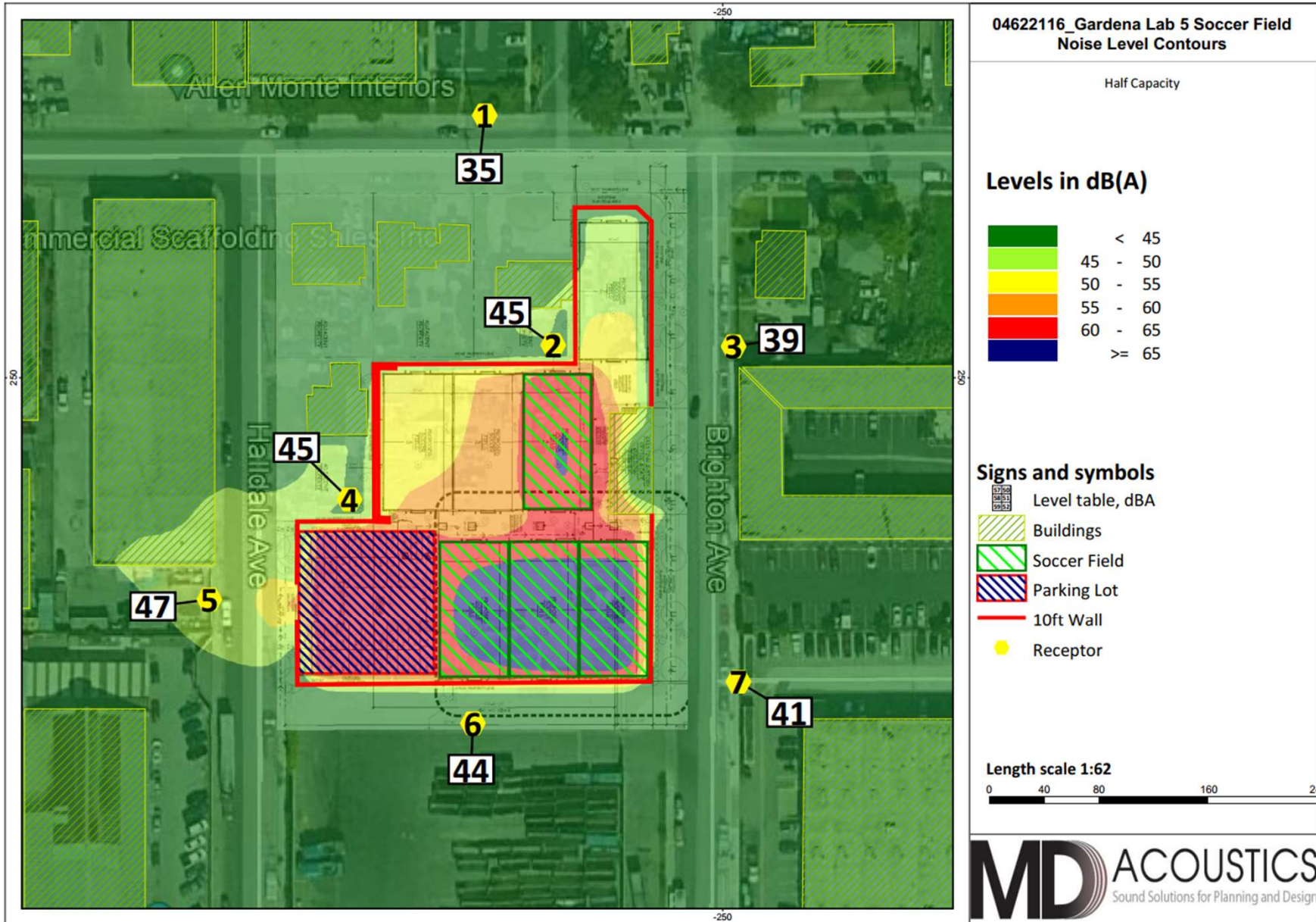
- R1 and R5 are industrial and R2 through R4 are residential.
- FHWA projection calibrated to LT1 and traffic counts.
- See Exhibit G for the operational noise level projections at said receptors.
- 8.36.040(C) If the ambient exceeds the noise standard the ambient becomes the noise standard.

As demonstrated in Table 5, the combined noise levels do not exceed the City’s noise limits given by Section 8.36.040 of the Municipal Code which stipulate a 70 dBA industrial noise limit and a residential noise limit that cannot exceed the ambient in cases such as this where the ambient exceeds the noise limit. Therefore, the project’s impact is less than significant and no additional mitigation measures are required.

Full Capacity Operational Noise Levels



Half Capacity Operational Noise Levels





## 7.0 Construction Noise Impact

The degree of construction noise may vary for different areas of the project site and also vary depending on the construction activities. This section summarizes discusses noise and ground-borne vibration modeling efforts, impact analysis, and mitigation, if necessary.

### 7.1 Construction Noise

Construction noise associated with each phase of the project was calculated at the residences to the south utilizing methodology presented in the FHWA Roadway Construction Noise Model together with several key construction parameters including distance to each sensitive receiver, equipment usage, percent usage factor, and baseline parameters for the project site. Construction equipment typically moves back and forth across the site, and it is an industry standard to use the acoustical center of the site to model average construction noise levels.

The anticipated construction equipment was split into two phases, site preparation and building construction. Noise levels associated with each phase are shown in Table 6. The construction noise calculation output worksheet is located in Appendix C.

**Table 6: Construction Noise Level by Phase (dBA, Leq)**

Activity	Noise Levels at Nearest Sensitive Receptor	
	Leq	Lmax
Site Preparation	66	72
Building Construction	64	69
Note: Construction Modeling Worksheets are provided in Appendix C.		

As shown in Table 6, project construction noise will range between 64 to 66 dBA Leq and 69 to 72 dBA Lmax at nearby sensitive receptors.

The Project will be required to adhere to Section 8.36.080(G) of the City of Gardena Municipal Code which outlines the allowed times for construction. This impact is less than significant. No mitigation is required.

### 7.2 Construction Vibration

Construction activities can produce vibration that may be felt by adjacent land uses. The construction of the proposed project would not require the use of equipment such as pile drivers, which are known to generate substantial construction vibration levels. The primary vibration source during construction may be from a bulldozer. A large bulldozer has a vibration impact of 0.089 inches per second peak particle velocity (PPV) at 25 feet which is perceptible but below any risk to architectural damage.

The fundamental equation used to calculate vibration propagation through average soil conditions and distance is as follows:

$$PPV_{\text{equipment}} = PPV_{\text{ref}} (100/D_{\text{rec}})^n$$

Where:  $PPV_{\text{ref}}$  = reference PPV at 100ft.

$D_{\text{rec}}$  = distance from equipment to receiver in ft.

$n = 1.1$  (the value related to the attenuation rate through the ground)

The thresholds from the Caltrans Transportation and Construction Induced Vibration Guidance Manual in Table 7 (below) provides general thresholds and guidelines as to the vibration damage potential from vibratory impacts.

**Table 7: Guideline Vibration Damage Potential Threshold Criteria**

Structure and Condition	Maximum PPV (in/sec)	
	Transient Sources	Continuous/Frequent
		Intermittent Sources
Extremely fragile historic buildings, ruins, ancient monuments	0.12	0.08
Fragile buildings	0.2	0.1
Historic and some old buildings	0.5	0.25
Older residential structures	0.5	0.3
New residential structures	1.0	0.5
Modern industrial/commercial buildings	2.0	0.5

Source: Table 19, Transportation and Construction Vibration Guidance Manual, Caltrans, Sept. 2013.  
 Note: Transient sources create a single isolated vibration event, such as blasting or drop balls. Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.

Table 8 gives approximate vibration levels for particular construction activities. This data provides a reasonable estimate for a wide range of soil conditions.

**Table 8: Vibration Source Levels for Construction Equipment**

Equipment	Peak Particle Velocity	Approximate Vibration Level
	(inches/second) at 25 feet	LV (dVB) at 25 feet
Pile driver (impact)	1.518 (upper range)	112
	0.644 (typical)	104
Pile driver (sonic)	0.734 upper range	105
	0.170 typical	93
Clam shovel drop (slurry wall)	0.202	94
Hydromill	0.008 in soil	66
(slurry wall)	0.017 in rock	75
Vibratory Roller	0.21	94
Hoe Ram	0.089	87
Large bulldozer	0.089	87
Caisson drill	0.089	87
Loaded trucks	0.076	86
Jackhammer	0.035	79
Small bulldozer	0.003	58

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

Construction equipment has the potential to get as close as 25 feet to the adjacent residential buildings. At this distance, a large bulldozer would yield a worst-case 0.089 PPV (in/sec) which would be perceptible but would not result in architectural damage. The impact is not significant. No mitigation is required.

### **7.3 Construction Noise Reduction Measures**

In addition to complying with Section 8.36.080(G) of the City of Gardena Municipal Code, the following measures are recommended to reduce construction noise.

1. During construction, the contractor shall ensure all construction equipment is equipped with appropriate noise attenuating devices.
2. The contractor should locate equipment staging areas that will create the greatest distance between construction-related noise/vibration sources and sensitive receptors nearest the project site during all project construction.
3. Idling equipment should be turned off when not in use.
4. Equipment shall be maintained so that vehicles and their loads are secured from rattling and banging.

## **8.0    *References***

State of California General Plan Guidelines: 1998. Governor's Office of Planning and Research

City of Gardena: General Plan Noise Element.

City of Gardena: Noise Ordinance Chapter 8.36

**Appendix A:**  
Field Sheets

**24-Hour Continuous Noise Measurement Datasheet**

<b>Project:</b>	<u>Lab 5</u>	<b>Site Observations:</b>	Daytime temps in the 90's, night time in the low 60's. Wind 1-3MPH from the South, South West
<b>Site Address/Location:</b>	<u>14000 Halldale Ave. Gardena</u>		
<b>Date:</b>	<u>8/25/2021</u>		
<b>Field Tech/Engineer:</b>	<u>Jason Schuyler</u>		

**General Location:**

<b>Sound Meter:</b>	<u>NTi Audio</u>	<b>SN:</b> <u>08562-E0</u>
<b>Settings:</b>	<u>A-weighted, slow, 1-sec, 1-hr interval</u>	
<b>Meteorological Con.:</b>	<u>90 F, minimal wind, partly sunny</u>	
<b>Site ID:</b>	<u>ST1</u>	

**Site Topo:** Hard site

**Ground Type:** Concrete

**Noise Source(s) w/ Distance:**

Noise Source(s) w/ Distance:

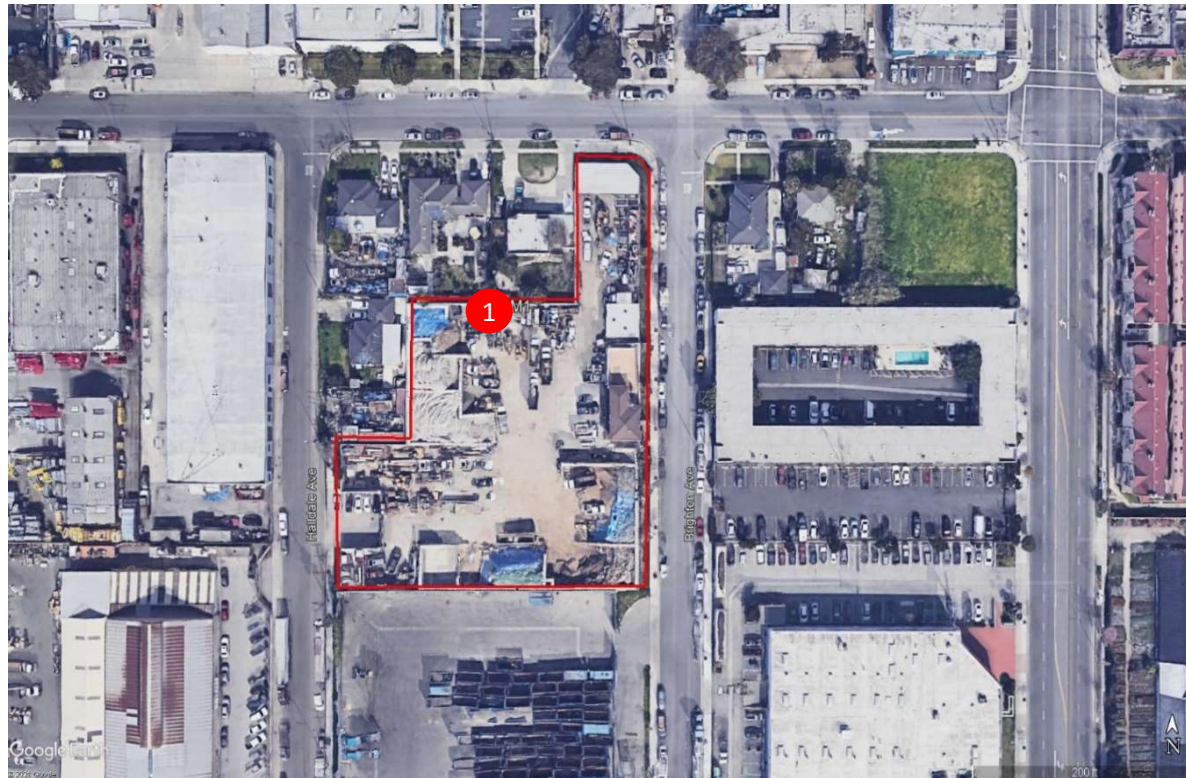
Noise comes from the area, not any 1 source mostly traffic

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**Figure 1: LT-1 Monitoring Location**



**Figure 2: LT-1 Photo**



**24-Hour Noise Measurement Datasheet - Cont.**

**Project:** Lab 5 **Day:** 1 of 1  
**Site Address/Location:** 14000 Halldale Ave. Gardena  
**Site ID:** LT-1

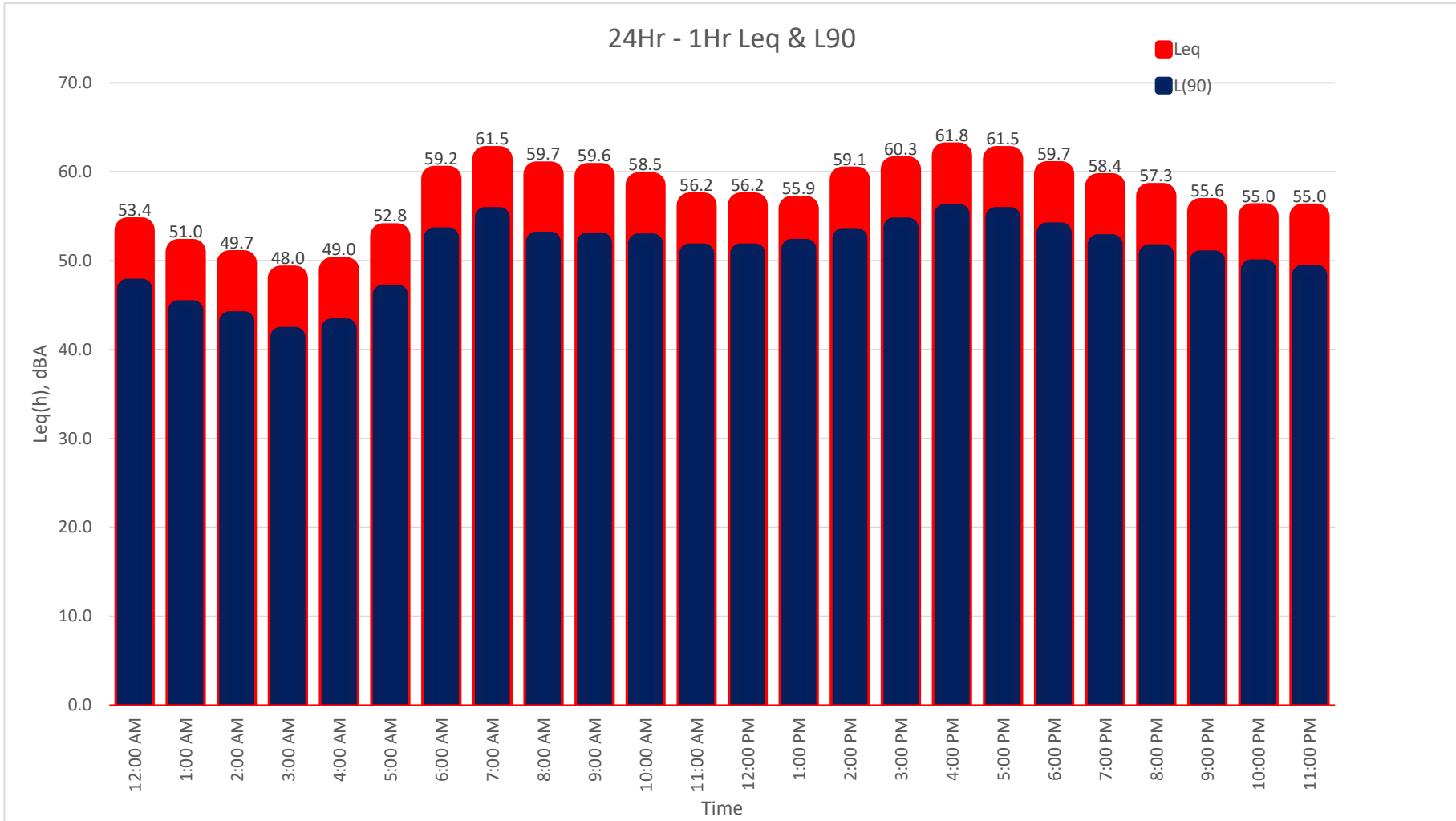
Date	Start	Stop	Leq	Lmax	Lmin	L2	L8	L25	L50	L90
8/25/2021	12:00 AM	1:00 AM	53.4	75.4	44.4	60.1	55.8	53.7	49.4	46.8
8/25/2021	1:00 AM	2:00 AM	51.0	73.0	42.0	57.7	53.4	51.3	47.0	44.4
8/25/2021	2:00 AM	3:00 AM	49.7	71.7	40.7	56.4	52.1	50.0	45.7	43.1
8/25/2021	3:00 AM	4:00 AM	48.0	70.0	39.0	54.7	50.4	48.3	44.0	41.4
8/25/2021	4:00 AM	5:00 AM	49.0	71.0	40.0	55.7	51.4	49.3	45.0	42.4
8/25/2021	5:00 AM	6:00 AM	52.8	74.8	43.8	59.5	55.2	53.1	48.8	46.2
8/25/2021	6:00 AM	7:00 AM	59.2	81.2	50.2	65.9	61.6	59.5	55.2	52.6
8/25/2021	7:00 AM	8:00 AM	61.5	83.5	50.6	68.2	63.9	61.8	57.5	54.9
8/25/2021	8:00 AM	9:00 AM	59.7	79.5	50.7	69.8	62.6	58.5	53.6	52.1
8/25/2021	9:00 AM	10:00 AM	59.6	80.1	50.3	66.6	62.2	59.1	53.9	52.0
8/25/2021	10:00 AM	11:00 AM	58.5	80.5	49.5	65.2	60.9	58.8	54.5	51.9
8/25/2021	11:00 AM	12:00 PM	56.2	72.6	47.8	64.0	60.5	58.2	53.5	50.8
8/25/2021	12:00 PM	1:00 PM	56.2	71.0	48.2	64.6	61.6	58.8	53.3	50.8
8/25/2021	1:00 PM	2:00 PM	55.9	72.6	49.3	61.3	59.2	58.2	53.6	51.3
8/25/2021	2:00 PM	3:00 PM	59.1	81.1	50.1	65.8	61.5	59.4	55.1	52.5
8/25/2021	3:00 PM	4:00 PM	60.3	82.3	51.3	67.0	62.7	60.6	56.3	53.7
8/25/2021	4:00 PM	5:00 PM	61.8	83.8	52.8	68.5	64.2	62.1	57.8	55.2
8/25/2021	5:00 PM	6:00 PM	61.5	83.5	52.5	68.2	63.9	61.8	57.5	54.9
8/25/2021	6:00 PM	7:00 PM	59.7	81.7	50.7	66.4	62.1	60.0	55.7	53.1
8/25/2021	7:00 PM	8:00 PM	58.4	80.4	49.4	65.1	60.8	58.7	54.4	51.8
8/25/2021	8:00 PM	9:00 PM	57.3	79.3	48.3	64.0	59.7	57.6	53.3	50.7
8/25/2021	9:00 PM	10:00 PM	55.6	78.6	47.6	63.3	59.0	56.9	52.6	50.0
8/25/2021	10:00 PM	11:00 PM	55.0	77.6	46.6	62.3	58.0	55.9	51.6	49.0
8/25/2021	11:00 PM	12:00 AM	55.0	77.0	46.0	61.7	57.4	55.3	51.0	48.4

**CNEL:** 62.0

**24-Hour Continuous Noise Measurement Datasheet - Cont.**

**Project:** Lab 5  
**Site Address/Location:** 14000 Halldale Ave. Gardena  
**Site ID:** LT-1

**Day:** 1 of 1





**15-Minute Continuous Noise Measurement Datasheet**

**Project:** Lab 5 Gardena  
**Site Address/Location:** 9740 Telfair Ave Pacoima, CA 91331  
**Date:** 8/26/2020  
**Field Tech/Engineer:** Jason Schuyler

**Site Observations:** Over cast and hazy skies, measurements were performed on the site and measured the baseline noise conditions created by the teams playing soccer.

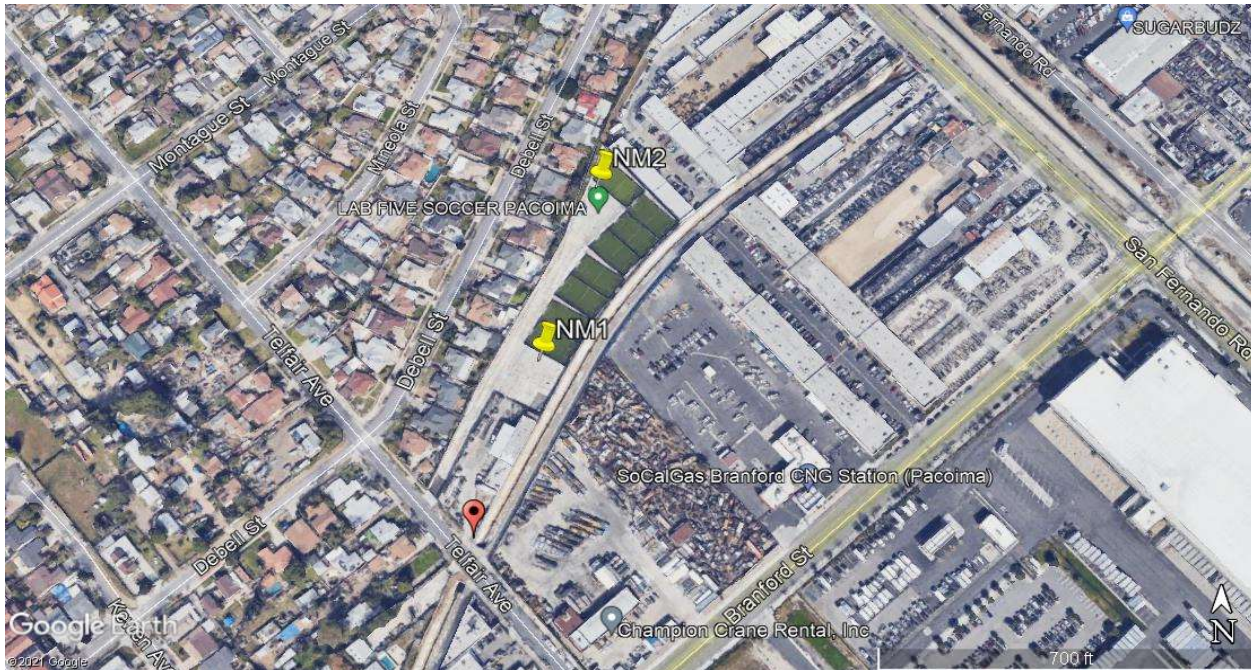
**General Location:**  
**Sound Meter:** NTi Audio **SN:** A2A-05967-E0  
**Settings:** A-weighted, slow, 1-sec, 10-minute interval  
**Meteorological Con.:** 87 degrees F, minimal wind, west-North west, 1-3mphs  
**Site ID:** NM2

**Site Topo:** Flat  
**Ground Type:** Flat w enclosures for soccer

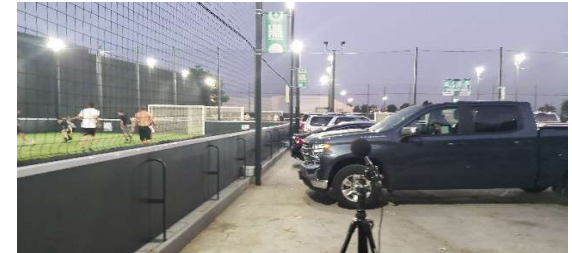
**Noise Source(s) w/ Distance:**

NM2 - 5' from soccer field

**Figure 1: Monitoring Locations**



**Figure 2: NM2 Photo**



**Figure 3: NM2 Photo**



**15-Minute Continuous Noise Measurement Datasheet**

**Project:** Lab 5 Gardena  
**Site Address/Location:** 9740 Telfair Ave Pacoima, CA 91331  
**Site ID:** NM2

**Figure 4: NM2 Photo**

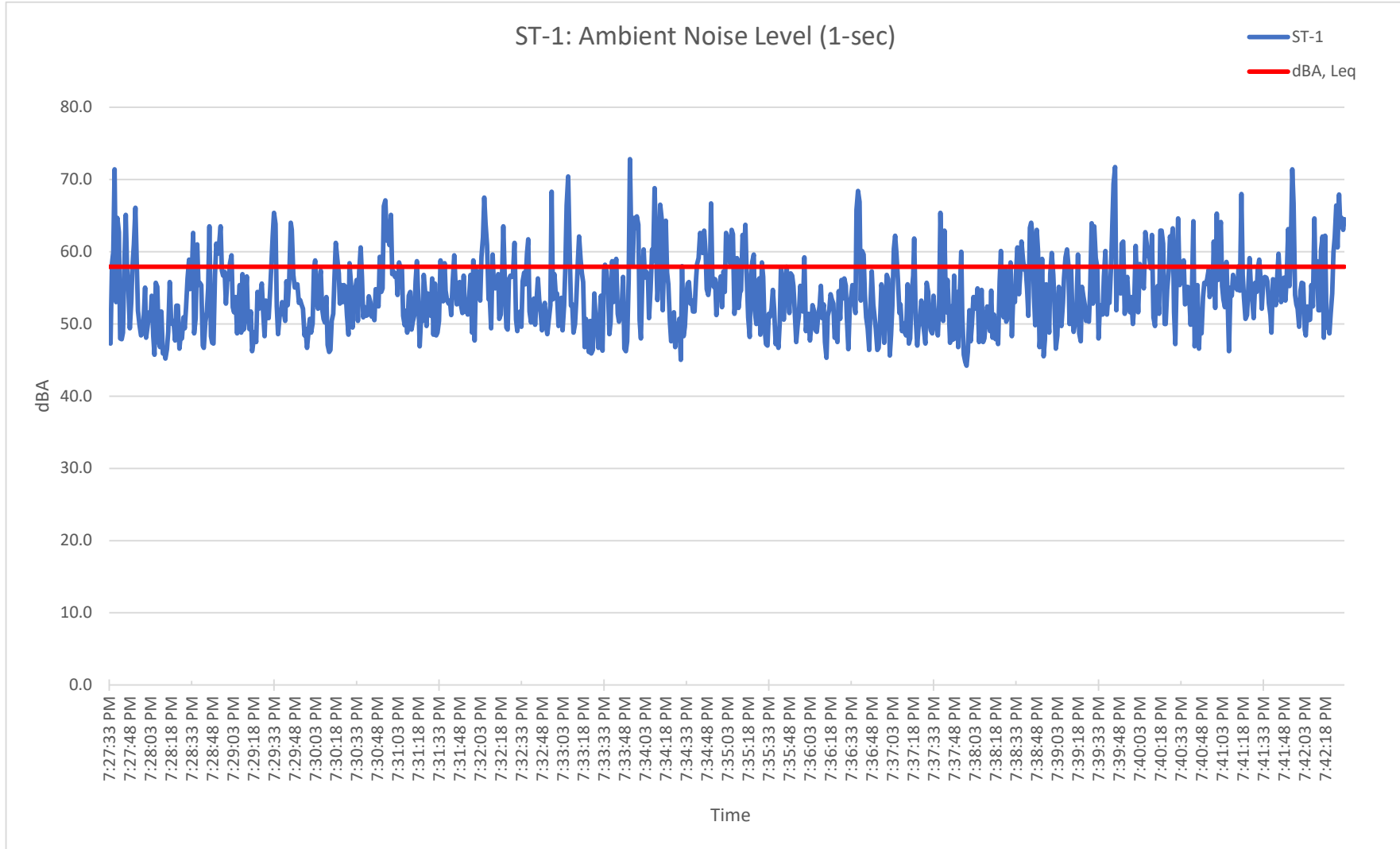


**Table 1: Baseline Noise Measurement Summary**

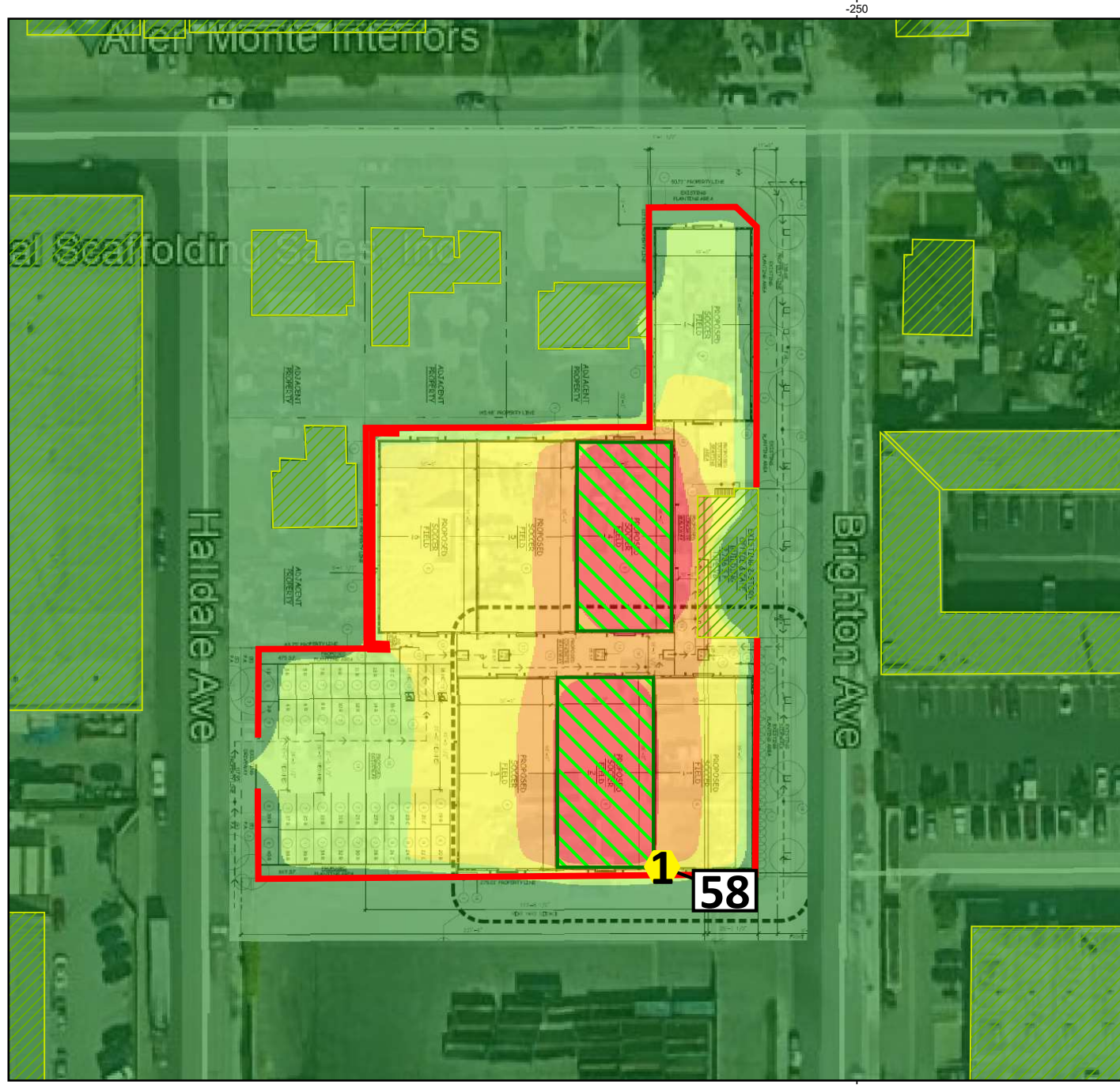
Location	Start	Stop	Leq	Lmax	Lmin	L2	L8	L25	L50	L90
1	7:27 PM	7:42 PM	57.9	79.9	42	66.2	61.8	57.7	54.6	50.2

**15-Minute Continuous Noise Measurement Datasheet**

**Project:** Lab 5 Gardena  
**Site Address/Location:** 9740 Telfair Ave Pacoima, CA 91331  
**Site ID:** ST1



**Appendix B:**  
SoundPLAN Input/Outputs

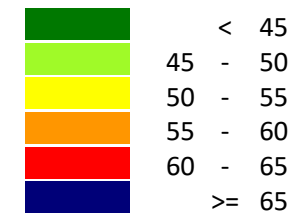


-250

### 04622116\_Gardena Lab 5 Soccer Field Noise Level Contours

Calibration

#### Levels in dB(A)



#### Signs and symbols

- Level table, dBA
- Buildings
- Soccer Field
- Parking Lot
- 10ft Wall
- Receptor

Length scale 1:52



-250

**Gardena Lab 5 Soccer Field  
Contribution level - 003 - Outdoor SP**

**9**

Source	Source group	Source ty	Tr. lane	LrD dB(A)	A dB	
Receiver Receiver 5	FI G	LrD,lim		dB(A)	LrD 57.9	dB(A)
Soccer Field 2	Default industrial noise	Area		57.7	0.0	
Soccer Field 4	Default industrial noise	Area		45.6	0.0	

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	MD Acoustics 1197 E Los Angeles Ave, Unit C 256 Simi Valley, CA 93065 USA	1
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**Gardena Lab 5 Soccer Field  
Contribution level - 001 - Outdoor SP**

**9**

Source	Source group	Source ty	Tr. lane	LrD dB(A)	A dB	
<b>Receiver Receiver 1 FI G LrD,lim dB(A) LrD 39.1 dB(A)</b>						
Soccer Field 7	Default industrial noise	Area		35.1	0.0	
Soccer Field 3	Default industrial noise	Area		31.1	0.0	
Soccer Field 5	Default industrial noise	Area		30.9	0.0	
Auto Parking - 40 Spaces	Default parking lot noise	PLot		28.2	0.0	
Soccer Field 4	Default industrial noise	Area		28.0	0.0	
Soccer Field 6	Default industrial noise	Area		27.3	0.0	
Soccer Field 2	Default industrial noise	Area		25.8	0.0	
Soccer Field 1	Default industrial noise	Area		23.8	0.0	
<b>Receiver Receiver 2 FI G LrD,lim dB(A) LrD 48.8 dB(A)</b>						
Soccer Field 7	Default industrial noise	Area		42.4	0.0	
Soccer Field 4	Default industrial noise	Area		42.0	0.0	
Soccer Field 5	Default industrial noise	Area		41.3	0.0	
Soccer Field 6	Default industrial noise	Area		40.7	0.0	
Auto Parking - 40 Spaces	Default parking lot noise	PLot		36.6	0.0	
Soccer Field 2	Default industrial noise	Area		36.5	0.0	
Soccer Field 3	Default industrial noise	Area		36.3	0.0	
Soccer Field 1	Default industrial noise	Area		35.0	0.0	
<b>Receiver Receiver 3 FI G LrD,lim dB(A) LrD 43.2 dB(A)</b>						
Soccer Field 7	Default industrial noise	Area		39.0	0.0	
Soccer Field 4	Default industrial noise	Area		34.3	0.0	
Soccer Field 1	Default industrial noise	Area		33.7	0.0	
Soccer Field 5	Default industrial noise	Area		33.7	0.0	
Soccer Field 6	Default industrial noise	Area		33.5	0.0	
Soccer Field 2	Default industrial noise	Area		31.2	0.0	
Auto Parking - 40 Spaces	Default parking lot noise	PLot		30.3	0.0	
Soccer Field 3	Default industrial noise	Area		28.5	0.0	
<b>Receiver Receiver 4 FI G LrD,lim dB(A) LrD 48.2 dB(A)</b>						
Auto Parking - 40 Spaces	Default parking lot noise	PLot		44.9	0.0	
Soccer Field 6	Default industrial noise	Area		40.8	0.0	
Soccer Field 5	Default industrial noise	Area		37.7	0.0	
Soccer Field 3	Default industrial noise	Area		37.2	0.0	
Soccer Field 4	Default industrial noise	Area		35.8	0.0	
Soccer Field 2	Default industrial noise	Area		35.6	0.0	
Soccer Field 1	Default industrial noise	Area		35.2	0.0	
Soccer Field 7	Default industrial noise	Area		28.0	0.0	
<b>Receiver Receiver 5 FI G LrD,lim dB(A) LrD 49.0 dB(A)</b>						
Auto Parking - 40 Spaces	Default parking lot noise	PLot		46.3	0.0	
Soccer Field 3	Default industrial noise	Area		40.9	0.0	
Soccer Field 2	Default industrial noise	Area		39.6	0.0	
Soccer Field 1	Default industrial noise	Area		39.2	0.0	
Soccer Field 4	Default industrial noise	Area		32.8	0.0	
Soccer Field 5	Default industrial noise	Area		32.7	0.0	
Soccer Field 6	Default industrial noise	Area		32.4	0.0	

**Gardena Lab 5 Soccer Field  
Contribution level - 001 - Outdoor SP**

**9**

Source	Source group	Source ty	Tr. lane	LrD dB(A)	A dB	
Soccer Field 7	Default industrial noise	Area		26.3	0.0	
Receiver Receiver 6 FI G LrD,lim dB(A) LrD 45.7 dB(A)						
Auto Parking - 40 Spaces	Default parking lot noise	PLot		40.9	0.0	
Soccer Field 3	Default industrial noise	Area		38.8	0.0	
Soccer Field 2	Default industrial noise	Area		37.7	0.0	
Soccer Field 1	Default industrial noise	Area		36.8	0.0	
Soccer Field 6	Default industrial noise	Area		33.3	0.0	
Soccer Field 4	Default industrial noise	Area		33.1	0.0	
Soccer Field 5	Default industrial noise	Area		32.7	0.0	
Soccer Field 7	Default industrial noise	Area		28.9	0.0	
Receiver Receiver 7 FI G LrD,lim dB(A) LrD 42.9 dB(A)						
Soccer Field 1	Default industrial noise	Area		36.6	0.0	
Soccer Field 2	Default industrial noise	Area		35.6	0.0	
Auto Parking - 40 Spaces	Default parking lot noise	PLot		34.6	0.0	
Soccer Field 3	Default industrial noise	Area		33.5	0.0	
Soccer Field 6	Default industrial noise	Area		33.0	0.0	
Soccer Field 5	Default industrial noise	Area		32.2	0.0	
Soccer Field 7	Default industrial noise	Area		30.9	0.0	
Soccer Field 4	Default industrial noise	Area		30.8	0.0	



**Gardena Lab 5 Soccer Field**  
**Octave spectra of the sources in dB(A) - 001 - Outdoor SP**

**3**

Name	Source type	I or A m,m <sup>2</sup>	Li dB(A)	R'w dB	L'w dB(A)	Lw dB(A)	KI dB	KT dB	LwMax dB(A)	DO-Wall dB	Time histogram	Emission spectrum	63Hz dB(A)	125Hz dB(A)	250Hz dB(A)	500Hz dB(A)	1kHz dB(A)	2kHz dB(A)	4kHz dB(A)	8kHz dB(A)	16kHz dB(A)
Soccer Field 1	Area	448.76			60.6	87.1	0.0	0.0	87.1	0	100%/24h	Soccer Game 15min - 5ft from corner	69.6	74.3	73.1	80.2	82.7	80.9	75.8	66.3	51.7
Soccer Field 2	Area	454.43			60.5	87.1	0.0	0.0	87.1	0	100%/24h	Soccer Game 15min - 5ft from corner	69.6	74.3	73.1	80.2	82.7	80.9	75.8	66.3	51.7
Soccer Field 3	Area	456.44			60.5	87.1	0.0	0.0	87.1	0	100%/24h	Soccer Game 15min - 5ft from corner	69.6	74.3	73.1	80.2	82.7	80.9	75.8	66.3	51.7
Soccer Field 4	Area	443.12			60.6	87.1	0.0	0.0	87.1	0	100%/24h	Soccer Game 15min - 5ft from corner	69.6	74.3	73.1	80.2	82.7	80.9	75.8	66.3	51.7
Soccer Field 5	Area	452.27			60.5	87.1	0.0	0.0	87.1	0	100%/24h	Soccer Game 15min - 5ft from corner	69.6	74.3	73.1	80.2	82.7	80.9	75.8	66.3	51.7
Soccer Field 6	Area	453.53			60.5	87.1	0.0	0.0	87.1	0	100%/24h	Soccer Game 15min - 5ft from corner	69.6	74.3	73.1	80.2	82.7	80.9	75.8	66.3	51.7
Soccer Field 7	Area	445.38			60.6	87.1	0.0	0.0	87.1	0	100%/24h	Soccer Game 15min - 5ft from corner	69.6	74.3	73.1	80.2	82.7	80.9	75.8	66.3	51.7
Auto Parking - 40 Spaces	PLot	956.80			56.9	86.7	0.0	0.0	86.7	0	E/h - Soccer Parking	Typical spectrum	70.1	81.7	74.2	78.7	78.8	79.2	76.5	70.3	57.5

**Gardena Lab 5 Soccer Field  
Contribution level - 002 - Outdoor SP**

**9**

Source	Source group	Source ty	Tr. lane	LrD dB(A)	A dB	
<b>Receiver Receiver 1 FI G LrD,lim dB(A) LrD 34.6 dB(A)</b>						
Soccer Field 3	Default industrial noise	Area		31.1	0.0	
Soccer Field 4	Default industrial noise	Area		28.0	0.0	
Soccer Field 2	Default industrial noise	Area		25.8	0.0	
Parking Lot	Default parking lot noise	PLot		25.2	0.0	
Soccer Field 1	Default industrial noise	Area		23.8	0.0	
<b>Receiver Receiver 2 FI G LrD,lim dB(A) LrD 44.8 dB(A)</b>						
Soccer Field 4	Default industrial noise	Area		42.0	0.0	
Soccer Field 2	Default industrial noise	Area		36.5	0.0	
Soccer Field 3	Default industrial noise	Area		36.3	0.0	
Soccer Field 1	Default industrial noise	Area		35.0	0.0	
Parking Lot	Default parking lot noise	PLot		33.5	0.0	
<b>Receiver Receiver 3 FI G LrD,lim dB(A) LrD 38.8 dB(A)</b>						
Soccer Field 4	Default industrial noise	Area		34.3	0.0	
Soccer Field 1	Default industrial noise	Area		33.7	0.0	
Soccer Field 2	Default industrial noise	Area		31.2	0.0	
Soccer Field 3	Default industrial noise	Area		28.5	0.0	
Parking Lot	Default parking lot noise	PLot		27.3	0.0	
<b>Receiver Receiver 4 FI G LrD,lim dB(A) LrD 45.0 dB(A)</b>						
Parking Lot	Default parking lot noise	PLot		41.9	0.0	
Soccer Field 3	Default industrial noise	Area		37.2	0.0	
Soccer Field 4	Default industrial noise	Area		35.8	0.0	
Soccer Field 2	Default industrial noise	Area		35.6	0.0	
Soccer Field 1	Default industrial noise	Area		35.2	0.0	
<b>Receiver Receiver 5 FI G LrD,lim dB(A) LrD 47.3 dB(A)</b>						
Parking Lot	Default parking lot noise	PLot		43.3	0.0	
Soccer Field 3	Default industrial noise	Area		40.9	0.0	
Soccer Field 2	Default industrial noise	Area		39.6	0.0	
Soccer Field 1	Default industrial noise	Area		39.2	0.0	
Soccer Field 4	Default industrial noise	Area		32.8	0.0	
<b>Receiver Receiver 6 FI G LrD,lim dB(A) LrD 44.2 dB(A)</b>						
Soccer Field 3	Default industrial noise	Area		38.8	0.0	
Parking Lot	Default parking lot noise	PLot		37.9	0.0	
Soccer Field 2	Default industrial noise	Area		37.7	0.0	
Soccer Field 1	Default industrial noise	Area		36.8	0.0	
Soccer Field 4	Default industrial noise	Area		33.1	0.0	
<b>Receiver Receiver 7 FI G LrD,lim dB(A) LrD 41.2 dB(A)</b>						
Soccer Field 1	Default industrial noise	Area		36.6	0.0	
Soccer Field 2	Default industrial noise	Area		35.6	0.0	
Soccer Field 3	Default industrial noise	Area		33.5	0.0	
Parking Lot	Default parking lot noise	PLot		31.6	0.0	
Soccer Field 4	Default industrial noise	Area		30.8	0.0	

**Gardena Lab 5 Soccer Field**  
**Octave spectra of the sources in dB(A) - 002 - Outdoor SP**

**3**

Name	Source type	I or A m,m <sup>2</sup>	Li dB(A)	R'w dB	L'w dB(A)	Lw dB(A)	KI dB	KT dB	LwMax dB(A)	DO-Wall dB	Time histogram	Emission spectrum	63Hz dB(A)	125Hz dB(A)	250Hz dB(A)	500Hz dB(A)	1kHz dB(A)	2kHz dB(A)	4kHz dB(A)	8kHz dB(A)	16kHz dB(A)
Soccer Field 1	Area	448.76			60.6	87.1	0.0	0.0	87.1	0	100%/24h	Soccer Game 15min - 5ft from corner	69.6	74.3	73.1	80.2	82.7	80.9	75.8	66.3	51.7
Soccer Field 2	Area	454.43			60.5	87.1	0.0	0.0	87.1	0	100%/24h	Soccer Game 15min - 5ft from corner	69.6	74.3	73.1	80.2	82.7	80.9	75.8	66.3	51.7
Soccer Field 3	Area	456.44			60.5	87.1	0.0	0.0	87.1	0	100%/24h	Soccer Game 15min - 5ft from corner	69.6	74.3	73.1	80.2	82.7	80.9	75.8	66.3	51.7
Soccer Field 4	Area	443.12			60.6	87.1	0.0	0.0	87.1	0	100%/24h	Soccer Game 15min - 5ft from corner	69.6	74.3	73.1	80.2	82.7	80.9	75.8	66.3	51.7
Parking Lot	PLot	949.93			57.0	86.7	0.0	0.0		0	E/h - Soccer Parking Non Peak	Typical spectrum	70.1	81.7	74.2	78.7	78.8	79.2	76.5	70.3	57.5

**Appendix C:**  
Construction Noise Modeling

Receptor - Adjacent Residences

A	B	C	D	E	F	G	H	I	J
Construction Phase Equipment Item	# of Items	Item Lmax at 50 feet, dBA	Dist. To Recptr.	Item Usage Percent	Usage Factor	Dist. Correction dB	Usage Adj. dB	Recptr. Item Lmax, dBA	Recptr. Item Leq, dBA
SITE PREP									
1. Saw	1	76	110	20	0.20	-6.8	-7.0	69.2	62.2
2. Concrete Breaker	1	90	110	10	0.10	-6.8	-10.0	83.2	73.2
3. Jack Hammer	2	85	110	20	0.40	-6.8	-4.0	78.2	74.2
4. Skip Loader	1	80	110	40	0.40	-6.8	-4.0	73.2	69.2
5. Truck	1	84	110	40	0.40	-6.8	-4.0	77.2	73.2
								85.5	78.9
BUILD									
1. Skip Loader	1	80	110	40	0.40	-6.8	-4.0	73.2	69.2
2. Truck	1	84	110	40	0.40	-6.8	-4.0	77.2	73.2
3. Lift	1	85	110	20	0.20	-6.8	-7.0	78.2	71.2
4. Welding Machine	2	73	110	40	0.80	-6.8	-1.0	66.2	65.2
							Log Sum	81.5	76.6

### Barrier insertion loss For Flat Ground

Receiver - North P/L

Enter variables here:

Source Height $H_s$ (ft)	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
Receiver Height $H_R$ (ft)	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Barrier Height $H_B$ (ft)	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Distance Source to barrier (ft)	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Distance Receiver to Barrier (ft)	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Soft Ground = 1; Hard Ground = 0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

#### Calculations

A	100	100.005	100.019998	100.04499	100.07997	100.12492	100.17984	100.2447	100.31949	100.40418	100.49876	100.60318	100.71743	100.84146	100.97524	101.11874
B	10.440307	10.77033	11.18033989	11.661904	12.206556	12.806248	13.453624	14.142136	14.866069	15.620499	16.401219	17.204651	18.027756	18.867962	19.723083	20.59126
C	110.0409	110.0409	110.0409015	110.0409	110.0409	110.0409	110.0409	110.0409	110.0409	110.0409	110.0409	110.0409	110.0409	110.0409	110.0409	110.0409
P	0.399405	0.734428	1.159436401	1.6659922	2.2456222	2.890269	3.5925609	4.3459347	5.1446569	5.983781	6.8590742	7.7669299	8.7042814	9.6685205	10.657426	11.669101
Ground type $H_{eff}$ (with barrier)	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Ground type $H_{eff}$ (no barrier)	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
$H_{eff}$ (with barrier)	14.5	15.5	16.5	17.5	18.5	19.5	20.5	21.5	22.5	23.5	24.5	25.5	26.5	27.5	28.5	29.5
$H_{eff}$ no barrier	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5
$G_B$	0.4910714	0.4732143	0.455357143	0.4375	0.4196429	0.4017857	0.3839286	0.3660714	0.3482143	0.3303571	0.3125	0.2946429	0.2767857	0.2589286	0.2410714	0.2232143
$G_{NB}$	0.6339286	0.6339286	0.633928571	0.6339286	0.6339286	0.6339286	0.6339286	0.6339286	0.6339286	0.6339286	0.6339286	0.6339286	0.6339286	0.6339286	0.6339286	0.6339286
$A_{barrier}$	9.069496	11.661283	13.63711468	15.210378	16.506868	17.602862	18.547517	19.374307	20.107039	20.763231	21.356129	21.895968	22.390804	22.847075	23.269998	23.663848

$IL_{barrier}$	8.6	11.1	13.0	14.3	14.3	14.2	14.1	14.1	14.0	14.0	13.9	13.8	13.8	13.7	13.7	13.6
----------------	-----	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------

Barrier Height (ft)	IL (dBA)
8	9
9	11
10	13
11	14
12	14
13	14
14	14
15	14
16	14
17	14
18	14
19	14
20	14
21	14
22	14
23	14

## Appendix C

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City of Gardena - Lab Five - Los Angeles-South Coast County, Annual

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

**City of Gardena - Lab Five  
Los Angeles-South Coast County, Annual**

**1.0 Project Characteristics**

**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
City Park	1.50	Acre	1.50	65,340.00	0

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	2.2	<b>Precipitation Freq (Days)</b>	33
<b>Climate Zone</b>	8			<b>Operational Year</b>	2022
<b>Utility Company</b>	Southern California Edison				
<b>CO2 Intensity (lb/MWhr)</b>	390.98	<b>CH4 Intensity (lb/MWhr)</b>	0.033	<b>N2O Intensity (lb/MWhr)</b>	0.004

**1.3 User Entered Comments & Non-Default Data**

Project Characteristics -

Land Use - Land Uses: 1.5 acres park (soccer field)

Construction Phase - Construction schedule as provided by Project applicant. Phases estimated based on Project type.

Off-road Equipment -

Off-road Equipment - Project construction equipment provided by project applicant.

Off-road Equipment - Project construction equipment provided by project applicant.

Off-road Equipment - Project construction equipment provided by project applicant.

Off-road Equipment - Project construction equipment provided by project applicant.

Off-road Equipment -

Trips and VMT -

Demolition - ~200 s.f. of building demolished (per Project Applicant).

Grading - Grading would occur during grading phase only. Estimated total of 100 cubic yards of sand (soil) import.



City of Gardena - Lab Five - Los Angeles-South Coast County, Annual

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

Vehicle Trips - Operational mobile trips provided by Kittelson & Associates, Inc. (198 trips per day) = 132 trips per acre per day.

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Woodstoves -

Energy Use -

Construction Off-road Equipment Mitigation - Reductions include: Water Exposed Area 3 times daily; Unpaved Road Mitigation (Moisture Content at 12%; Vehicle Speed 15 MPH).

Mobile Land Use Mitigation -

Mobile Commute Mitigation -

Fleet Mix -

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	12
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	2.00	15.00
tblConstructionPhase	NumDays	4.00	10.00
tblConstructionPhase	NumDays	20.00	10.00
tblConstructionPhase	NumDays	200.00	10.00
tblConstructionPhase	PhaseEndDate	11/2/2021	11/19/2021
tblConstructionPhase	PhaseEndDate	11/8/2021	12/3/2021
tblConstructionPhase	PhaseStartDate	11/3/2021	11/20/2021
tblGrading	AcresOfGrading	14.06	0.00
tblGrading	MaterialImported	0.00	100.00
tblVehicleTrips	ST_TR	1.96	132.00
tblVehicleTrips	SU_TR	2.19	132.00
tblVehicleTrips	WD_TR	0.78	132.00

**2.0 Emissions Summary**

City of Gardena - Lab Five - Los Angeles-South Coast County, Annual

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

**2.1 Overall Construction**

**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	tons/yr										MT/yr					
2021	0.0367	0.3788	0.2418	4.6000e-004	0.0779	0.0181	0.0960	0.0396	0.0168	0.0564	0.0000	40.8606	40.8606	0.0113	1.4000e-004	41.1850
2022	9.9200e-003	0.0728	0.0796	1.5000e-004	2.1000e-003	3.3900e-003	5.4900e-003	5.7000e-004	3.2900e-003	3.8500e-003	0.0000	12.8571	12.8571	1.7400e-003	1.9000e-004	12.9575
<b>Maximum</b>	<b>0.0367</b>	<b>0.3788</b>	<b>0.2418</b>	<b>4.6000e-004</b>	<b>0.0779</b>	<b>0.0181</b>	<b>0.0960</b>	<b>0.0396</b>	<b>0.0168</b>	<b>0.0564</b>	<b>0.0000</b>	<b>40.8606</b>	<b>40.8606</b>	<b>0.0113</b>	<b>1.9000e-004</b>	<b>41.1850</b>

**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	tons/yr										MT/yr					
2021	0.0367	0.3788	0.2418	4.6000e-004	0.0321	0.0181	0.0502	0.0159	0.0168	0.0327	0.0000	40.8606	40.8606	0.0113	1.4000e-004	41.1850
2022	9.9200e-003	0.0728	0.0796	1.5000e-004	2.1000e-003	3.3900e-003	5.4900e-003	5.7000e-004	3.2900e-003	3.8500e-003	0.0000	12.8570	12.8570	1.7400e-003	1.9000e-004	12.9575
<b>Maximum</b>	<b>0.0367</b>	<b>0.3788</b>	<b>0.2418</b>	<b>4.6000e-004</b>	<b>0.0321</b>	<b>0.0181</b>	<b>0.0502</b>	<b>0.0159</b>	<b>0.0168</b>	<b>0.0327</b>	<b>0.0000</b>	<b>40.8606</b>	<b>40.8606</b>	<b>0.0113</b>	<b>1.9000e-004</b>	<b>41.1850</b>

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	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
Percent Reduction	0.00	0.00	0.00	0.00	57.23	0.00	45.10	58.97	0.00	39.34	0.00	0.00	0.00	0.00	0.00	0.00

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	11-1-2021	1-31-2022	0.4847	0.4847
		Highest	0.4847	0.4847

**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	tons/yr										MT/yr					
Area	6.2000e-004	0.0000	2.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	4.0000e-005	4.0000e-005	0.0000	0.0000	4.0000e-005
Energy	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
Mobile	0.1035	0.1275	1.0475	2.1500e-003	0.2141	1.8600e-003	0.2159	0.0571	1.7300e-003	0.0588	0.0000	200.2825	200.2825	0.0144	9.1800e-003	203.3774
Waste						0.0000	0.0000		0.0000	0.0000	0.0264	0.0000	0.0264	1.5600e-003	0.0000	0.0654
Water						0.0000	0.0000		0.0000	0.0000	0.0000	3.5214	3.5214	3.0000e-004	4.0000e-005	3.5396
<b>Total</b>	<b>0.1042</b>	<b>0.1275</b>	<b>1.0475</b>	<b>2.1500e-003</b>	<b>0.2141</b>	<b>1.8600e-003</b>	<b>0.2159</b>	<b>0.0571</b>	<b>1.7300e-003</b>	<b>0.0588</b>	<b>0.0264</b>	<b>203.8040</b>	<b>203.8303</b>	<b>0.0162</b>	<b>9.2200e-003</b>	<b>206.9824</b>

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

**2.2 Overall Operational**

**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	tons/yr										MT/yr					
Area	6.2000e-004	0.0000	2.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	4.0000e-005	4.0000e-005	0.0000	0.0000	4.0000e-005
Energy	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
Mobile	0.1035	0.1275	1.0475	2.1500e-003	0.2141	1.8600e-003	0.2159	0.0571	1.7300e-003	0.0588	0.0000	200.2825	200.2825	0.0144	9.1800e-003	203.3774
Waste						0.0000	0.0000		0.0000	0.0000	0.0264	0.0000	0.0264	1.5600e-003	0.0000	0.0654
Water						0.0000	0.0000		0.0000	0.0000	0.0000	3.5214	3.5214	3.0000e-004	4.0000e-005	3.5396
<b>Total</b>	<b>0.1042</b>	<b>0.1275</b>	<b>1.0475</b>	<b>2.1500e-003</b>	<b>0.2141</b>	<b>1.8600e-003</b>	<b>0.2159</b>	<b>0.0571</b>	<b>1.7300e-003</b>	<b>0.0588</b>	<b>0.0264</b>	<b>203.8040</b>	<b>203.8303</b>	<b>0.0162</b>	<b>9.2200e-003</b>	<b>206.9824</b>

	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
<b>Percent Reduction</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

**3.0 Construction Detail**

**Construction Phase**

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	11/1/2021	11/19/2021	5	15	
2	Grading	Grading	11/20/2021	12/3/2021	5	10	
3	Demolition	Demolition	12/4/2021	12/17/2021	5	10	

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4	Paving	Paving	12/18/2021	12/31/2021	5	10
5	Architectural Coating	Architectural Coating	1/15/2022	1/28/2022	5	10
6	Building Construction	Building Construction	1/1/2022	1/14/2022	5	10

**Acres of Grading (Site Preparation Phase): 0**

**Acres of Grading (Grading Phase): 10**

**Acres of Paving: 0**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)**

**OffRoad Equipment**

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Rubber Tired Dozers	1	7.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Building Construction	Cranes	1	6.00	231	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Paving	Pavers	1	6.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Air Compressors	1	6.00	78	0.48
Paving	Rollers	1	7.00	80	0.38

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Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
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
Site Preparation	3	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	13.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	27.00	11.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Demolition	5	13.00	0.00	1.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	5.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

**3.1 Mitigation Measures Construction**

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

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

**3.2 Site Preparation - 2021**

**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	tons/yr										MT/yr					
Fugitive Dust					0.0395	0.0000	0.0395	0.0217	0.0000	0.0217	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0117	0.1307	0.0567	1.3000e-004		5.7400e-003	5.7400e-003		5.2800e-003	5.2800e-003	0.0000	11.3388	11.3388	3.6700e-003	0.0000	11.4305
<b>Total</b>	<b>0.0117</b>	<b>0.1307</b>	<b>0.0567</b>	<b>1.3000e-004</b>	<b>0.0395</b>	<b>5.7400e-003</b>	<b>0.0453</b>	<b>0.0217</b>	<b>5.2800e-003</b>	<b>0.0270</b>	<b>0.0000</b>	<b>11.3388</b>	<b>11.3388</b>	<b>3.6700e-003</b>	<b>0.0000</b>	<b>11.4305</b>

**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	tons/yr										MT/yr					
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	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	0.0000
Worker	2.2000e-004	2.0000e-004	2.4400e-003	1.0000e-005	6.6000e-004	0.0000	6.6000e-004	1.7000e-004	0.0000	1.8000e-004	0.0000	0.5594	0.5594	2.0000e-005	2.0000e-005	0.5647
<b>Total</b>	<b>2.2000e-004</b>	<b>2.0000e-004</b>	<b>2.4400e-003</b>	<b>1.0000e-005</b>	<b>6.6000e-004</b>	<b>0.0000</b>	<b>6.6000e-004</b>	<b>1.7000e-004</b>	<b>0.0000</b>	<b>1.8000e-004</b>	<b>0.0000</b>	<b>0.5594</b>	<b>0.5594</b>	<b>2.0000e-005</b>	<b>2.0000e-005</b>	<b>0.5647</b>

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

**3.2 Site Preparation - 2021**

**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	tons/yr										MT/yr					
Fugitive Dust					0.0154	0.0000	0.0154	8.4700e-003	0.0000	8.4700e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0117	0.1307	0.0567	1.3000e-004		5.7400e-003	5.7400e-003		5.2800e-003	5.2800e-003	0.0000	11.3388	11.3388	3.6700e-003	0.0000	11.4305
<b>Total</b>	<b>0.0117</b>	<b>0.1307</b>	<b>0.0567</b>	<b>1.3000e-004</b>	<b>0.0154</b>	<b>5.7400e-003</b>	<b>0.0212</b>	<b>8.4700e-003</b>	<b>5.2800e-003</b>	<b>0.0138</b>	<b>0.0000</b>	<b>11.3388</b>	<b>11.3388</b>	<b>3.6700e-003</b>	<b>0.0000</b>	<b>11.4305</b>

**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	tons/yr										MT/yr					
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	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	0.0000
Worker	2.2000e-004	2.0000e-004	2.4400e-003	1.0000e-005	6.6000e-004	0.0000	6.6000e-004	1.7000e-004	0.0000	1.8000e-004	0.0000	0.5594	0.5594	2.0000e-005	2.0000e-005	0.5647
<b>Total</b>	<b>2.2000e-004</b>	<b>2.0000e-004</b>	<b>2.4400e-003</b>	<b>1.0000e-005</b>	<b>6.6000e-004</b>	<b>0.0000</b>	<b>6.6000e-004</b>	<b>1.7000e-004</b>	<b>0.0000</b>	<b>1.8000e-004</b>	<b>0.0000</b>	<b>0.5594</b>	<b>0.5594</b>	<b>2.0000e-005</b>	<b>2.0000e-005</b>	<b>0.5647</b>



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

**3.3 Grading - 2021**

**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	tons/yr										MT/yr					
Fugitive Dust					0.0354	0.0000	0.0354	0.0171	0.0000	0.0171	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.1400e-003	0.1011	0.0488	1.0000e-004		4.5800e-003	4.5800e-003		4.2100e-003	4.2100e-003	0.0000	9.0519	9.0519	2.9300e-003	0.0000	9.1251
<b>Total</b>	<b>9.1400e-003</b>	<b>0.1011</b>	<b>0.0488</b>	<b>1.0000e-004</b>	<b>0.0354</b>	<b>4.5800e-003</b>	<b>0.0400</b>	<b>0.0171</b>	<b>4.2100e-003</b>	<b>0.0213</b>	<b>0.0000</b>	<b>9.0519</b>	<b>9.0519</b>	<b>2.9300e-003</b>	<b>0.0000</b>	<b>9.1251</b>

**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	tons/yr										MT/yr					
Hauling	4.0000e-005	1.3100e-003	2.9000e-004	0.0000	1.1000e-004	1.0000e-005	1.3000e-004	3.0000e-005	1.0000e-005	4.0000e-005	0.0000	0.4124	0.4124	2.0000e-005	7.0000e-005	0.4324
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	0.0000
Worker	1.9000e-004	1.6000e-004	2.0300e-003	1.0000e-005	5.5000e-004	0.0000	5.5000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.4662	0.4662	1.0000e-005	1.0000e-005	0.4706
<b>Total</b>	<b>2.3000e-004</b>	<b>1.4700e-003</b>	<b>2.3200e-003</b>	<b>1.0000e-005</b>	<b>6.6000e-004</b>	<b>1.0000e-005</b>	<b>6.8000e-004</b>	<b>1.8000e-004</b>	<b>1.0000e-005</b>	<b>1.9000e-004</b>	<b>0.0000</b>	<b>0.8786</b>	<b>0.8786</b>	<b>3.0000e-005</b>	<b>8.0000e-005</b>	<b>0.9030</b>

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**3.3 Grading - 2021**

**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	tons/yr										MT/yr					
Fugitive Dust					0.0138	0.0000	0.0138	6.6800e-003	0.0000	6.6800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.1400e-003	0.1011	0.0488	1.0000e-004		4.5800e-003	4.5800e-003		4.2100e-003	4.2100e-003	0.0000	9.0519	9.0519	2.9300e-003	0.0000	9.1251
<b>Total</b>	<b>9.1400e-003</b>	<b>0.1011</b>	<b>0.0488</b>	<b>1.0000e-004</b>	<b>0.0138</b>	<b>4.5800e-003</b>	<b>0.0184</b>	<b>6.6800e-003</b>	<b>4.2100e-003</b>	<b>0.0109</b>	<b>0.0000</b>	<b>9.0519</b>	<b>9.0519</b>	<b>2.9300e-003</b>	<b>0.0000</b>	<b>9.1251</b>

**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	tons/yr										MT/yr					
Hauling	4.0000e-005	1.3100e-003	2.9000e-004	0.0000	1.1000e-004	1.0000e-005	1.3000e-004	3.0000e-005	1.0000e-005	4.0000e-005	0.0000	0.4124	0.4124	2.0000e-005	7.0000e-005	0.4324
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	0.0000
Worker	1.9000e-004	1.6000e-004	2.0300e-003	1.0000e-005	5.5000e-004	0.0000	5.5000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.4662	0.4662	1.0000e-005	1.0000e-005	0.4706
<b>Total</b>	<b>2.3000e-004</b>	<b>1.4700e-003</b>	<b>2.3200e-003</b>	<b>1.0000e-005</b>	<b>6.6000e-004</b>	<b>1.0000e-005</b>	<b>6.8000e-004</b>	<b>1.8000e-004</b>	<b>1.0000e-005</b>	<b>1.9000e-004</b>	<b>0.0000</b>	<b>0.8786</b>	<b>0.8786</b>	<b>3.0000e-005</b>	<b>8.0000e-005</b>	<b>0.9030</b>

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**3.4 Demolition - 2021**

**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	tons/yr										MT/yr					
Fugitive Dust					1.0000e-004	0.0000	1.0000e-004	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.9700e-003	0.0985	0.0725	1.2000e-004		5.2000e-003	5.2000e-003		4.8600e-003	4.8600e-003	0.0000	10.5357	10.5357	2.6900e-003	0.0000	10.6030
<b>Total</b>	<b>9.9700e-003</b>	<b>0.0985</b>	<b>0.0725</b>	<b>1.2000e-004</b>	<b>1.0000e-004</b>	<b>5.2000e-003</b>	<b>5.3000e-003</b>	<b>1.0000e-005</b>	<b>4.8600e-003</b>	<b>4.8700e-003</b>	<b>0.0000</b>	<b>10.5357</b>	<b>10.5357</b>	<b>2.6900e-003</b>	<b>0.0000</b>	<b>10.6030</b>

**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	tons/yr										MT/yr					
Hauling	0.0000	1.0000e-004	2.0000e-005	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0317	0.0317	0.0000	1.0000e-005	0.0333
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	0.0000
Worker	2.4000e-004	2.1000e-004	2.6400e-003	1.0000e-005	7.1000e-004	0.0000	7.2000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.6061	0.6061	2.0000e-005	2.0000e-005	0.6117
<b>Total</b>	<b>2.4000e-004</b>	<b>3.1000e-004</b>	<b>2.6600e-003</b>	<b>1.0000e-005</b>	<b>7.2000e-004</b>	<b>0.0000</b>	<b>7.3000e-004</b>	<b>1.9000e-004</b>	<b>0.0000</b>	<b>1.9000e-004</b>	<b>0.0000</b>	<b>0.6378</b>	<b>0.6378</b>	<b>2.0000e-005</b>	<b>3.0000e-005</b>	<b>0.6450</b>

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

**3.4 Demolition - 2021**

**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	tons/yr										MT/yr					
Fugitive Dust					4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.9600e-003	0.0985	0.0725	1.2000e-004		5.2000e-003	5.2000e-003		4.8600e-003	4.8600e-003	0.0000	10.5357	10.5357	2.6900e-003	0.0000	10.6030
<b>Total</b>	<b>9.9600e-003</b>	<b>0.0985</b>	<b>0.0725</b>	<b>1.2000e-004</b>	<b>4.0000e-005</b>	<b>5.2000e-003</b>	<b>5.2400e-003</b>	<b>1.0000e-005</b>	<b>4.8600e-003</b>	<b>4.8700e-003</b>	<b>0.0000</b>	<b>10.5357</b>	<b>10.5357</b>	<b>2.6900e-003</b>	<b>0.0000</b>	<b>10.6030</b>

**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	tons/yr										MT/yr					
Hauling	0.0000	1.0000e-004	2.0000e-005	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0317	0.0317	0.0000	1.0000e-005	0.0333
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	0.0000
Worker	2.4000e-004	2.1000e-004	2.6400e-003	1.0000e-005	7.1000e-004	0.0000	7.2000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.6061	0.6061	2.0000e-005	2.0000e-005	0.6117
<b>Total</b>	<b>2.4000e-004</b>	<b>3.1000e-004</b>	<b>2.6600e-003</b>	<b>1.0000e-005</b>	<b>7.2000e-004</b>	<b>0.0000</b>	<b>7.3000e-004</b>	<b>1.9000e-004</b>	<b>0.0000</b>	<b>1.9000e-004</b>	<b>0.0000</b>	<b>0.6378</b>	<b>0.6378</b>	<b>2.0000e-005</b>	<b>3.0000e-005</b>	<b>0.6450</b>

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

**3.5 Paving - 2021**

**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	tons/yr										MT/yr					
Off-Road	4.9600e-003	0.0464	0.0534	8.0000e-005		2.5500e-003	2.5500e-003		2.3900e-003	2.3900e-003	0.0000	7.1591	7.1591	1.9500e-003	0.0000	7.2079
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>4.9600e-003</b>	<b>0.0464</b>	<b>0.0534</b>	<b>8.0000e-005</b>		<b>2.5500e-003</b>	<b>2.5500e-003</b>		<b>2.3900e-003</b>	<b>2.3900e-003</b>	<b>0.0000</b>	<b>7.1591</b>	<b>7.1591</b>	<b>1.9500e-003</b>	<b>0.0000</b>	<b>7.2079</b>

**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	tons/yr										MT/yr					
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	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	0.0000
Worker	2.8000e-004	2.4000e-004	3.0400e-003	1.0000e-005	8.2000e-004	1.0000e-005	8.3000e-004	2.2000e-004	1.0000e-005	2.2000e-004	0.0000	0.6993	0.6993	2.0000e-005	2.0000e-005	0.7058
<b>Total</b>	<b>2.8000e-004</b>	<b>2.4000e-004</b>	<b>3.0400e-003</b>	<b>1.0000e-005</b>	<b>8.2000e-004</b>	<b>1.0000e-005</b>	<b>8.3000e-004</b>	<b>2.2000e-004</b>	<b>1.0000e-005</b>	<b>2.2000e-004</b>	<b>0.0000</b>	<b>0.6993</b>	<b>0.6993</b>	<b>2.0000e-005</b>	<b>2.0000e-005</b>	<b>0.7058</b>

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

**3.5 Paving - 2021**

**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	tons/yr										MT/yr					
Off-Road	4.9600e-003	0.0464	0.0534	8.0000e-005		2.5500e-003	2.5500e-003		2.3900e-003	2.3900e-003	0.0000	7.1591	7.1591	1.9500e-003	0.0000	7.2079
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>4.9600e-003</b>	<b>0.0464</b>	<b>0.0534</b>	<b>8.0000e-005</b>		<b>2.5500e-003</b>	<b>2.5500e-003</b>		<b>2.3900e-003</b>	<b>2.3900e-003</b>	<b>0.0000</b>	<b>7.1591</b>	<b>7.1591</b>	<b>1.9500e-003</b>	<b>0.0000</b>	<b>7.2079</b>

**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	tons/yr										MT/yr					
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	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	0.0000
Worker	2.8000e-004	2.4000e-004	3.0400e-003	1.0000e-005	8.2000e-004	1.0000e-005	8.3000e-004	2.2000e-004	1.0000e-005	2.2000e-004	0.0000	0.6993	0.6993	2.0000e-005	2.0000e-005	0.7058
<b>Total</b>	<b>2.8000e-004</b>	<b>2.4000e-004</b>	<b>3.0400e-003</b>	<b>1.0000e-005</b>	<b>8.2000e-004</b>	<b>1.0000e-005</b>	<b>8.3000e-004</b>	<b>2.2000e-004</b>	<b>1.0000e-005</b>	<b>2.2000e-004</b>	<b>0.0000</b>	<b>0.6993</b>	<b>0.6993</b>	<b>2.0000e-005</b>	<b>2.0000e-005</b>	<b>0.7058</b>

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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 - 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	tons/yr										MT/yr					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.0200e-003	7.0400e-003	9.0700e-003	1.0000e-005		4.1000e-004	4.1000e-004		4.1000e-004	4.1000e-004	0.0000	1.2766	1.2766	8.0000e-005	0.0000	1.2787
<b>Total</b>	<b>1.0200e-003</b>	<b>7.0400e-003</b>	<b>9.0700e-003</b>	<b>1.0000e-005</b>		<b>4.1000e-004</b>	<b>4.1000e-004</b>		<b>4.1000e-004</b>	<b>4.1000e-004</b>	<b>0.0000</b>	<b>1.2766</b>	<b>1.2766</b>	<b>8.0000e-005</b>	<b>0.0000</b>	<b>1.2787</b>

**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	tons/yr										MT/yr					
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	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	0.0000
Worker	9.0000e-005	7.0000e-005	9.3000e-004	0.0000	2.7000e-004	0.0000	2.8000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.2268	0.2268	1.0000e-005	1.0000e-005	0.2288
<b>Total</b>	<b>9.0000e-005</b>	<b>7.0000e-005</b>	<b>9.3000e-004</b>	<b>0.0000</b>	<b>2.7000e-004</b>	<b>0.0000</b>	<b>2.8000e-004</b>	<b>7.0000e-005</b>	<b>0.0000</b>	<b>7.0000e-005</b>	<b>0.0000</b>	<b>0.2268</b>	<b>0.2268</b>	<b>1.0000e-005</b>	<b>1.0000e-005</b>	<b>0.2288</b>

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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 - 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	tons/yr										MT/yr					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.0200e-003	7.0400e-003	9.0700e-003	1.0000e-005		4.1000e-004	4.1000e-004		4.1000e-004	4.1000e-004	0.0000	1.2766	1.2766	8.0000e-005	0.0000	1.2787
<b>Total</b>	<b>1.0200e-003</b>	<b>7.0400e-003</b>	<b>9.0700e-003</b>	<b>1.0000e-005</b>		<b>4.1000e-004</b>	<b>4.1000e-004</b>		<b>4.1000e-004</b>	<b>4.1000e-004</b>	<b>0.0000</b>	<b>1.2766</b>	<b>1.2766</b>	<b>8.0000e-005</b>	<b>0.0000</b>	<b>1.2787</b>

**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	tons/yr										MT/yr					
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	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	0.0000
Worker	9.0000e-005	7.0000e-005	9.3000e-004	0.0000	2.7000e-004	0.0000	2.8000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.2268	0.2268	1.0000e-005	1.0000e-005	0.2288
<b>Total</b>	<b>9.0000e-005</b>	<b>7.0000e-005</b>	<b>9.3000e-004</b>	<b>0.0000</b>	<b>2.7000e-004</b>	<b>0.0000</b>	<b>2.8000e-004</b>	<b>7.0000e-005</b>	<b>0.0000</b>	<b>7.0000e-005</b>	<b>0.0000</b>	<b>0.2268</b>	<b>0.2268</b>	<b>1.0000e-005</b>	<b>1.0000e-005</b>	<b>0.2288</b>



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

**3.7 Building Construction - 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	tons/yr										MT/yr					
Off-Road	8.2400e-003	0.0625	0.0636	1.1000e-004		2.9400e-003	2.9400e-003		2.8400e-003	2.8400e-003	0.0000	9.0789	9.0789	1.5800e-003	0.0000	9.1184
<b>Total</b>	<b>8.2400e-003</b>	<b>0.0625</b>	<b>0.0636</b>	<b>1.1000e-004</b>		<b>2.9400e-003</b>	<b>2.9400e-003</b>		<b>2.8400e-003</b>	<b>2.8400e-003</b>	<b>0.0000</b>	<b>9.0789</b>	<b>9.0789</b>	<b>1.5800e-003</b>	<b>0.0000</b>	<b>9.1184</b>

**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	tons/yr										MT/yr					
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	0.0000
Vendor	1.1000e-004	2.8300e-003	9.4000e-004	1.0000e-005	3.5000e-004	3.0000e-005	3.7000e-004	1.0000e-004	2.0000e-005	1.2000e-004	0.0000	1.0503	1.0503	4.0000e-005	1.5000e-004	1.0963
Worker	4.6000e-004	3.9000e-004	5.0100e-003	1.0000e-005	1.4800e-003	1.0000e-005	1.4900e-003	3.9000e-004	1.0000e-005	4.0000e-004	0.0000	1.2245	1.2245	3.0000e-005	3.0000e-005	1.2353
<b>Total</b>	<b>5.7000e-004</b>	<b>3.2200e-003</b>	<b>5.9500e-003</b>	<b>2.0000e-005</b>	<b>1.8300e-003</b>	<b>4.0000e-005</b>	<b>1.8600e-003</b>	<b>4.9000e-004</b>	<b>3.0000e-005</b>	<b>5.2000e-004</b>	<b>0.0000</b>	<b>2.2748</b>	<b>2.2748</b>	<b>7.0000e-005</b>	<b>1.8000e-004</b>	<b>2.3316</b>

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

**3.7 Building Construction - 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	tons/yr										MT/yr					
Off-Road	8.2400e-003	0.0625	0.0636	1.1000e-004		2.9400e-003	2.9400e-003		2.8400e-003	2.8400e-003	0.0000	9.0788	9.0788	1.5800e-003	0.0000	9.1184
<b>Total</b>	<b>8.2400e-003</b>	<b>0.0625</b>	<b>0.0636</b>	<b>1.1000e-004</b>		<b>2.9400e-003</b>	<b>2.9400e-003</b>		<b>2.8400e-003</b>	<b>2.8400e-003</b>	<b>0.0000</b>	<b>9.0788</b>	<b>9.0788</b>	<b>1.5800e-003</b>	<b>0.0000</b>	<b>9.1184</b>

**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	tons/yr										MT/yr					
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	0.0000
Vendor	1.1000e-004	2.8300e-003	9.4000e-004	1.0000e-005	3.5000e-004	3.0000e-005	3.7000e-004	1.0000e-004	2.0000e-005	1.2000e-004	0.0000	1.0503	1.0503	4.0000e-005	1.5000e-004	1.0963
Worker	4.6000e-004	3.9000e-004	5.0100e-003	1.0000e-005	1.4800e-003	1.0000e-005	1.4900e-003	3.9000e-004	1.0000e-005	4.0000e-004	0.0000	1.2245	1.2245	3.0000e-005	3.0000e-005	1.2353
<b>Total</b>	<b>5.7000e-004</b>	<b>3.2200e-003</b>	<b>5.9500e-003</b>	<b>2.0000e-005</b>	<b>1.8300e-003</b>	<b>4.0000e-005</b>	<b>1.8600e-003</b>	<b>4.9000e-004</b>	<b>3.0000e-005</b>	<b>5.2000e-004</b>	<b>0.0000</b>	<b>2.2748</b>	<b>2.2748</b>	<b>7.0000e-005</b>	<b>1.8000e-004</b>	<b>2.3316</b>

City of Gardena - Lab Five - Los Angeles-South Coast County, Annual

**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	tons/yr										MT/yr					
Mitigated	0.1035	0.1275	1.0475	2.1500e-003	0.2141	1.8600e-003	0.2159	0.0571	1.7300e-003	0.0588	0.0000	200.2825	200.2825	0.0144	9.1800e-003	203.3774
Unmitigated	0.1035	0.1275	1.0475	2.1500e-003	0.2141	1.8600e-003	0.2159	0.0571	1.7300e-003	0.0588	0.0000	200.2825	200.2825	0.0144	9.1800e-003	203.3774

**4.2 Trip Summary Information**

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	198.00	198.00	198.00	569,753	569,753
Total	198.00	198.00	198.00	569,753	569,753

**4.3 Trip Type Information**

Land Use	Miles			Trip %			Trip Purpose %		
	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
City Park	16.60	8.40	6.90	33.00	48.00	19.00	66	28	6

**4.4 Fleet Mix**

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
City Park	0.546774	0.061880	0.186704	0.127505	0.022909	0.005912	0.010702	0.008032	0.000940	0.000617	0.023937	0.000692	0.003397





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

**5.3 Energy by Land Use - Electricity**

**Unmitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**Mitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**6.0 Area Detail**

**6.1 Mitigation Measures Area**

City of Gardena - Lab Five - Los Angeles-South Coast County, Annual

**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	tons/yr										MT/yr					
Mitigated	6.2000e-004	0.0000	2.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	4.0000e-005	4.0000e-005	0.0000	0.0000	4.0000e-005
Unmitigated	6.2000e-004	0.0000	2.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	4.0000e-005	4.0000e-005	0.0000	0.0000	4.0000e-005

**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	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	6.1000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	2.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	4.0000e-005	4.0000e-005	0.0000	0.0000	4.0000e-005
<b>Total</b>	<b>6.1000e-004</b>	<b>0.0000</b>	<b>2.0000e-005</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>4.0000e-005</b>	<b>4.0000e-005</b>	<b>0.0000</b>	<b>0.0000</b>	<b>4.0000e-005</b>

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**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	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	6.1000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	2.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	4.0000e-005	4.0000e-005	0.0000	0.0000	4.0000e-005
<b>Total</b>	<b>6.1000e-004</b>	<b>0.0000</b>	<b>2.0000e-005</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>4.0000e-005</b>	<b>4.0000e-005</b>	<b>0.0000</b>	<b>0.0000</b>	<b>4.0000e-005</b>

**7.0 Water Detail**

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**7.1 Mitigation Measures Water**



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

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	3.5214	3.0000e-004	4.0000e-005	3.5396
Unmitigated	3.5214	3.0000e-004	4.0000e-005	3.5396

**7.2 Water by Land Use**

**Unmitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 1.78722	3.5214	3.0000e-004	4.0000e-005	3.5396
<b>Total</b>		<b>3.5214</b>	<b>3.0000e-004</b>	<b>4.0000e-005</b>	<b>3.5396</b>

City of Gardena - Lab Five - Los Angeles-South Coast County, Annual

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

**7.2 Water by Land Use**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 1.78722	3.5214	3.0000e-004	4.0000e-005	3.5396
<b>Total</b>		<b>3.5214</b>	<b>3.0000e-004</b>	<b>4.0000e-005</b>	<b>3.5396</b>

**8.0 Waste Detail**

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**8.1 Mitigation Measures Waste**

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0264	1.5600e-003	0.0000	0.0654
Unmitigated	0.0264	1.5600e-003	0.0000	0.0654

City of Gardena - Lab Five - Los Angeles-South Coast County, Annual

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

**8.2 Waste by Land Use**

**Unmitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	0.13	0.0264	1.5600e-003	0.0000	0.0654
<b>Total</b>		<b>0.0264</b>	<b>1.5600e-003</b>	<b>0.0000</b>	<b>0.0654</b>

**Mitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	0.13	0.0264	1.5600e-003	0.0000	0.0654
<b>Total</b>		<b>0.0264</b>	<b>1.5600e-003</b>	<b>0.0000</b>	<b>0.0654</b>

**9.0 Operational Offroad**

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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City of Gardena - Lab Five - Los Angeles-South Coast County, Annual

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

**10.0 Stationary Equipment**

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**Fire Pumps and Emergency Generators**

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

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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**User Defined Equipment**

Equipment Type	Number
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**11.0 Vegetation**

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City of Gardena - Lab Five - Los Angeles-South Coast County, Summer

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

**City of Gardena - Lab Five  
Los Angeles-South Coast County, Summer**

**1.0 Project Characteristics**

**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
City Park	1.50	Acre	1.50	65,340.00	0

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	2.2	<b>Precipitation Freq (Days)</b>	33
<b>Climate Zone</b>	8			<b>Operational Year</b>	2022
<b>Utility Company</b>	Southern California Edison				
<b>CO2 Intensity (lb/MW hr)</b>	390.98	<b>CH4 Intensity (lb/MW hr)</b>	0.033	<b>N2O Intensity (lb/MW hr)</b>	0.004

**1.3 User Entered Comments & Non-Default Data**

Project Characteristics -

Land Use - Land Uses: 1.5 acres park (soccer field)

Construction Phase - Construction schedule as provided by Project applicant. Phases estimated based on Project type.

Off-road Equipment -

Off-road Equipment - Project construction equipment provided by project applicant.

Off-road Equipment - Project construction equipment provided by project applicant.

Off-road Equipment - Project construction equipment provided by project applicant.

Off-road Equipment - Project construction equipment provided by project applicant.

Off-road Equipment -

Trips and VMT -

Demolition - ~200 s.f. of building demolished (per Project Applicant).

Grading - Grading would occur during grading phase only. Estimated total of 100 cubic yards of sand (soil) import.

City of Gardena - Lab Five - Los Angeles-South Coast County, Summer

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

Vehicle Trips - Operational mobile trips provided by Kittelson & Associates, Inc. (198 trips per day) = 132 trips per acre per day.

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Woodstoves -

Energy Use -

Construction Off-road Equipment Mitigation - Reductions include: Water Exposed Area 3 times daily; Unpaved Road Mitigation (Moisture Content at 12%; Vehicle Speed 15 MPH).

Mobile Land Use Mitigation -

Mobile Commute Mitigation -

Fleet Mix -

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	12
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	2.00	15.00
tblConstructionPhase	NumDays	4.00	10.00
tblConstructionPhase	NumDays	20.00	10.00
tblConstructionPhase	NumDays	200.00	10.00
tblConstructionPhase	PhaseEndDate	11/2/2021	11/19/2021
tblConstructionPhase	PhaseEndDate	11/8/2021	12/3/2021
tblConstructionPhase	PhaseStartDate	11/3/2021	11/20/2021
tblGrading	AcresOfGrading	14.06	0.00
tblGrading	MaterialImported	0.00	100.00
tblVehicleTrips	ST_TR	1.96	132.00
tblVehicleTrips	SU_TR	2.19	132.00
tblVehicleTrips	WD_TR	0.78	132.00

**2.0 Emissions Summary**

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City of Gardena - Lab Five - 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					
2021	2.0425	20.4906	15.0577	0.0255	7.2183	1.0421	8.1376	3.4608	0.9726	4.3067	0.0000	2,468.7179	2,468.7179	0.6533	0.0172	2,485.0653
2022	1.7638	13.1101	13.9753	0.0270	0.3723	0.5959	0.9682	0.1003	0.5755	0.6759	0.0000	2,513.8849	2,513.8849	0.3640	0.0401	2,534.9384
<b>Maximum</b>	<b>2.0425</b>	<b>20.4906</b>	<b>15.0577</b>	<b>0.0270</b>	<b>7.2183</b>	<b>1.0421</b>	<b>8.1376</b>	<b>3.4608</b>	<b>0.9726</b>	<b>4.3067</b>	<b>0.0000</b>	<b>2,513.8849</b>	<b>2,513.8849</b>	<b>0.6533</b>	<b>0.0401</b>	<b>2,534.9384</b>

**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					
2021	2.0425	20.4906	15.0577	0.0255	2.8972	1.0421	3.8166	1.3716	0.9726	2.2175	0.0000	2,468.7179	2,468.7179	0.6533	0.0172	2,485.0653
2022	1.7638	13.1101	13.9753	0.0270	0.3723	0.5959	0.9682	0.1003	0.5755	0.6759	0.0000	2,513.8849	2,513.8849	0.3640	0.0401	2,534.9384
<b>Maximum</b>	<b>2.0425</b>	<b>20.4906</b>	<b>15.0577</b>	<b>0.0270</b>	<b>2.8972</b>	<b>1.0421</b>	<b>3.8166</b>	<b>1.3716</b>	<b>0.9726</b>	<b>2.2175</b>	<b>0.0000</b>	<b>2,513.8849</b>	<b>2,513.8849</b>	<b>0.6533</b>	<b>0.0401</b>	<b>2,534.9384</b>

## City of Gardena - Lab Five - 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
Percent Reduction	0.00	0.00	0.00	0.00	56.93	0.00	47.45	58.67	0.00	41.93	0.00	0.00	0.00	0.00	0.00	0.00



City of Gardena - Lab Five - 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	3.3800e-003	0.0000	1.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		3.3000e-004	3.3000e-004	0.0000		3.5000e-004
Energy	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
Mobile	0.5909	0.6407	5.8297	0.0122	1.1995	0.0102	1.2097	0.3195	9.5000e-003	0.3290		1,253.6976	1,253.6976	0.0848	0.0529	1,271.5652
<b>Total</b>	<b>0.5943</b>	<b>0.6407</b>	<b>5.8298</b>	<b>0.0122</b>	<b>1.1995</b>	<b>0.0102</b>	<b>1.2097</b>	<b>0.3195</b>	<b>9.5000e-003</b>	<b>0.3290</b>		<b>1,253.6979</b>	<b>1,253.6979</b>	<b>0.0848</b>	<b>0.0529</b>	<b>1,271.5656</b>

**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	3.3800e-003	0.0000	1.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		3.3000e-004	3.3000e-004	0.0000		3.5000e-004
Energy	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
Mobile	0.5909	0.6407	5.8297	0.0122	1.1995	0.0102	1.2097	0.3195	9.5000e-003	0.3290		1,253.6976	1,253.6976	0.0848	0.0529	1,271.5652
<b>Total</b>	<b>0.5943</b>	<b>0.6407</b>	<b>5.8298</b>	<b>0.0122</b>	<b>1.1995</b>	<b>0.0102</b>	<b>1.2097</b>	<b>0.3195</b>	<b>9.5000e-003</b>	<b>0.3290</b>		<b>1,253.6979</b>	<b>1,253.6979</b>	<b>0.0848</b>	<b>0.0529</b>	<b>1,271.5656</b>

City of Gardena - Lab Five - 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
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

**3.0 Construction Detail**

**Construction Phase**

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	11/1/2021	11/19/2021	5	15	
2	Grading	Grading	11/20/2021	12/3/2021	5	10	
3	Demolition	Demolition	12/4/2021	12/17/2021	5	10	
4	Paving	Paving	12/18/2021	12/31/2021	5	10	
5	Architectural Coating	Architectural Coating	1/15/2022	1/28/2022	5	10	
6	Building Construction	Building Construction	1/1/2022	1/14/2022	5	10	

**Acres of Grading (Site Preparation Phase): 0**

**Acres of Grading (Grading Phase): 10**

**Acres of Paving: 0**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)**

**OffRoad Equipment**

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Rubber Tired Dozers	1	7.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40

City of Gardena - Lab Five - Los Angeles-South Coast County, Summer

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

Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Building Construction	Cranes	1	6.00	231	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Paving	Pavers	1	6.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Air Compressors	1	6.00	78	0.48
Paving	Rollers	1	7.00	80	0.38
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
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
Site Preparation	3	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	13.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	27.00	11.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Demolition	5	13.00	0.00	1.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	5.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

**3.1 Mitigation Measures Construction**

City of Gardena - Lab Five - Los Angeles-South Coast County, Summer

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

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

**3.2 Site Preparation - 2021**

**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					5.2693	0.0000	5.2693	2.8965	0.0000	2.8965			0.0000			0.0000
Off-Road	1.5558	17.4203	7.5605	0.0172		0.7654	0.7654		0.7041	0.7041		1,666.5174	1,666.5174	0.5390		1,679.9920
<b>Total</b>	<b>1.5558</b>	<b>17.4203</b>	<b>7.5605</b>	<b>0.0172</b>	<b>5.2693</b>	<b>0.7654</b>	<b>6.0347</b>	<b>2.8965</b>	<b>0.7041</b>	<b>3.6006</b>		<b>1,666.5174</b>	<b>1,666.5174</b>	<b>0.5390</b>		<b>1,679.9920</b>

City of Gardena - Lab Five - 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 Site Preparation - 2021**

**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	0.0300	0.0230	0.3451	8.4000e-004	0.0894	6.1000e-004	0.0900	0.0237	5.7000e-004	0.0243		85.5430	85.5430	2.5200e-003	2.1800e-003	86.2562
<b>Total</b>	<b>0.0300</b>	<b>0.0230</b>	<b>0.3451</b>	<b>8.4000e-004</b>	<b>0.0894</b>	<b>6.1000e-004</b>	<b>0.0900</b>	<b>0.0237</b>	<b>5.7000e-004</b>	<b>0.0243</b>		<b>85.5430</b>	<b>85.5430</b>	<b>2.5200e-003</b>	<b>2.1800e-003</b>	<b>86.2562</b>

**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					2.0550	0.0000	2.0550	1.1296	0.0000	1.1296			0.0000			0.0000
Off-Road	1.5558	17.4203	7.5605	0.0172		0.7654	0.7654		0.7041	0.7041	0.0000	1,666.5174	1,666.5174	0.5390		1,679.9920
<b>Total</b>	<b>1.5558</b>	<b>17.4203</b>	<b>7.5605</b>	<b>0.0172</b>	<b>2.0550</b>	<b>0.7654</b>	<b>2.8204</b>	<b>1.1296</b>	<b>0.7041</b>	<b>1.8338</b>	<b>0.0000</b>	<b>1,666.5174</b>	<b>1,666.5174</b>	<b>0.5390</b>		<b>1,679.9920</b>

City of Gardena - Lab Five - 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 Site Preparation - 2021**

**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	0.0300	0.0230	0.3451	8.4000e-004	0.0894	6.1000e-004	0.0900	0.0237	5.7000e-004	0.0243		85.5430	85.5430	2.5200e-003	2.1800e-003	86.2562
<b>Total</b>	<b>0.0300</b>	<b>0.0230</b>	<b>0.3451</b>	<b>8.4000e-004</b>	<b>0.0894</b>	<b>6.1000e-004</b>	<b>0.0900</b>	<b>0.0237</b>	<b>5.7000e-004</b>	<b>0.0243</b>		<b>85.5430</b>	<b>85.5430</b>	<b>2.5200e-003</b>	<b>2.1800e-003</b>	<b>86.2562</b>

**3.3 Grading - 2021**

**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					7.0837	0.0000	7.0837	3.4249	0.0000	3.4249			0.0000			0.0000
Off-Road	1.8271	20.2135	9.7604	0.0206		0.9158	0.9158		0.8425	0.8425		1,995.6114	1,995.6114	0.6454		2,011.7470
<b>Total</b>	<b>1.8271</b>	<b>20.2135</b>	<b>9.7604</b>	<b>0.0206</b>	<b>7.0837</b>	<b>0.9158</b>	<b>7.9995</b>	<b>3.4249</b>	<b>0.8425</b>	<b>4.2674</b>		<b>1,995.6114</b>	<b>1,995.6114</b>	<b>0.6454</b>		<b>2,011.7470</b>

City of Gardena - Lab Five - 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 - 2021**

**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	8.5800e-003	0.2484	0.0573	8.3000e-004	0.0228	2.8800e-003	0.0256	6.2400e-003	2.7600e-003	8.9900e-003		90.9160	90.9160	4.7600e-003	0.0144	95.3312
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	0.0376	0.0288	0.4314	1.0600e-003	0.1118	7.7000e-004	0.1125	0.0296	7.1000e-004	0.0304		106.9287	106.9287	3.1500e-003	2.7300e-003	107.8203
<b>Total</b>	<b>0.0461</b>	<b>0.2771</b>	<b>0.4887</b>	<b>1.8900e-003</b>	<b>0.1345</b>	<b>3.6500e-003</b>	<b>0.1382</b>	<b>0.0359</b>	<b>3.4700e-003</b>	<b>0.0393</b>		<b>197.8447</b>	<b>197.8447</b>	<b>7.9100e-003</b>	<b>0.0172</b>	<b>203.1515</b>

**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					2.7627	0.0000	2.7627	1.3357	0.0000	1.3357			0.0000			0.0000
Off-Road	1.8271	20.2135	9.7604	0.0206		0.9158	0.9158		0.8425	0.8425	0.0000	1,995.6114	1,995.6114	0.6454		2,011.7470
<b>Total</b>	<b>1.8271</b>	<b>20.2135</b>	<b>9.7604</b>	<b>0.0206</b>	<b>2.7627</b>	<b>0.9158</b>	<b>3.6784</b>	<b>1.3357</b>	<b>0.8425</b>	<b>2.1782</b>	<b>0.0000</b>	<b>1,995.6114</b>	<b>1,995.6114</b>	<b>0.6454</b>		<b>2,011.7470</b>

City of Gardena - Lab Five - 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 - 2021**

**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	8.5800e-003	0.2484	0.0573	8.3000e-004	0.0228	2.8800e-003	0.0256	6.2400e-003	2.7600e-003	8.9900e-003		90.9160	90.9160	4.7600e-003	0.0144	95.3312
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	0.0376	0.0288	0.4314	1.0600e-003	0.1118	7.7000e-004	0.1125	0.0296	7.1000e-004	0.0304		106.9287	106.9287	3.1500e-003	2.7300e-003	107.8203
<b>Total</b>	<b>0.0461</b>	<b>0.2771</b>	<b>0.4887</b>	<b>1.8900e-003</b>	<b>0.1345</b>	<b>3.6500e-003</b>	<b>0.1382</b>	<b>0.0359</b>	<b>3.4700e-003</b>	<b>0.0393</b>		<b>197.8447</b>	<b>197.8447</b>	<b>7.9100e-003</b>	<b>0.0172</b>	<b>203.1515</b>

**3.4 Demolition - 2021**

**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					0.0197	0.0000	0.0197	2.9800e-003	0.0000	2.9800e-003			0.0000			0.0000
Off-Road	1.9930	19.6966	14.4925	0.0241		1.0409	1.0409		0.9715	0.9715		2,322.7171	2,322.7171	0.5940		2,337.5658
<b>Total</b>	<b>1.9930</b>	<b>19.6966</b>	<b>14.4925</b>	<b>0.0241</b>	<b>0.0197</b>	<b>1.0409</b>	<b>1.0606</b>	<b>2.9800e-003</b>	<b>0.9715</b>	<b>0.9745</b>		<b>2,322.7171</b>	<b>2,322.7171</b>	<b>0.5940</b>		<b>2,337.5658</b>



City of Gardena - Lab Five - 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 Demolition - 2021**

**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	6.6000e-004	0.0191	4.4100e-003	6.0000e-005	1.7500e-003	2.2000e-004	1.9700e-003	4.8000e-004	2.1000e-004	6.9000e-004		6.9935	6.9935	3.7000e-004	1.1100e-003	7.3332
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	0.0488	0.0374	0.5608	1.3700e-003	0.1453	1.0000e-003	0.1463	0.0385	9.2000e-004	0.0395		139.0073	139.0073	4.1000e-003	3.5500e-003	140.1663
<b>Total</b>	<b>0.0495</b>	<b>0.0565</b>	<b>0.5652</b>	<b>1.4300e-003</b>	<b>0.1471</b>	<b>1.2200e-003</b>	<b>0.1483</b>	<b>0.0390</b>	<b>1.1300e-003</b>	<b>0.0401</b>		<b>146.0009</b>	<b>146.0009</b>	<b>4.4700e-003</b>	<b>4.6600e-003</b>	<b>147.4995</b>

**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					7.6800e-003	0.0000	7.6800e-003	1.1600e-003	0.0000	1.1600e-003			0.0000			0.0000
Off-Road	1.9930	19.6966	14.4925	0.0241		1.0409	1.0409		0.9715	0.9715	0.0000	2,322.7171	2,322.7171	0.5940		2,337.5658
<b>Total</b>	<b>1.9930</b>	<b>19.6966</b>	<b>14.4925</b>	<b>0.0241</b>	<b>7.6800e-003</b>	<b>1.0409</b>	<b>1.0486</b>	<b>1.1600e-003</b>	<b>0.9715</b>	<b>0.9726</b>	<b>0.0000</b>	<b>2,322.7171</b>	<b>2,322.7171</b>	<b>0.5940</b>		<b>2,337.5658</b>

City of Gardena - Lab Five - 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 Demolition - 2021**

**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	6.6000e-004	0.0191	4.4100e-003	6.0000e-005	1.7500e-003	2.2000e-004	1.9700e-003	4.8000e-004	2.1000e-004	6.9000e-004		6.9935	6.9935	3.7000e-004	1.1100e-003	7.3332
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	0.0488	0.0374	0.5608	1.3700e-003	0.1453	1.0000e-003	0.1463	0.0385	9.2000e-004	0.0395		139.0073	139.0073	4.1000e-003	3.5500e-003	140.1663
<b>Total</b>	<b>0.0495</b>	<b>0.0565</b>	<b>0.5652</b>	<b>1.4300e-003</b>	<b>0.1471</b>	<b>1.2200e-003</b>	<b>0.1483</b>	<b>0.0390</b>	<b>1.1300e-003</b>	<b>0.0401</b>		<b>146.0009</b>	<b>146.0009</b>	<b>4.4700e-003</b>	<b>4.6600e-003</b>	<b>147.4995</b>

**3.5 Paving - 2021**

**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	0.9928	9.2691	10.6744	0.0165		0.5094	0.5094		0.4770	0.4770		1,578.3145	1,578.3145	0.4304		1,589.0752
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>0.9928</b>	<b>9.2691</b>	<b>10.6744</b>	<b>0.0165</b>		<b>0.5094</b>	<b>0.5094</b>		<b>0.4770</b>	<b>0.4770</b>		<b>1,578.3145</b>	<b>1,578.3145</b>	<b>0.4304</b>		<b>1,589.0752</b>

City of Gardena - Lab Five - 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 Paving - 2021**

**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	0.0563	0.0431	0.6471	1.5800e-003	0.1677	1.1500e-003	0.1688	0.0445	1.0600e-003	0.0455		160.3931	160.3931	4.7300e-003	4.0900e-003	161.7304
<b>Total</b>	<b>0.0563</b>	<b>0.0431</b>	<b>0.6471</b>	<b>1.5800e-003</b>	<b>0.1677</b>	<b>1.1500e-003</b>	<b>0.1688</b>	<b>0.0445</b>	<b>1.0600e-003</b>	<b>0.0455</b>		<b>160.3931</b>	<b>160.3931</b>	<b>4.7300e-003</b>	<b>4.0900e-003</b>	<b>161.7304</b>

**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	0.9928	9.2691	10.6744	0.0165		0.5094	0.5094		0.4770	0.4770	0.0000	1,578.3145	1,578.3145	0.4304		1,589.0752
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>0.9928</b>	<b>9.2691</b>	<b>10.6744</b>	<b>0.0165</b>		<b>0.5094</b>	<b>0.5094</b>		<b>0.4770</b>	<b>0.4770</b>	<b>0.0000</b>	<b>1,578.3145</b>	<b>1,578.3145</b>	<b>0.4304</b>		<b>1,589.0752</b>

City of Gardena - Lab Five - 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 Paving - 2021**

**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	0.0563	0.0431	0.6471	1.5800e-003	0.1677	1.1500e-003	0.1688	0.0445	1.0600e-003	0.0455		160.3931	160.3931	4.7300e-003	4.0900e-003	161.7304
<b>Total</b>	<b>0.0563</b>	<b>0.0431</b>	<b>0.6471</b>	<b>1.5800e-003</b>	<b>0.1677</b>	<b>1.1500e-003</b>	<b>0.1688</b>	<b>0.0445</b>	<b>1.0600e-003</b>	<b>0.0455</b>		<b>160.3931</b>	<b>160.3931</b>	<b>4.7300e-003</b>	<b>4.0900e-003</b>	<b>161.7304</b>

**3.6 Architectural Coating - 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					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062
<b>Total</b>	<b>0.2045</b>	<b>1.4085</b>	<b>1.8136</b>	<b>2.9700e-003</b>		<b>0.0817</b>	<b>0.0817</b>		<b>0.0817</b>	<b>0.0817</b>		<b>281.4481</b>	<b>281.4481</b>	<b>0.0183</b>		<b>281.9062</b>

City of Gardena - Lab Five - 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 - 2022**

**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	0.0173	0.0126	0.1971	5.1000e-004	0.0559	3.6000e-004	0.0563	0.0148	3.3000e-004	0.0152		52.0064	52.0064	1.4100e-003	1.2500e-003	52.4144
<b>Total</b>	<b>0.0173</b>	<b>0.0126</b>	<b>0.1971</b>	<b>5.1000e-004</b>	<b>0.0559</b>	<b>3.6000e-004</b>	<b>0.0563</b>	<b>0.0148</b>	<b>3.3000e-004</b>	<b>0.0152</b>		<b>52.0064</b>	<b>52.0064</b>	<b>1.4100e-003</b>	<b>1.2500e-003</b>	<b>52.4144</b>

**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	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817	0.0000	281.4481	281.4481	0.0183		281.9062
<b>Total</b>	<b>0.2045</b>	<b>1.4085</b>	<b>1.8136</b>	<b>2.9700e-003</b>		<b>0.0817</b>	<b>0.0817</b>		<b>0.0817</b>	<b>0.0817</b>	<b>0.0000</b>	<b>281.4481</b>	<b>281.4481</b>	<b>0.0183</b>		<b>281.9062</b>

City of Gardena - Lab Five - 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 - 2022**

**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	0.0173	0.0126	0.1971	5.1000e-004	0.0559	3.6000e-004	0.0563	0.0148	3.3000e-004	0.0152		52.0064	52.0064	1.4100e-003	1.2500e-003	52.4144
<b>Total</b>	<b>0.0173</b>	<b>0.0126</b>	<b>0.1971</b>	<b>5.1000e-004</b>	<b>0.0559</b>	<b>3.6000e-004</b>	<b>0.0563</b>	<b>0.0148</b>	<b>3.3000e-004</b>	<b>0.0152</b>		<b>52.0064</b>	<b>52.0064</b>	<b>1.4100e-003</b>	<b>1.2500e-003</b>	<b>52.4144</b>

**3.7 Building Construction - 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	1.6487	12.5031	12.7264	0.0221		0.5889	0.5889		0.5689	0.5689		2,001.5429	2,001.5429	0.3486		2,010.2581
<b>Total</b>	<b>1.6487</b>	<b>12.5031</b>	<b>12.7264</b>	<b>0.0221</b>		<b>0.5889</b>	<b>0.5889</b>		<b>0.5689</b>	<b>0.5689</b>		<b>2,001.5429</b>	<b>2,001.5429</b>	<b>0.3486</b>		<b>2,010.2581</b>

City of Gardena - Lab Five - Los Angeles-South Coast County, Summer

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

**3.7 Building Construction - 2022**

**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	0.0217	0.5388	0.1847	2.1500e-003	0.0705	5.1300e-003	0.0756	0.0203	4.9100e-003	0.0252		231.5078	231.5078	7.7400e-003	0.0334	241.6427
Worker	0.0935	0.0682	1.0642	2.7600e-003	0.3018	1.9300e-003	0.3037	0.0800	1.7800e-003	0.0818		280.8343	280.8343	7.6000e-003	6.7600e-003	283.0377
<b>Total</b>	<b>0.1151</b>	<b>0.6071</b>	<b>1.2489</b>	<b>4.9100e-003</b>	<b>0.3723</b>	<b>7.0600e-003</b>	<b>0.3793</b>	<b>0.1003</b>	<b>6.6900e-003</b>	<b>0.1070</b>		<b>512.3421</b>	<b>512.3421</b>	<b>0.0153</b>	<b>0.0401</b>	<b>524.6804</b>

**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	1.6487	12.5031	12.7264	0.0221		0.5889	0.5889		0.5689	0.5689	0.0000	2,001.5429	2,001.5429	0.3486		2,010.2581
<b>Total</b>	<b>1.6487</b>	<b>12.5031</b>	<b>12.7264</b>	<b>0.0221</b>		<b>0.5889</b>	<b>0.5889</b>		<b>0.5689</b>	<b>0.5689</b>	<b>0.0000</b>	<b>2,001.5429</b>	<b>2,001.5429</b>	<b>0.3486</b>		<b>2,010.2581</b>

City of Gardena - Lab Five - Los Angeles-South Coast County, Summer

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

**3.7 Building Construction - 2022**

**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	0.0217	0.5388	0.1847	2.1500e-003	0.0705	5.1300e-003	0.0756	0.0203	4.9100e-003	0.0252		231.5078	231.5078	7.7400e-003	0.0334	241.6427
Worker	0.0935	0.0682	1.0642	2.7600e-003	0.3018	1.9300e-003	0.3037	0.0800	1.7800e-003	0.0818		280.8343	280.8343	7.6000e-003	6.7600e-003	283.0377
<b>Total</b>	<b>0.1151</b>	<b>0.6071</b>	<b>1.2489</b>	<b>4.9100e-003</b>	<b>0.3723</b>	<b>7.0600e-003</b>	<b>0.3793</b>	<b>0.1003</b>	<b>6.6900e-003</b>	<b>0.1070</b>		<b>512.3421</b>	<b>512.3421</b>	<b>0.0153</b>	<b>0.0401</b>	<b>524.6804</b>



City of Gardena - Lab Five - 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	0.5909	0.6407	5.8297	0.0122	1.1995	0.0102	1.2097	0.3195	9.5000e-003	0.3290		1,253.6976	1,253.6976	0.0848	0.0529	1,271.5652
Unmitigated	0.5909	0.6407	5.8297	0.0122	1.1995	0.0102	1.2097	0.3195	9.5000e-003	0.3290		1,253.6976	1,253.6976	0.0848	0.0529	1,271.5652

**4.2 Trip Summary Information**

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	198.00	198.00	198.00	569,753	569,753
Total	198.00	198.00	198.00	569,753	569,753

**4.3 Trip Type Information**

Land Use	Miles			Trip %			Trip Purpose %		
	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
City Park	16.60	8.40	6.90	33.00	48.00	19.00	66	28	6

**4.4 Fleet Mix**

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
City Park	0.546774	0.061880	0.186704	0.127505	0.022909	0.005912	0.010702	0.008032	0.000940	0.000617	0.023937	0.000692	0.003397

City of Gardena - Lab Five - Los Angeles-South Coast County, Summer

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

**5.0 Energy Detail**

Historical Energy Use: N

**5.1 Mitigation Measures Energy**

	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	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	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

**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					
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
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

City of Gardena - Lab Five - 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**

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					
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
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**6.0 Area Detail**

**6.1 Mitigation Measures Area**

	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	3.3800e-003	0.0000	1.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		3.3000e-004	3.3000e-004	0.0000		3.5000e-004
Unmitigated	3.3800e-003	0.0000	1.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		3.3000e-004	3.3000e-004	0.0000		3.5000e-004

City of Gardena - Lab Five - 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**

**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	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.3700e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		3.3000e-004	3.3000e-004	0.0000		3.5000e-004
<b>Total</b>	<b>3.3800e-003</b>	<b>0.0000</b>	<b>1.5000e-004</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>3.3000e-004</b>	<b>3.3000e-004</b>	<b>0.0000</b>		<b>3.5000e-004</b>

City of Gardena - Lab Five - 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	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.3700e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		3.3000e-004	3.3000e-004	0.0000		3.5000e-004
<b>Total</b>	<b>3.3800e-003</b>	<b>0.0000</b>	<b>1.5000e-004</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>3.3000e-004</b>	<b>3.3000e-004</b>	<b>0.0000</b>		<b>3.5000e-004</b>

**7.0 Water Detail**

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**7.1 Mitigation Measures Water**

City of Gardena - Lab Five - 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**

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**8.1 Mitigation Measures Waste**

**9.0 Operational Offroad**

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

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**Fire Pumps and Emergency Generators**

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

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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**User Defined Equipment**

Equipment Type	Number
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**11.0 Vegetation**

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City of Gardena - Lab Five - Los Angeles-South Coast County, Winter

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

**City of Gardena - Lab Five  
Los Angeles-South Coast County, Winter**

**1.0 Project Characteristics**

**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
City Park	1.50	Acre	1.50	65,340.00	0

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	2.2	<b>Precipitation Freq (Days)</b>	33
<b>Climate Zone</b>	8			<b>Operational Year</b>	2022
<b>Utility Company</b>	Southern California Edison				
<b>CO2 Intensity (lb/MWhr)</b>	390.98	<b>CH4 Intensity (lb/MWhr)</b>	0.033	<b>N2O Intensity (lb/MWhr)</b>	0.004

**1.3 User Entered Comments & Non-Default Data**

Project Characteristics -

Land Use - Land Uses: 1.5 acres park (soccer field)

Construction Phase - Construction schedule as provided by Project applicant. Phases estimated based on Project type.

Off-road Equipment -

Off-road Equipment - Project construction equipment provided by project applicant.

Off-road Equipment - Project construction equipment provided by project applicant.

Off-road Equipment - Project construction equipment provided by project applicant.

Off-road Equipment - Project construction equipment provided by project applicant.

Off-road Equipment -

Trips and VMT -

Demolition - ~200 s.f. of building demolished (per Project Applicant).

Grading - Grading would occur during grading phase only. Estimated total of 100 cubic yards of sand (soil) import.

City of Gardena - Lab Five - Los Angeles-South Coast County, Winter

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

Vehicle Trips - Operational mobile trips provided by Kittelson & Associates, Inc. (198 trips per day) = 132 trips per acre per day.

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Woodstoves -

Energy Use -

Construction Off-road Equipment Mitigation - Reductions include: Water Exposed Area 3 times daily; Unpaved Road Mitigation (Moisture Content at 12%; Vehicle Speed 15 MPH).

Mobile Land Use Mitigation -

Mobile Commute Mitigation -

Fleet Mix -

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	12
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	2.00	15.00
tblConstructionPhase	NumDays	4.00	10.00
tblConstructionPhase	NumDays	20.00	10.00
tblConstructionPhase	NumDays	200.00	10.00
tblConstructionPhase	PhaseEndDate	11/2/2021	11/19/2021
tblConstructionPhase	PhaseEndDate	11/8/2021	12/3/2021
tblConstructionPhase	PhaseStartDate	11/3/2021	11/20/2021
tblGrading	AcresOfGrading	14.06	0.00
tblGrading	MaterialImported	0.00	100.00
tblVehicleTrips	ST_TR	1.96	132.00
tblVehicleTrips	SU_TR	2.19	132.00
tblVehicleTrips	WD_TR	0.78	132.00

**2.0 Emissions Summary**

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City of Gardena - Lab Five - 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					
2021	2.0457	20.5035	15.0112	0.0255	7.2183	1.0421	8.1377	3.4608	0.9726	4.3068	0.0000	2,461.3462	2,461.3462	0.6534	0.0173	2,477.7675
2022	1.7701	13.1395	13.8946	0.0268	0.3723	0.5960	0.9682	0.1003	0.5756	0.6759	0.0000	2,499.1235	2,499.1235	0.3640	0.0406	2,520.3295
<b>Maximum</b>	<b>2.0457</b>	<b>20.5035</b>	<b>15.0112</b>	<b>0.0268</b>	<b>7.2183</b>	<b>1.0421</b>	<b>8.1377</b>	<b>3.4608</b>	<b>0.9726</b>	<b>4.3068</b>	<b>0.0000</b>	<b>2,499.1235</b>	<b>2,499.1235</b>	<b>0.6534</b>	<b>0.0406</b>	<b>2,520.3295</b>

**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					
2021	2.0457	20.5035	15.0112	0.0255	2.8972	1.0421	3.8166	1.3716	0.9726	2.2176	0.0000	2,461.3462	2,461.3462	0.6534	0.0173	2,477.7675
2022	1.7701	13.1395	13.8946	0.0268	0.3723	0.5960	0.9682	0.1003	0.5756	0.6759	0.0000	2,499.1235	2,499.1235	0.3640	0.0406	2,520.3295
<b>Maximum</b>	<b>2.0457</b>	<b>20.5035</b>	<b>15.0112</b>	<b>0.0268</b>	<b>2.8972</b>	<b>1.0421</b>	<b>3.8166</b>	<b>1.3716</b>	<b>0.9726</b>	<b>2.2176</b>	<b>0.0000</b>	<b>2,499.1235</b>	<b>2,499.1235</b>	<b>0.6534</b>	<b>0.0406</b>	<b>2,520.3295</b>

## City of Gardena - Lab Five - 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
Percent Reduction	0.00	0.00	0.00	0.00	56.93	0.00	47.45	58.67	0.00	41.93	0.00	0.00	0.00	0.00	0.00	0.00

City of Gardena - Lab Five - 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	3.3800e-003	0.0000	1.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		3.3000e-004	3.3000e-004	0.0000		3.5000e-004
Energy	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
Mobile	0.5796	0.6904	5.7034	0.0117	1.1995	0.0102	1.2097	0.3195	9.5100e-003	0.3290		1,200.0971	1,200.0971	0.0876	0.0553	1,218.7585
<b>Total</b>	<b>0.5830</b>	<b>0.6904</b>	<b>5.7036</b>	<b>0.0117</b>	<b>1.1995</b>	<b>0.0102</b>	<b>1.2097</b>	<b>0.3195</b>	<b>9.5100e-003</b>	<b>0.3290</b>		<b>1,200.0975</b>	<b>1,200.0975</b>	<b>0.0876</b>	<b>0.0553</b>	<b>1,218.7589</b>

**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	3.3800e-003	0.0000	1.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		3.3000e-004	3.3000e-004	0.0000		3.5000e-004
Energy	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
Mobile	0.5796	0.6904	5.7034	0.0117	1.1995	0.0102	1.2097	0.3195	9.5100e-003	0.3290		1,200.0971	1,200.0971	0.0876	0.0553	1,218.7585
<b>Total</b>	<b>0.5830</b>	<b>0.6904</b>	<b>5.7036</b>	<b>0.0117</b>	<b>1.1995</b>	<b>0.0102</b>	<b>1.2097</b>	<b>0.3195</b>	<b>9.5100e-003</b>	<b>0.3290</b>		<b>1,200.0975</b>	<b>1,200.0975</b>	<b>0.0876</b>	<b>0.0553</b>	<b>1,218.7589</b>

City of Gardena - Lab Five - 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
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

**3.0 Construction Detail**

**Construction Phase**

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	11/1/2021	11/19/2021	5	15	
2	Grading	Grading	11/20/2021	12/3/2021	5	10	
3	Demolition	Demolition	12/4/2021	12/17/2021	5	10	
4	Paving	Paving	12/18/2021	12/31/2021	5	10	
5	Architectural Coating	Architectural Coating	1/15/2022	1/28/2022	5	10	
6	Building Construction	Building Construction	1/1/2022	1/14/2022	5	10	

**Acres of Grading (Site Preparation Phase): 0**

**Acres of Grading (Grading Phase): 10**

**Acres of Paving: 0**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)**

**OffRoad Equipment**

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Rubber Tired Dozers	1	7.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40

City of Gardena - Lab Five - 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	2	7.00	97	0.37
Building Construction	Cranes	1	6.00	231	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Paving	Pavers	1	6.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Air Compressors	1	6.00	78	0.48
Paving	Rollers	1	7.00	80	0.38
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
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
Site Preparation	3	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	13.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	27.00	11.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Demolition	5	13.00	0.00	1.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	5.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

**3.1 Mitigation Measures Construction**

City of Gardena - Lab Five - Los Angeles-South Coast County, Winter

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

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

**3.2 Site Preparation - 2021**

**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					5.2693	0.0000	5.2693	2.8965	0.0000	2.8965			0.0000			0.0000
Off-Road	1.5558	17.4203	7.5605	0.0172		0.7654	0.7654		0.7041	0.7041		1,666.5174	1,666.5174	0.5390		1,679.9920
<b>Total</b>	<b>1.5558</b>	<b>17.4203</b>	<b>7.5605</b>	<b>0.0172</b>	<b>5.2693</b>	<b>0.7654</b>	<b>6.0347</b>	<b>2.8965</b>	<b>0.7041</b>	<b>3.6006</b>		<b>1,666.5174</b>	<b>1,666.5174</b>	<b>0.5390</b>		<b>1,679.9920</b>

City of Gardena - Lab Five - 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 Site Preparation - 2021**

**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	0.0321	0.0254	0.3164	8.0000e-004	0.0894	6.1000e-004	0.0900	0.0237	5.7000e-004	0.0243		81.0061	81.0061	2.5500e-003	2.3300e-003	81.7648
<b>Total</b>	<b>0.0321</b>	<b>0.0254</b>	<b>0.3164</b>	<b>8.0000e-004</b>	<b>0.0894</b>	<b>6.1000e-004</b>	<b>0.0900</b>	<b>0.0237</b>	<b>5.7000e-004</b>	<b>0.0243</b>		<b>81.0061</b>	<b>81.0061</b>	<b>2.5500e-003</b>	<b>2.3300e-003</b>	<b>81.7648</b>

**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					2.0550	0.0000	2.0550	1.1296	0.0000	1.1296			0.0000			0.0000
Off-Road	1.5558	17.4203	7.5605	0.0172		0.7654	0.7654		0.7041	0.7041	0.0000	1,666.5174	1,666.5174	0.5390		1,679.9920
<b>Total</b>	<b>1.5558</b>	<b>17.4203</b>	<b>7.5605</b>	<b>0.0172</b>	<b>2.0550</b>	<b>0.7654</b>	<b>2.8204</b>	<b>1.1296</b>	<b>0.7041</b>	<b>1.8338</b>	<b>0.0000</b>	<b>1,666.5174</b>	<b>1,666.5174</b>	<b>0.5390</b>		<b>1,679.9920</b>

City of Gardena - Lab Five - 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 Site Preparation - 2021**

**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	0.0321	0.0254	0.3164	8.0000e-004	0.0894	6.1000e-004	0.0900	0.0237	5.7000e-004	0.0243		81.0061	81.0061	2.5500e-003	2.3300e-003	81.7648
<b>Total</b>	<b>0.0321</b>	<b>0.0254</b>	<b>0.3164</b>	<b>8.0000e-004</b>	<b>0.0894</b>	<b>6.1000e-004</b>	<b>0.0900</b>	<b>0.0237</b>	<b>5.7000e-004</b>	<b>0.0243</b>		<b>81.0061</b>	<b>81.0061</b>	<b>2.5500e-003</b>	<b>2.3300e-003</b>	<b>81.7648</b>

**3.3 Grading - 2021**

**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					7.0837	0.0000	7.0837	3.4249	0.0000	3.4249			0.0000			0.0000
Off-Road	1.8271	20.2135	9.7604	0.0206		0.9158	0.9158		0.8425	0.8425		1,995.6114	1,995.6114	0.6454		2,011.7470
<b>Total</b>	<b>1.8271</b>	<b>20.2135</b>	<b>9.7604</b>	<b>0.0206</b>	<b>7.0837</b>	<b>0.9158</b>	<b>7.9995</b>	<b>3.4249</b>	<b>0.8425</b>	<b>4.2674</b>		<b>1,995.6114</b>	<b>1,995.6114</b>	<b>0.6454</b>		<b>2,011.7470</b>



City of Gardena - Lab Five - 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 - 2021**

**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	8.4500e-003	0.2582	0.0583	8.3000e-004	0.0228	2.8800e-003	0.0256	6.2400e-003	2.7600e-003	9.0000e-003		90.9262	90.9262	4.7500e-003	0.0144	95.3418
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	0.0401	0.0318	0.3955	1.0000e-003	0.1118	7.7000e-004	0.1125	0.0296	7.1000e-004	0.0304		101.2576	101.2576	3.1800e-003	2.9200e-003	102.2059
<b>Total</b>	<b>0.0485</b>	<b>0.2900</b>	<b>0.4538</b>	<b>1.8300e-003</b>	<b>0.1345</b>	<b>3.6500e-003</b>	<b>0.1382</b>	<b>0.0359</b>	<b>3.4700e-003</b>	<b>0.0394</b>		<b>192.1837</b>	<b>192.1837</b>	<b>7.9300e-003</b>	<b>0.0173</b>	<b>197.5478</b>

**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					2.7627	0.0000	2.7627	1.3357	0.0000	1.3357			0.0000			0.0000
Off-Road	1.8271	20.2135	9.7604	0.0206		0.9158	0.9158		0.8425	0.8425	0.0000	1,995.6114	1,995.6114	0.6454		2,011.7470
<b>Total</b>	<b>1.8271</b>	<b>20.2135</b>	<b>9.7604</b>	<b>0.0206</b>	<b>2.7627</b>	<b>0.9158</b>	<b>3.6784</b>	<b>1.3357</b>	<b>0.8425</b>	<b>2.1782</b>	<b>0.0000</b>	<b>1,995.6114</b>	<b>1,995.6114</b>	<b>0.6454</b>		<b>2,011.7470</b>

City of Gardena - Lab Five - 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 - 2021**

**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	8.4500e-003	0.2582	0.0583	8.3000e-004	0.0228	2.8800e-003	0.0256	6.2400e-003	2.7600e-003	9.0000e-003		90.9262	90.9262	4.7500e-003	0.0144	95.3418
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	0.0401	0.0318	0.3955	1.0000e-003	0.1118	7.7000e-004	0.1125	0.0296	7.1000e-004	0.0304		101.2576	101.2576	3.1800e-003	2.9200e-003	102.2059
<b>Total</b>	<b>0.0485</b>	<b>0.2900</b>	<b>0.4538</b>	<b>1.8300e-003</b>	<b>0.1345</b>	<b>3.6500e-003</b>	<b>0.1382</b>	<b>0.0359</b>	<b>3.4700e-003</b>	<b>0.0394</b>		<b>192.1837</b>	<b>192.1837</b>	<b>7.9300e-003</b>	<b>0.0173</b>	<b>197.5478</b>

**3.4 Demolition - 2021**

**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					0.0197	0.0000	0.0197	2.9800e-003	0.0000	2.9800e-003			0.0000			0.0000
Off-Road	1.9930	19.6966	14.4925	0.0241		1.0409	1.0409		0.9715	0.9715		2,322.7171	2,322.7171	0.5940		2,337.5658
<b>Total</b>	<b>1.9930</b>	<b>19.6966</b>	<b>14.4925</b>	<b>0.0241</b>	<b>0.0197</b>	<b>1.0409</b>	<b>1.0606</b>	<b>2.9800e-003</b>	<b>0.9715</b>	<b>0.9745</b>		<b>2,322.7171</b>	<b>2,322.7171</b>	<b>0.5940</b>		<b>2,337.5658</b>

City of Gardena - Lab Five - 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 Demolition - 2021**

**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	6.5000e-004	0.0199	4.4800e-003	6.0000e-005	1.7500e-003	2.2000e-004	1.9700e-003	4.8000e-004	2.1000e-004	6.9000e-004		6.9943	6.9943	3.7000e-004	1.1100e-003	7.3340
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	0.0521	0.0413	0.5142	1.3000e-003	0.1453	1.0000e-003	0.1463	0.0385	9.2000e-004	0.0395		131.6348	131.6348	4.1400e-003	3.7900e-003	132.8677
<b>Total</b>	<b>0.0527</b>	<b>0.0612</b>	<b>0.5187</b>	<b>1.3600e-003</b>	<b>0.1471</b>	<b>1.2200e-003</b>	<b>0.1483</b>	<b>0.0390</b>	<b>1.1300e-003</b>	<b>0.0401</b>		<b>138.6292</b>	<b>138.6292</b>	<b>4.5100e-003</b>	<b>4.9000e-003</b>	<b>140.2017</b>

**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					7.6800e-003	0.0000	7.6800e-003	1.1600e-003	0.0000	1.1600e-003			0.0000			0.0000
Off-Road	1.9930	19.6966	14.4925	0.0241		1.0409	1.0409		0.9715	0.9715	0.0000	2,322.7171	2,322.7171	0.5940		2,337.5658
<b>Total</b>	<b>1.9930</b>	<b>19.6966</b>	<b>14.4925</b>	<b>0.0241</b>	<b>7.6800e-003</b>	<b>1.0409</b>	<b>1.0486</b>	<b>1.1600e-003</b>	<b>0.9715</b>	<b>0.9726</b>	<b>0.0000</b>	<b>2,322.7171</b>	<b>2,322.7171</b>	<b>0.5940</b>		<b>2,337.5658</b>

City of Gardena - Lab Five - 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 Demolition - 2021**

**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	6.5000e-004	0.0199	4.4800e-003	6.0000e-005	1.7500e-003	2.2000e-004	1.9700e-003	4.8000e-004	2.1000e-004	6.9000e-004		6.9943	6.9943	3.7000e-004	1.1100e-003	7.3340
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	0.0521	0.0413	0.5142	1.3000e-003	0.1453	1.0000e-003	0.1463	0.0385	9.2000e-004	0.0395		131.6348	131.6348	4.1400e-003	3.7900e-003	132.8677
<b>Total</b>	<b>0.0527</b>	<b>0.0612</b>	<b>0.5187</b>	<b>1.3600e-003</b>	<b>0.1471</b>	<b>1.2200e-003</b>	<b>0.1483</b>	<b>0.0390</b>	<b>1.1300e-003</b>	<b>0.0401</b>		<b>138.6292</b>	<b>138.6292</b>	<b>4.5100e-003</b>	<b>4.9000e-003</b>	<b>140.2017</b>

**3.5 Paving - 2021**

**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	0.9928	9.2691	10.6744	0.0165		0.5094	0.5094		0.4770	0.4770		1,578.3145	1,578.3145	0.4304		1,589.0752
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>0.9928</b>	<b>9.2691</b>	<b>10.6744</b>	<b>0.0165</b>		<b>0.5094</b>	<b>0.5094</b>		<b>0.4770</b>	<b>0.4770</b>		<b>1,578.3145</b>	<b>1,578.3145</b>	<b>0.4304</b>		<b>1,589.0752</b>

City of Gardena - Lab Five - 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 Paving - 2021**

**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	0.0601	0.0477	0.5933	1.5000e-003	0.1677	1.1500e-003	0.1688	0.0445	1.0600e-003	0.0455		151.8864	151.8864	4.7800e-003	4.3700e-003	153.3089
<b>Total</b>	<b>0.0601</b>	<b>0.0477</b>	<b>0.5933</b>	<b>1.5000e-003</b>	<b>0.1677</b>	<b>1.1500e-003</b>	<b>0.1688</b>	<b>0.0445</b>	<b>1.0600e-003</b>	<b>0.0455</b>		<b>151.8864</b>	<b>151.8864</b>	<b>4.7800e-003</b>	<b>4.3700e-003</b>	<b>153.3089</b>

**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	0.9928	9.2691	10.6744	0.0165		0.5094	0.5094		0.4770	0.4770	0.0000	1,578.3145	1,578.3145	0.4304		1,589.0752
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>0.9928</b>	<b>9.2691</b>	<b>10.6744</b>	<b>0.0165</b>		<b>0.5094</b>	<b>0.5094</b>		<b>0.4770</b>	<b>0.4770</b>	<b>0.0000</b>	<b>1,578.3145</b>	<b>1,578.3145</b>	<b>0.4304</b>		<b>1,589.0752</b>

City of Gardena - Lab Five - 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 Paving - 2021**

**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	0.0601	0.0477	0.5933	1.5000e-003	0.1677	1.1500e-003	0.1688	0.0445	1.0600e-003	0.0455		151.8864	151.8864	4.7800e-003	4.3700e-003	153.3089
<b>Total</b>	<b>0.0601</b>	<b>0.0477</b>	<b>0.5933</b>	<b>1.5000e-003</b>	<b>0.1677</b>	<b>1.1500e-003</b>	<b>0.1688</b>	<b>0.0445</b>	<b>1.0600e-003</b>	<b>0.0455</b>		<b>151.8864</b>	<b>151.8864</b>	<b>4.7800e-003</b>	<b>4.3700e-003</b>	<b>153.3089</b>

**3.6 Architectural Coating - 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					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062
<b>Total</b>	<b>0.2045</b>	<b>1.4085</b>	<b>1.8136</b>	<b>2.9700e-003</b>		<b>0.0817</b>	<b>0.0817</b>		<b>0.0817</b>	<b>0.0817</b>		<b>281.4481</b>	<b>281.4481</b>	<b>0.0183</b>		<b>281.9062</b>

City of Gardena - Lab Five - 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 - 2022**

**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	0.0185	0.0140	0.1809	4.8000e-004	0.0559	3.6000e-004	0.0563	0.0148	3.3000e-004	0.0152		49.2567	49.2567	1.4200e-003	1.3400e-003	49.6907
<b>Total</b>	<b>0.0185</b>	<b>0.0140</b>	<b>0.1809</b>	<b>4.8000e-004</b>	<b>0.0559</b>	<b>3.6000e-004</b>	<b>0.0563</b>	<b>0.0148</b>	<b>3.3000e-004</b>	<b>0.0152</b>		<b>49.2567</b>	<b>49.2567</b>	<b>1.4200e-003</b>	<b>1.3400e-003</b>	<b>49.6907</b>

**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	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817	0.0000	281.4481	281.4481	0.0183		281.9062
<b>Total</b>	<b>0.2045</b>	<b>1.4085</b>	<b>1.8136</b>	<b>2.9700e-003</b>		<b>0.0817</b>	<b>0.0817</b>		<b>0.0817</b>	<b>0.0817</b>	<b>0.0000</b>	<b>281.4481</b>	<b>281.4481</b>	<b>0.0183</b>		<b>281.9062</b>

City of Gardena - Lab Five - 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 - 2022**

**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	0.0185	0.0140	0.1809	4.8000e-004	0.0559	3.6000e-004	0.0563	0.0148	3.3000e-004	0.0152		49.2567	49.2567	1.4200e-003	1.3400e-003	49.6907
<b>Total</b>	<b>0.0185</b>	<b>0.0140</b>	<b>0.1809</b>	<b>4.8000e-004</b>	<b>0.0559</b>	<b>3.6000e-004</b>	<b>0.0563</b>	<b>0.0148</b>	<b>3.3000e-004</b>	<b>0.0152</b>		<b>49.2567</b>	<b>49.2567</b>	<b>1.4200e-003</b>	<b>1.3400e-003</b>	<b>49.6907</b>

**3.7 Building Construction - 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	1.6487	12.5031	12.7264	0.0221		0.5889	0.5889		0.5689	0.5689		2,001.5429	2,001.5429	0.3486		2,010.2581
<b>Total</b>	<b>1.6487</b>	<b>12.5031</b>	<b>12.7264</b>	<b>0.0221</b>		<b>0.5889</b>	<b>0.5889</b>		<b>0.5689</b>	<b>0.5689</b>		<b>2,001.5429</b>	<b>2,001.5429</b>	<b>0.3486</b>		<b>2,010.2581</b>



City of Gardena - Lab Five - Los Angeles-South Coast County, Winter

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

**3.7 Building Construction - 2022**

**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	0.0214	0.5610	0.1911	2.1600e-003	0.0705	5.1500e-003	0.0756	0.0203	4.9300e-003	0.0252		231.5947	231.5947	7.7100e-003	0.0334	241.7418
Worker	0.1000	0.0754	0.9771	2.6100e-003	0.3018	1.9300e-003	0.3037	0.0800	1.7800e-003	0.0818		265.9860	265.9860	7.6900e-003	7.2200e-003	268.3296
<b>Total</b>	<b>0.1214</b>	<b>0.6364</b>	<b>1.1682</b>	<b>4.7700e-003</b>	<b>0.3723</b>	<b>7.0800e-003</b>	<b>0.3793</b>	<b>0.1003</b>	<b>6.7100e-003</b>	<b>0.1070</b>		<b>497.5807</b>	<b>497.5807</b>	<b>0.0154</b>	<b>0.0406</b>	<b>510.0715</b>

**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	1.6487	12.5031	12.7264	0.0221		0.5889	0.5889		0.5689	0.5689	0.0000	2,001.5429	2,001.5429	0.3486		2,010.2581
<b>Total</b>	<b>1.6487</b>	<b>12.5031</b>	<b>12.7264</b>	<b>0.0221</b>		<b>0.5889</b>	<b>0.5889</b>		<b>0.5689</b>	<b>0.5689</b>	<b>0.0000</b>	<b>2,001.5429</b>	<b>2,001.5429</b>	<b>0.3486</b>		<b>2,010.2581</b>

City of Gardena - Lab Five - Los Angeles-South Coast County, Winter

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

**3.7 Building Construction - 2022**

**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	0.0214	0.5610	0.1911	2.1600e-003	0.0705	5.1500e-003	0.0756	0.0203	4.9300e-003	0.0252		231.5947	231.5947	7.7100e-003	0.0334	241.7418
Worker	0.1000	0.0754	0.9771	2.6100e-003	0.3018	1.9300e-003	0.3037	0.0800	1.7800e-003	0.0818		265.9860	265.9860	7.6900e-003	7.2200e-003	268.3296
<b>Total</b>	<b>0.1214</b>	<b>0.6364</b>	<b>1.1682</b>	<b>4.7700e-003</b>	<b>0.3723</b>	<b>7.0800e-003</b>	<b>0.3793</b>	<b>0.1003</b>	<b>6.7100e-003</b>	<b>0.1070</b>		<b>497.5807</b>	<b>497.5807</b>	<b>0.0154</b>	<b>0.0406</b>	<b>510.0715</b>

City of Gardena - Lab Five - 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	0.5796	0.6904	5.7034	0.0117	1.1995	0.0102	1.2097	0.3195	9.5100e-003	0.3290		1,200.0971	1,200.0971	0.0876	0.0553	1,218.7585
Unmitigated	0.5796	0.6904	5.7034	0.0117	1.1995	0.0102	1.2097	0.3195	9.5100e-003	0.3290		1,200.0971	1,200.0971	0.0876	0.0553	1,218.7585

**4.2 Trip Summary Information**

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	198.00	198.00	198.00	569,753	569,753
Total	198.00	198.00	198.00	569,753	569,753

**4.3 Trip Type Information**

Land Use	Miles			Trip %			Trip Purpose %		
	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
City Park	16.60	8.40	6.90	33.00	48.00	19.00	66	28	6

**4.4 Fleet Mix**

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
City Park	0.546774	0.061880	0.186704	0.127505	0.022909	0.005912	0.010702	0.008032	0.000940	0.000617	0.023937	0.000692	0.003397

City of Gardena - Lab Five - Los Angeles-South Coast County, Winter

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

**5.0 Energy Detail**

Historical Energy Use: N

**5.1 Mitigation Measures Energy**

	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	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	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

**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					
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	
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	

City of Gardena - Lab Five - 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**

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					
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
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**6.0 Area Detail**

**6.1 Mitigation Measures Area**

	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	3.3800e-003	0.0000	1.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		3.3000e-004	3.3000e-004	0.0000		3.5000e-004
Unmitigated	3.3800e-003	0.0000	1.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		3.3000e-004	3.3000e-004	0.0000		3.5000e-004

City of Gardena - Lab Five - Los Angeles-South Coast County, Winter

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

**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	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.3700e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		3.3000e-004	3.3000e-004	0.0000		3.5000e-004
<b>Total</b>	<b>3.3800e-003</b>	<b>0.0000</b>	<b>1.5000e-004</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>3.3000e-004</b>	<b>3.3000e-004</b>	<b>0.0000</b>		<b>3.5000e-004</b>

City of Gardena - Lab Five - Los Angeles-South Coast County, Winter

**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	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.3700e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		3.3000e-004	3.3000e-004	0.0000		3.5000e-004
<b>Total</b>	<b>3.3800e-003</b>	<b>0.0000</b>	<b>1.5000e-004</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>3.3000e-004</b>	<b>3.3000e-004</b>	<b>0.0000</b>		<b>3.5000e-004</b>

**7.0 Water Detail**

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**7.1 Mitigation Measures Water**

City of Gardena - Lab Five - 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**

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**8.1 Mitigation Measures Waste**

**9.0 Operational Offroad**

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

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**Fire Pumps and Emergency Generators**

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

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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**User Defined Equipment**

Equipment Type	Number
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**11.0 Vegetation**

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