

# **Aster Apartments**

## **Air Quality, Greenhouse Gas, and Energy Impact Study**

### **City of Hemet, CA**

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## TABLE OF CONTENTS

<b>1.0</b>	<b>Introduction .....</b>	<b>1</b>
1.1	Purpose of Analysis and Study Objectives	1
1.2	Project Summary	1
1.2.1	Site Location	1
1.2.2	Project Description	1
1.2.3	Sensitive Receptors	1
1.3	Executive Summary of Findings and Mitigation Measures	2
<b>2.0</b>	<b>Regulatory Framework and Background.....</b>	<b>6</b>
2.1	Air Quality Regulatory Setting	6
2.1.1	National and State	6
2.1.2	South Coast Air Quality Management District	8
2.1.3	Local	11
2.2	Greenhouse Gas Regulatory Setting	12
2.2.1	International	12
2.2.2	National	13
2.2.3	California	14
2.2.4	South Coast Air Quality Management District	20
2.2.5	Local	22
2.3	Energy Regulatory Setting	22
2.3.1	Federal Regulations	22
2.3.2	State Regulations	23
<b>3.0</b>	<b>Setting.....</b>	<b>30</b>
3.1	Existing Physical Setting	30
3.1.1	Local Climate and Meteorology	30
3.1.2	Local Air Quality	31
3.1.3	Attainment Status	34
3.2	Greenhouse Gases	35
3.3	Energy	37
3.3.1	Overview	37
3.3.2	Electricity and Natural Gas	39
3.3.3	Transportation Energy Resources	40
<b>4.0</b>	<b>Modeling Parameters and Assumptions .....</b>	<b>42</b>
4.1	Construction	42
4.2	Operations	42
4.3	Localized Construction Analysis	43
4.4	Localized Operational Analysis	44
<b>5.0</b>	<b>Thresholds of Significance .....</b>	<b>45</b>
5.1	Air Quality Thresholds of Significance	45
5.1.1	CEQA Guidelines for Air Quality	45

5.1.2	Regional Significance Thresholds for Construction Emissions	45
5.1.3	Regional Significance Thresholds for Operational Emissions	46
5.1.4	Thresholds for Localized Significance	46
5.2	Greenhouse Gas Thresholds of Significance	46
5.2.1	CEQA Guidelines for Greenhouse Gas	46
<b>6.0</b>	<b>Air Quality Emissions Impact</b> .....	<b>48</b>
6.1	Construction Air Quality Emissions Impact	48
6.1.1	Regional Construction Emissions	48
6.1.2	Localized Construction Emissions	49
6.1.3	Odors	49
6.1.4	Construction-Related Toxic Air Contaminant Impact	50
6.1.5	Valley Fever	50
6.2	Operational Air Quality Emissions Impact	50
6.2.1	Regional Operational Emissions	50
6.2.2	Localized Operational Emissions	51
6.3	CO Hot Spot Emissions	52
6.4	Cumulative Regional Air Quality Impacts	52
6.5	Air Quality Compliance	53
<b>7.0</b>	<b>Greenhouse Gas Impact Analysis</b> .....	<b>55</b>
7.1	Construction Greenhouse Gas Emissions Impact	55
7.2	Operational Greenhouse Gas Emissions Impact	55
7.3	Greenhouse Gas Plan Consistency	56
	<i>Consistency with SCAG’s 2020-2045 RTP/SCS</i>	59
<b>8.0</b>	<b>Energy Analysis</b> .....	<b>61</b>
8.1	Construction Energy Demand	62
8.1.1	Construction Equipment Electricity Usage Estimates	62
8.1.2	Construction Equipment Fuel Estimates	62
8.1.3	Construction Worker Fuel Estimates	63
8.1.4	Construction Vendor/Hauling Fuel Estimates	64
8.1.5	Construction Energy Efficiency/Conservation Measures	65
8.2	Operational Energy Demand	66
8.2.1	Transportation Fuel Consumption	66
8.2.2	Facility Energy Demands (Electricity and Natural Gas)	67
8.3	Renewable Energy and Energy Efficiency Plan Consistency	67
<b>9.0</b>	<b>References</b> .....	<b>69</b>

## LIST OF APPENDICES

- Appendix A:**  
CalEEMod Emission Output
- Appendix B:**  
EMFAC2017 Output

## LIST OF EXHIBITS

<b>Exhibit A</b> .....	<b>4</b>
Location Map .....	4
<b>Exhibit B</b> .....	<b>5</b>
Site Plan .....	5

## LIST OF TABLES

Table 1: Land Use Summary.....	1
Table 2: Ambient Air Quality Standards .....	7
Table 3: Meteorological Summary.....	31
Table 4: Local Area Air Quality Levels from the Banning Monitoring Stations .....	32
Table 5: South Coast Air Basin Attainment Status.....	34
Table 6: Description of Greenhouse Gases.....	36
Table 7: Total Electricity System Power (California 2021).....	38
Table 8: SCE 2021 Power Content Mix .....	39
Table 9: Construction Equipment Assumptions <sup>1</sup> .....	44
Table 10: Regional Significance - Construction Emissions (pounds/day) .....	48
Table 11: Localized Significance – Construction .....	49
Table 12: Regional Significance - Unmitigated Operational Emissions (lbs/day) .....	51
Table 13: Localized Significance – Unmitigated Operational Emissions.....	51
Table 14: Construction Greenhouse Gas Emissions .....	55
Table 15: Opening Year Unmitigated Project-Related Greenhouse Gas Emissions .....	55
Table 16: Applicable WRCOG Subregional CAP Local Reduction Measure Project Comparison <sup>1</sup> .....	56
Table 17: Project Consistency with CARB Scoping Plan Policies and Measures <sup>1</sup> .....	57
Table 18: Project Consistency with SCAG 2020-2045 RTP/SCS <sup>1</sup> .....	60

Table 19: Project Construction Power Cost and Electricity Usage ..... 62

Table 20: Construction Equipment Fuel Consumption Estimates ..... 63

Table 21: Construction Worker Fuel Consumption Estimates ..... 64

Table 22: Construction Vendor Fuel Consumption Estimates (MHD Trucks)<sup>1</sup> ..... 65

Table 23: Construction Hauling Fuel Consumption Estimates (HHD Trucks)<sup>1</sup> ..... 65

Table 24: Estimated Vehicle Operations Fuel Consumption<sup>1</sup> ..... 66

Table 25: Project Unmitigated Annual Operational Energy Demand Summary<sup>1</sup> ..... 67

## GLOSSARY OF TERMS

AQMP	Air Quality Management Plan
CAAQS	California Ambient Air Quality Standards
CARB	California Air Resources Board
CEQA	California Environmental Quality Act
CFCs	Chlorofluorocarbons
CH <sub>4</sub>	Methane
CNG	Compressed natural gas
CO	Carbon monoxide
CO <sub>2</sub>	Carbon dioxide
CO <sub>2</sub> e	Carbon dioxide equivalent
DPM	Diesel particulate matter
GHG	Greenhouse gas
HFCs	Hydrofluorocarbons
LST	Localized Significant Thresholds
MTCO <sub>2</sub> e	Metric tons of carbon dioxide equivalent
MMTCO <sub>2</sub> e	Million metric tons of carbon dioxide equivalent
NAAQS	National Ambient Air Quality Standards
NO <sub>x</sub>	Nitrogen Oxides
NO <sub>2</sub>	Nitrogen dioxide
N <sub>2</sub> O	Nitrous oxide
O <sub>3</sub>	Ozone
PFCs	Perfluorocarbons
PM	Particle matter
PM10	Particles that are less than 10 micrometers in diameter
PM2.5	Particles that are less than 2.5 micrometers in diameter
PMI	Point of maximum impact
PPM	Parts per million
PPB	Parts per billion
RTIP	Regional Transportation Improvement Plan
RTP	Regional Transportation Plan
SCAB	South Coast Air Basin
SCAQMD	South Coast Air Quality Management District
SF <sub>6</sub>	Sulfur hexafluoride
SIP	State Implementation Plan
SO <sub>x</sub>	Sulfur Oxides
SRA	Source/Receptor Area
TAC	Toxic air contaminants
VOC	Volatile organic compounds
WRCC	Western Regional Climate Center

## 1.0 Introduction

### 1.1 Purpose of Analysis and Study Objectives

This air quality, greenhouse gas (GHG), and energy analysis was prepared to evaluate whether the estimated criteria pollutants and GHG emissions generated from the project would cause a significant impact to the air resources in the project area. This assessment was conducted within the context of the California Environmental Quality Act (CEQA, California Public Resources Code Sections 21000, et seq.). The assessment is consistent with the methodology and emission factors endorsed by South Coast Air Quality Management District (SCAQMD), California Air Resource Board (CARB), and the United States Environmental Protection Agency (US EPA).

### 1.2 Project Summary

#### 1.2.1 Site Location

The project site is located at the southeast corner of Stetson Avenue and Elk Street in the City of Hemet, CA (APN: 464-270-005, 464-270-006), as shown in Exhibit A. The site is currently zoned as R-3 – Multiple Family Residential and is surrounded by residential use to the south and west, Stetson Avenue to the north with residential further, and vacant land zoned for residential use to the east beyond Elk Street.

#### 1.2.2 Project Description

The Project proposes a multi-family residential-use development consisting of 288 units on 10.07 acres. Construction activities within the Project area will consist of site preparation, on-site grading, building, paving, and architectural coating.

Construction activities within the Project area will consist of site preparation, on-site grading, building, paving, and architectural coating. Table 1 summarizes the land use description for the Project Site.

**Table 1: Land Use Summary**

Land Use	Unit Amount	Size Metric
Apartments High Rise	288	Units
Parking Lot	452	Spaces

#### 1.2.3 Sensitive Receptors

Sensitive receptors are considered land uses or other types of population groups that are more sensitive to air pollution than others due to their exposure. Sensitive population groups include children, the elderly, the acutely and chronically ill, and those with cardio-respiratory diseases. For

CEQA purposes, a sensitive receptor would be a location where a sensitive individual could remain for 24-hours or longer, such as residences, hospitals, and schools (etc).

The closest existing sensitive receptors (to the site area) are the single-family residences located approximately 16 feet to the south.

### **1.3 Executive Summary of Findings and Mitigation Measures**

The following is a summary of the analysis results:

#### **Construction-Source Emissions**

Project construction-source emissions would not exceed applicable regional thresholds of significance established by the SCAQMD. For localized emissions, the project will not exceed applicable Localized Significance Thresholds (LSTs) established by the SCAQMD.

Project construction-source emissions would not conflict with the Basin Air Quality Management Plan (AQMP). As discussed herein, the project will comply with all applicable SCAQMD construction-source emission reduction rules and guidelines. Project construction source emissions would not cause or substantively contribute to violation of the California Ambient Air Quality Standards (CAAQS) or National Ambient Air Quality Standards (NAAQS).

Established requirements addressing construction equipment operations, and construction material use, storage, and disposal requirements act to minimize odor impacts that may result from construction activities. Moreover, construction-source odor emissions would be temporary, short-term, and intermittent in nature and would not result in persistent impacts that would affect substantial numbers of people. Potential construction-source odor impacts are therefore considered less-than-significant.

#### **Operational-Source Emissions**

Project operational-sourced emissions would not exceed regional operational air quality thresholds. Project operational-source emissions would not result in or cause a significant localized air quality impact as discussed in the Operations-Related Local Air Quality Impacts section of this report. Additionally, project-related traffic will not cause or result in CO concentrations exceeding applicable state and/or federal standards (CO "hotspots). Project operational-source emissions would therefore not adversely affect sensitive receptors within the vicinity of the project.

Project operational-source emissions would not conflict with the Basin Air Quality Management Plan (AQMP). The project would not result in a significant cumulative impact. The project does not propose any such uses or activities that would result in potentially significant operational-source odor impacts. Potential operational-source odor impacts are therefore considered less-than significant.

Project-related GHG emissions meet the SCAQMD draft threshold and are also considered to be less than significant. The project also complies with the goals of the WRCOG CAP, CARB Scoping Plan, AB-32, and SB-32.

## **Mitigation Measures**

### **A. Construction Measures**

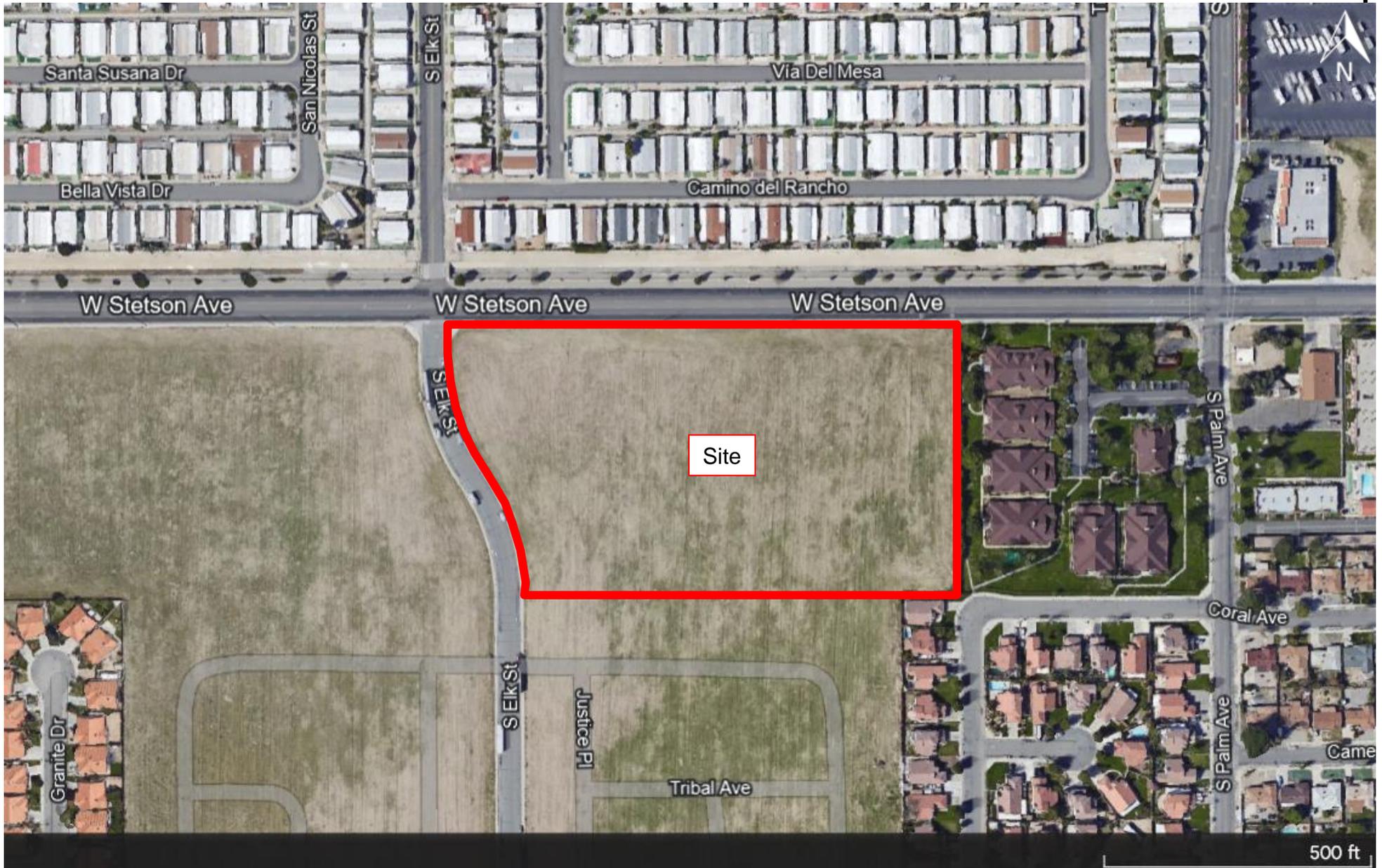
*Adherence to SCAQMD Rule 403 is required.*

No construction mitigation required.

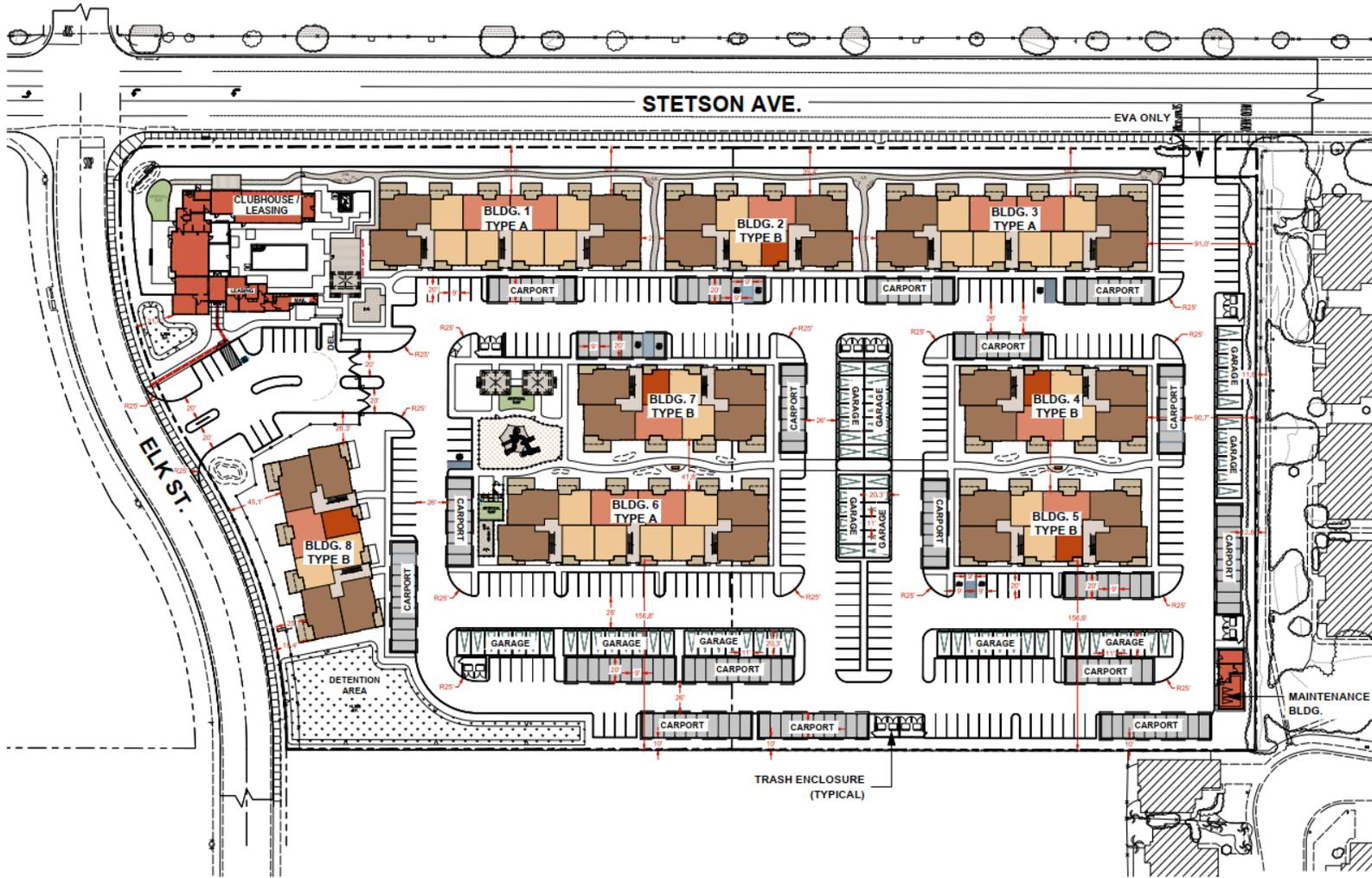
### **B. Operational Measures to Reduce Greenhouse Gas Emissions**

No operational mitigation required.

Exhibit A  
Location Map



# Exhibit B Site Plan



### UNIT LEGEND

- PS-A STUDIO 599 SF**
- P1-A 1 BD / 1 BA 726 SF** (Includes Extended Patios First Floor Only)
- P2-A 2 BD / 2 BA 1109 SF** (Includes Extended Patios First Floor Only)
- P2-B 2 BD / 2 BA 1050 SF** (Includes Extended Patios First Floor Only)

NOTE: VARIANCE REQUEST FOR REDUCTION OF PRIVATE OPEN SPACE- SEE A-1.1 FOR PROVIDED PATIO / DECK AREAS



## **2.0 Regulatory Framework and Background**

### **2.1 Air Quality Regulatory Setting**

Air pollutants are regulated at the national, state, and air basin level; each agency has a different level of regulatory responsibility. The United States Environmental Protection Agency (EPA) regulates at the national level. The California Air Resources Board (ARB) regulates at the state level. The South Coast Air Quality Management District (SCAQMD) regulates at the air basin level.

#### **2.1.1 National and State**

The EPA is responsible for global, international, and interstate air pollution issues and policies. The EPA sets national vehicle and stationary source emission standards, oversees approval of all State Implementation Plans, provides research and guidance for air pollution programs, and sets National Air Quality Standards, also known as federal standards. There are six common air pollutants, called criteria pollutants, which were identified from the provisions of the Clean Air Act of 1970.

- Ozone
- Nitrogen Dioxide
- Lead
- Particulate Matter (PM10 and PM2.5)
- Carbon Monoxide
- Particulate Matter
- Sulfur Dioxide

The federal standards were set to protect public health, including that of sensitive individuals; thus, the standards continue to change as more medical research is available regarding the health effects of the criteria pollutants. Primary federal standards are the levels of air quality necessary, with an adequate margin of safety, to protect the public health.

A State Implementation Plan is a document prepared by each state describing existing air quality conditions and measures that will be followed to attain and maintain federal standards. The State Implementation Plan for the State of California is administered by the ARB, which has overall responsibility for statewide air quality maintenance and air pollution prevention. California's State Implementation Plan incorporates individual federal attainment plans for regional air districts—air district prepares their federal attainment plan, which sent to ARB to be approved and incorporated into the California State Implementation Plan. Federal attainment plans include the technical foundation for understanding air quality (e.g., emission inventories and air quality monitoring), control measures and strategies, and enforcement mechanisms. See <http://www.arb.ca.gov/research/aqs/aqs.htm> for additional information on criteria pollutants and air quality standards.

The federal and state ambient air quality standards are summarized in Table 2 and can also be found at <http://www.arb.ca.gov/research/aqs/aqs2.pdf>.

**Table 2: Ambient Air Quality Standards**

Pollutant	Averaging Time	California Standards <sup>1</sup>		National Standards <sup>2</sup>		
		Concentrations <sup>3</sup>	Method <sup>4</sup>	Primary <sup>3,5</sup>	Secondary <sup>3,6</sup>	Method <sup>7</sup>
Ozone (O <sub>3</sub> )	1-Hour	0.09 ppm	Ultraviolet Photometry	--	Same as Primary Standard	Ultraviolet Photometry
	8-Hour	0.070 ppm		0.070 ppm (147 µg/m <sup>3</sup> )		
Respirable Particulate Matter (PM <sub>10</sub> ) <sup>8</sup>	24-Hour	50 µg/m <sup>3</sup>	Gravimetric or Beta Attenuation	150 µg/m <sup>3</sup>	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m <sup>3</sup>		--		
Fine Particulate Matter (PM <sub>2.5</sub> ) <sup>8</sup>	24-Hour	--	--	35 µg/m <sup>3</sup>	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m <sup>3</sup>	Gravimetric or Beta Attenuation	12 µg/m <sup>3</sup>	15 µg/m <sup>3</sup>	
Carbon Monoxide (CO)	1-Hour	20 ppm (23 µg/m <sup>3</sup> )	Non-Dispersive Infrared Photometry (NDIR)	35 ppm (40 µg/m <sup>3</sup> )	--	Non-Dispersive Infrared Photometry (NDIR)
	8-Hour	9.0 ppm (10 µg/m <sup>3</sup> )		9 ppm (10 µg/m <sup>3</sup> )	--	
	8-Hour (Lake Tahoe)	6 ppm (7 µg/m <sup>3</sup> )		--	--	
Nitrogen Dioxide (NO <sub>2</sub> ) <sup>9</sup>	1-Hour	0.18 ppm (339 µg/m <sup>3</sup> )	Gas Phase Chemiluminescence	100 ppb (188 µg/m <sup>3</sup> )	--	Gas Phase Chemiluminescence
	Annual Arithmetic Mean	0.030 ppm (357 µg/m <sup>3</sup> )		0.053 ppm (100 µg/m <sup>3</sup> )	Same as Primary Standard	
Sulfur Dioxide (SO <sub>2</sub> ) <sup>10</sup>	1-Hour	0.25 ppm (655 µg/m <sup>3</sup> )	Ultraviolet Fluorescence	75 ppb (196 µg/m <sup>3</sup> )	--	Ultraviolet Fluorescence; Spectrophotometry (Pararosaniline Method)
	3-Hour	--		--	0.5 ppm (1300 µg/m <sup>3</sup> )	
	24-Hour	0.04 ppm (105 µg/m <sup>3</sup> )		0.14 ppm (for certain areas) <sup>10</sup>	--	
	Annual Arithmetic Mean	--		0.130 ppm (for certain areas) <sup>10</sup>	--	
Lead <sup>11,12</sup>	30 Day Average	1.5 µg/m <sup>3</sup>	Atomic Absorption	--	Same as Primary Standard	High Volume Sampler and Atomic Absorption
	Calendar Qtr	--		1.5 µg/m <sup>3</sup> (for certain areas) <sup>12</sup>		
	Rolling 3-Month Average	--		0.15 µg/m <sup>3</sup>		
Visibility Reducing Particles <sup>13</sup>	8-Hour	See footnote 13	Beta Attenuation and Transmittance through Filter Tape	No National Standards		
Sulfates	24-Hour	25 µg/m <sup>3</sup>	Ion Chromatography			
Hydrogen Sulfide	1-Hour	0.03 ppm (42 µg/m <sup>3</sup> )	Ultraviolet Fluorescence			
Vinyl Chloride <sup>11</sup>	24-Hour	0.01 ppm (26 µg/m <sup>3</sup> )	Gas Chromatography			

Notes:

- California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, and particulate matter (PM<sub>10</sub>, PM<sub>2.5</sub>, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equal or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.
- National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM<sub>10</sub>, the 24 hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m<sup>3</sup> is equal to or less than one. For PM<sub>2.5</sub>, the 24 hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the U.S. EPA for further clarification and current national policies.
- Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
- Any equivalent measurement method which can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.
- National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.
- National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
- Reference method as described by the U.S. EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the U.S. EPA.

8. On December 14, 2012, the national annual PM2.5 primary standard was lowered from 15  $\mu\text{g}/\text{m}^3$  to 12.0  $\mu\text{g}/\text{m}^3$ . The existing national 24-hour PM2.5 standards (primary and secondary) were retained at 35  $\mu\text{g}/\text{m}^3$ , as was the annual secondary standard of 15  $\mu\text{g}/\text{m}^3$ . The existing 24-hour PM10 standards (primary and secondary) of 150  $\mu\text{g}/\text{m}^3$  also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.
9. To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.
10. On June 2, 2010, a new 1-hour SO2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.

11. The ARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.
12. The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard (1.5  $\mu\text{g}/\text{m}^3$  as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.
13. In 1989, the ARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

Several pollutants listed in Table 2 are not addressed in this analysis. Analysis of lead is not included in this report because the project is not anticipated to emit lead. Visibility-reducing particles are not explicitly addressed in this analysis because particulate matter is addressed. The project is not expected to generate or be exposed to vinyl chloride because proposed project uses do not utilize the chemical processes that create this pollutant and there are no such uses in the project vicinity. The proposed project is not expected to cause exposure to hydrogen sulfide because it would not generate hydrogen sulfide in any substantial quantity.

### **2.1.2 South Coast Air Quality Management District**

The agency for air pollution control for the South Coast Air Basin (basin) is the South Coast Air Quality Management District (SCAQMD). SCAQMD is responsible for controlling emissions primarily from stationary sources. SCAQMD maintains air quality monitoring stations throughout the basin. SCAQMD, in coordination with the Southern California Association of Governments, is also responsible for developing, updating, and implementing the Air Quality Management Plan (AQMP) for the basin. An AQMP is a plan prepared and implemented by an air pollution district for a county or region designated as nonattainment of the federal and/or California ambient air quality standards. The term nonattainment area is used to refer to an air basin where one or more ambient air quality standards are exceeded.

Every three (3) years the SCAQMD prepares a new AQMP, updating the previous plan and having a 20-year horizon.

On March 23, 2017 CARB approved the 2016 AQMP. The 2016 AQMP is a regional blueprint for achieving the federal air quality standards and healthful air.

The 2016 AQMP includes both stationary and mobile source strategies to ensure that rapidly approaching attainment deadlines are met, that public health is protected to the maximum extent feasible, and that the region is not faced with burdensome sanctions if the Plan is not approved or if the NAAQS are not met on time. As with every AQMP, a comprehensive analysis of emissions, meteorology, atmospheric chemistry, regional growth projections, and the impact of existing control measures is updated with the latest data and methods. The most significant air quality challenge in the Basin is to reduce nitrogen oxide (NO<sub>x</sub>) emissions sufficiently to meet the upcoming ozone standard deadlines. The primary goal of this Air Quality Management Plan is to meet clean air standards and protect public health, including ensuring benefits to environmental justice and disadvantaged communities. Now that the plan has been approved by CARB, it has been forwarded to the U.S. Environmental Protection Agency for its review. If approved by EPA, the plan becomes federally enforceable

South Coast AQMD adopted the 2022 AQMP on December 2, 2022, to address the attainment of the 2015 8-hour ozone standard (70 ppb) for South Coast Air Basin and Coachella Valley. To meet this standard, the AQMP determined NO<sub>x</sub> emissions must be reduced by 67% percent more than is required by adopted rules and regulations by 2037. The control strategy for the 2022 AQMP includes aggressive new regulations and the development of incentive programs to support early deployment of advanced technologies. The two key areas for incentive programs are (1) promoting widespread deployment of available zero-emission (ZE) and low NO<sub>x</sub> technologies and (2) developing new ZE and ultra-low NO<sub>x</sub> technologies for use in cases where the technology is not currently available. South Coast AQMD will prioritize distribution of incentive funding in environmental justice areas and seek opportunities to focus benefits on the most disadvantaged communities. Cost-effectiveness and affordability will be further considered during the rulemaking or incentive program development process.

### **South Coast Air Quality Management District Rules**

The AQMP for the basin establishes a program of rules and regulations administered by SCAQMD to obtain attainment of the state and federal standards. Some of the rules and regulations that apply to this Project include, but are not limited to, the following:

**SCAQMD Rule 402** prohibits a person from discharging 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.

**SCAQMD Rule 403** governs emissions of fugitive dust during construction and operation activities. Compliance with this rule is achieved through application of standard Best Management Practices, such as application of water or chemical stabilizers to disturbed soils, covering haul vehicles, restricting vehicle speeds on unpaved roads to 15 miles per hour, sweeping loose dirt from paved site access

roadways, cessation of construction activity when winds exceed 25 mph, and establishing a permanent ground cover on finished sites.

Rule 403 requires that fugitive dust be controlled with best available control measures so that the presence of such dust does not remain visible in the atmosphere beyond the property line of the emission source. In addition, Rule 403 requires implementation of dust suppression techniques to prevent fugitive dust from creating a nuisance off site. Applicable suppression techniques are indicated below and include but are not limited to the following:

- Apply nontoxic chemical soil stabilizers according to manufacturers' specifications to all inactive construction areas (previously graded areas in active for 10 days or more).
- Water active sites at least three times daily.
- Cover all trucks hauling dirt, sand, soil, or other loose materials, or maintain at least 2 feet of freeboard in accordance with the requirements of California Vehicle Code (CVC) section 23114.
- Pave construction access roads at least 100 feet onto the site from the main road.
- Reduce traffic speeds on all unpaved roads to 15 mph or less.
- Suspension of all grading activities when wind speeds (including instantaneous wind gusts) exceed 25 mph.
- Bumper strips or similar best management practices shall be provided where vehicles enter and exit the construction site onto paved roads or wash off trucks and any equipment leaving the site each trip.
- Replanting disturbed areas as soon as practical.
- During all construction activities, construction contractors shall sweep on-site and off-site streets if silt is carried to adjacent public thoroughfares, to reduce the amount of particulate matter on public streets.

**SCAQMD Rule 1113** governs the sale, use, and manufacturing of architectural coating and limits the VOC content in paints and paint solvents. This rule regulates the VOC content of paints available during construction. Therefore, all paints and solvents used during construction and operation of project must comply with Rule 1113.

**Idling Diesel Vehicle Trucks** – Idling for more than 5 minutes in any one location is prohibited within California borders.

**Rule 2702.** The SCAQMD adopted Rule 2702 on February 6, 2009, which establishes a voluntary air quality investment program from which SCAQMD can collect funds from parties that desire certified GHG emission reductions, pool those funds, and use them to purchase or fund GHG emission reduction projects within two years, unless extended by the Governing Board. Priority will be given to projects that result in co-benefit emission reductions of GHG emissions and criteria or toxic air pollutants within environmental justice areas. Further, this voluntary program may compete with the cap-and-trade program identified for implementation in CARB's Scoping Plan, or a Federal cap and trade program.

### 2.1.3 Local

Local jurisdictions, such as the City of Hemet, have the authority and responsibility to reduce air pollution through their police power and decision-making authority. Specifically, the City is responsible for the assessment and mitigation of air emissions resulting from its land use decisions. The City is also responsible for the implementation of transportation control measures as outlined in the 2022 AQMP. Examples of such measures include bus turnouts, energy-efficient streetlights, and synchronized traffic signals. In accordance with CEQA requirements and the CEQA review process, the City assesses the air quality impacts of new development projects, requires mitigation of potentially significant air quality impacts by conditioning discretionary permits, and monitors and enforces implementation of such mitigation.

The City relies on the expertise of the SCAQMD and utilizes the SCAQMD CEQA Air Quality Handbook as the guidance document for the environmental review of plans and development proposals within its jurisdiction.

#### *City of Hemet General Plan*

Goal OS-7: Improve air quality and seek to reduce greenhouse gas emissions.

#### *Policies*

- OS-7.1: **Development Design and Practices.** Reduce the amount of air pollution emissions from mobile and stationary sources and enhance the South Coast Air Basin by using best management practices in development proposals and project implementation.
- OS-7.2: **Public Transportation.** Pursue expansion of the public transportation system, as well as bicycle and pedestrian trails, that are linked to the regional transit network, to reduce vehicle trips.
- OS-7.3: **Alternative Vehicles.** Promote the use of fuel-efficient and low-emissions vehicles, including neighborhood electric vehicles (NEVs).
- OS-7.4: **Municipal Fleet.** Manage the municipal fleet to achieve the highest possible number of fuel-efficient and low emissions vehicles commercially available.
- OS-7.5: **Trip Reduction.** Encourage a mix of housing types that are affordable to all segments of the population and are near job opportunities to further reduce vehicle trips.
- OS-7.6: **Transportation Trip Management.** Encourage employers to implement transportation demand management (TDM) measures to reduce trips and vehicle miles traveled.
- OS-7.7: **Clean Technologies.** Encourage businesses to use clean, innovative technologies and promote the use of alternative clean-fueled vehicles, new transportation technologies, and other alternatives to the combustion engine for City vehicles and individual use.

- OS-7.8: **Green Building Techniques.** Encourage green building techniques that improve indoor air quality, energy efficiency and conservation in buildings, and utilization of renewable energy sources.
- OS-7.9: **Stationary Source Pollution.** Continue to minimize stationary source pollution through the following:
- Ensure that industrial and commercial land uses are meeting existing South Coast Air Quality Management air thresholds by adhering to established rules and regulations.
  - Encourage the use of new technology to neutralize harmful criteria pollutants from stationary sources.
  - Reduce exposure of the City’s sensitive receptors to poor air quality nodes through smart land use decisions.
- OS-7.10: **Sensitive Receptors.** Locate sensitive receptors (i.e., residences, playgrounds, childcare centers, athletic facilities, churches, long-term health care facilities, rehabilitation centers, convalescent centers, and retirement homes) away from significant pollution sources to the maximum extent feasible.
- OS-7.11: **Fugitive Dust.** Reduce the amount of fugitive dust released into the atmosphere by construction and demolition, materials handling, paved roads, unpaved roads, and stock piles through development standards and compliance with CEQA regulations.
- OS-7.12: **Best Management Practices.** Ensure all applicable best management practices are used in accordance with South Coast Air Quality Management District (SCAQMD) to reduce emitting criteria pollutants during construction.
- OS-7.13: **Partnerships.** Continue to work with the WRCOG Regional Air Quality Task Force to implement regional and local programs designed to meet federal, state, and regional air quality planning requirements.
- OS-7.14: **Public Education.** Protect the air from contamination by working with South Coast Air Quality Management District and other interested organizations to elevate public awareness regarding air pollution sources and pollutant reduction initiatives.
- OS-7.15: **State Updates.** Consult and coordinate with State resource and emergency management agencies regarding updates to climate change science and development of adaption priorities.

## **2.2 Greenhouse Gas Regulatory Setting**

### **2.2.1 International**

Many countries around the globe have made an effort to reduce GHGs since climate change is a global issue.

**Intergovernmental Panel on Climate Change.** In 1988, the United Nations and the World Meteorological Organization established the Intergovernmental Panel on Climate Change to assess the scientific, technical and socio-economic information relevant to understanding the scientific basis of risk of human-induced climate change, its potential impacts, and options for adaptation and mitigation.

**United Nations.** The United States participates in the United Nations Framework Convention on Climate Change (UNFCCC) (signed on March 21, 1994). Under the Convention, governments gather and share information on greenhouse gas emissions, national policies, and best practices; launch national strategies for addressing greenhouse gas emissions and adapting to expected impacts, including the provision of financial and technological support to developing countries; and cooperate in preparing for adaptation to the impacts of climate change.

The 2014 UN Climate Change Conference in Lima Peru provided a unique opportunity to engage all countries to assess how developed countries are implementing actions to reduce emissions.

**Kyoto Protocol.** The Kyoto Protocol is a treaty made under the UNFCCC and was the first international agreement to regulate GHG emissions. It has been estimated that if the commitments outlined in the Kyoto Protocol are met, global GHG emissions could be reduced by an estimated 5 percent from 1990 levels during the first commitment period of 2008 – 2012 (UNFCCC 1997). On December 8, 2012, the Doha Amendment to the Kyoto Protocol was adopted. The amendment includes: New commitments for Annex I Parties to the Kyoto Protocol who agreed to take on commitments in a second commitment period from 2013 – 2020; a revised list of greenhouse gases (GHG) to be reported on by Parties in the second commitment period; and Amendments to several articles of the Kyoto Protocol which specifically referenced issues pertaining to the first commitment period and which needed to be updated for the second commitment period.

## **2.2.2 National**

**Greenhouse Gas Endangerment.** On December 2, 2009, the EPA announced that GHGs threaten the public health and welfare of the American people. The EPA also states that GHG emissions from on-road vehicles contribute to that threat. The decision was based on *Massachusetts v. EPA* (Supreme Court Case 05-1120) which argued that GHGs are air pollutants covered by the Clean Air Act and that the EPA has authority to regulate those emissions.

**Clean Vehicles.** Congress first passed the Corporate Average Fuel Economy law in 1975 to increase the fuel economy of cars and light duty trucks. The law has become more stringent over time. On May 19, 2009, President Obama put in motion a new national policy to increase fuel economy for all new cars and trucks sold in the United States. On April 1, 2010, the EPA and the Department of Transportation's National Highway Safety Administration announced a joint final rule establishing a national program that would reduce greenhouse gas emissions and improve fuel economy for new cars and trucks sold in the United States.

The first phase of the national program would apply to passenger cars, light-duty trucks, and medium-duty passenger vehicles, covering model years 2012 through 2016. They require these vehicles to meet an estimated combined average emissions level of 250 grams of carbon dioxide per mile,

equivalent to 35.5 miles per gallon if the automobile industry were to meet this carbon dioxide level solely through fuel economy improvements. Together, these standards would cut carbon dioxide emissions by an estimated 960 million metric tons and 1.8 billion barrels of oil over the lifetime of the vehicles sold under the program (model years 2012-2016). The second phase of the national program would involve proposing new fuel economy and greenhouse gas standards for model years 2017 – 2025 by September 1, 2011.

On October 25, 2010, the EPA and the U.S. Department of Transportation proposed the first national standards to reduce greenhouse gas emissions and improve fuel efficiency of heavy-duty trucks and buses. For combination tractors, the agencies are proposing engine and vehicle standards that begin in the 2014 model year and achieve up to a 20 percent reduction in carbon dioxide emissions and fuel consumption by the 2018 model year. For heavy-duty pickup trucks and vans, the agencies are proposing separate gasoline and diesel truck standards, which phase in starting in the 2014 model year and achieve up to a 10 percent reduction for gasoline vehicles and 15 percent reduction for diesel vehicles by 2018 model year (12 and 17 percent respectively if accounting for air conditioning leakage). Lastly, for vocational vehicles, the agencies are proposing engine and vehicle standards starting in the 2014 model year which would achieve up to a 10 percent reduction in fuel consumption and carbon dioxide emissions by 2018 model year.

**Mandatory Reporting of Greenhouse Gases.** On January 1, 2010, the EPA started requiring large emitters of heat-trapping emissions to begin collecting GHG data under a new reporting system. Under the rule, suppliers of fossil fuels or industrial greenhouse gases, manufacturers of vehicles and engines, and facilities that emit 25,000 metric tons or more per year of greenhouse gas emissions are required to submit annual reports to the EPA.

**Climate Adaption Plan.** The EPA Plan identifies priority actions the Agency will take to incorporate considerations of climate change into its programs, policies, rules and operations to ensure they are effective under future climatic conditions. The following link provides more information on the EPA Plan: <https://www.epa.gov/arc-x/planning-climate-change-adaptation>

### **2.2.3 California**

**California Code of Regulations (CCR) Title 24, Part 6.** CCR Title 24, Part 6: California’s Energy Efficiency Standards for Residential and Nonresidential Buildings (Title 24) were first established in 1978 in response to a legislative mandate to reduce California’s energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods. Although it was not originally intended to reduce GHG emissions, electricity production by fossil fuels results in GHG emissions and energy efficient buildings require less electricity. Therefore, increased energy efficiency results in decreased GHG emissions.

The Energy Commission adopted 2008 Standards on April 23, 2008 and Building Standards Commission approved them for publication on September 11, 2008. These updates became effective on August 1, 2009. 2013 and 2016 standards have been approved and became effective July 1, 2014 and January 1, 2016, respectively.

**California Code of Regulations (CCR) Title 24, Part 11.** All buildings for which an application for a building permit is submitted on or after January 1, 2023 must follow the 2022 standards. Energy efficient buildings require less electricity; therefore, increased energy efficiency reduces fossil fuel consumption and decreases greenhouse gas emissions. The following links provide more information on Title 24, Part 11:

<https://www.dgs.ca.gov/BSC/Codes>

<https://www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards/2022-building-energy-efficiency>

**California Green Building Standards.** On January 12, 2010, the State Building Standards Commission unanimously adopted updates to the California Green Building Standards Code, which went into effect on January 1, 2011. The Housing and Community Development (HCD) updated CALGreen through the 2015 Triennial Code Adoption Cycle, during the 2016 to 2017 fiscal year. During the 2022-2023 fiscal year, the Department of Housing and Community Development (HCD) updated CALGreen through the 2023 Triennial Code Adoption Cycle.

The Code is a comprehensive and uniform regulatory code for all residential, commercial and school buildings. CCR Title 24, Part 11: California Green Building Standards (Title 24) became effective in 2001 in response to continued efforts to reduce GHG emissions associated with energy consumption. CCR Title 24, Part 11 now require that new buildings reduce water consumption, employ building commissioning to increase building system efficiencies, divert construction waste from landfills, and install low pollutant-emitting finish materials. One focus of CCR Title 24, Part 11 is water conservation measures, which reduce GHG emissions by reducing electrical consumption associated with pumping and treating water. CCR Title 24, Part 11 has approximately 52 nonresidential mandatory measures and an additional 130 provisions for optional use. Some key mandatory measures for commercial occupancies include specified parking for clean air vehicles, a 20 percent reduction of potable water use within buildings, a 50 percent construction waste diversion from landfills, use of building finish materials that emit low levels of volatile organic compounds, and commissioning for new, nonresidential buildings over 10,000 square feet.

The CEC estimates that over 30 years the 2022 Energy Code will provide \$1.5 billion in consumer benefits and reduce 10 million metric tons of GHG. Changes compared to the 2019 Energy Code include increases to on-site renewable energy generation from solar, increases to electric load flexibility to support grid reliability, reduction of emissions from newly constructed buildings, reduction of air pollution for improved public health, and increased adoption of environmentally beneficial efficient electric technologies.

The California Green Building Standards Code does not prevent a local jurisdiction from adopting a more stringent code as state law provides methods for local enhancements. The Code recognizes that many jurisdictions have developed existing construction and demolition ordinances, and defers to them as the ruling guidance provided, they provide a minimum 50-percent diversion requirement. The code also provides exemptions for areas not served by construction and demolition recycling infrastructure. State building code provides the minimum standard that buildings need to meet in

order to be certified for occupancy. Enforcement is generally through the local building official. The following link provides more on CalGreen Building Standards:

<http://www.bsc.ca.gov/Home/CALGreen.aspx>

**Executive Order S-3-05.** California Governor issued Executive Order S-3-05, GHG Emission, in June 2005, which established the following targets:

- By 2010, California shall reduce greenhouse gas emissions to 2000 levels;
- By 2020, California shall reduce greenhouse gas emissions to 1990 levels.
- By 2050, California shall reduce greenhouse gas emissions to 80 percent below 1990 levels.

The executive order directed the secretary of the California Environmental Protection Agency (CalEPA) to coordinate a multi-agency effort to reduce GHG emissions to the target levels. To comply with the Executive Order, the secretary of CalEPA created the California Climate Action Team (CAT), made up of members from various state agencies and commissions. The team released its first report in March 2006. The report proposed to achieve the targets by building on the voluntary actions of businesses, local governments, and communities and through State incentive and regulatory programs.

**Executive Order S-01-07.** Executive Order S-1-07 was issued in 2007 and proclaims that the transportation sector is the main source of GHG emissions in the State, since it generates more than 40 percent of the State's GHG emissions. It establishes a goal to reduce the carbon intensity of transportation fuels sold in the State by at least ten percent by 2020. This Order also directs CARB to determine whether this Low Carbon Fuel Standard (LCFS) could be adopted as a discrete early-action measure as part of the effort to meet the mandates in AB 32.

On April 23, 2009 CARB approved the proposed regulation to implement the low carbon fuel standard. The low carbon fuel standard is anticipated to reduce GHG emissions by about 16 MMT per year by 2020. The low carbon fuel standard is designed to provide a framework that uses market mechanisms to spur the steady introduction of lower carbon fuels. The framework establishes performance standards that fuel producers and importers must meet each year beginning in 2011. Separate standards are established for gasoline and diesel fuels and the alternative fuels that can replace each. The standards are "back-loaded", with more reductions required in the last five years, than the first five years. This schedule allows for the development of advanced fuels that are lower in carbon than today's fuels and the market penetration of plug-in hybrid electric vehicles, battery electric vehicles, fuel cell vehicles, and flexible fuel vehicles. It is anticipated that compliance with the low carbon fuel standard will be based on a combination of both lower carbon fuels and more efficient vehicles.

Reformulated gasoline mixed with corn-derived ethanol at ten percent by volume and low sulfur diesel fuel represent the baseline fuels. Lower carbon fuels may be ethanol, biodiesel, renewable diesel, or blends of these fuels with gasoline or diesel as appropriate. Compressed natural gas and liquefied natural gas also may be low carbon fuels. Hydrogen and electricity, when used in fuel cells or electric vehicles are also considered as low carbon fuels for the low carbon fuel standard.

**SB 97.** Senate Bill 97 (SB 97) was adopted August 2007 and acknowledges that climate change is a prominent environmental issue that requires analysis under CEQA. SB 97 directed the Governor's Office of Planning and Research (OPR), which is part of the State Resource Agency, to prepare, develop, and transmit to CARB guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions, as required by CEQA, by July 1, 2009. The Resources Agency was required to certify and adopt those guidelines by January 1, 2010.

Pursuant to the requirements of SB 97 as stated above, on December 30, 2009 the Natural Resources Agency adopted amendments to the state CEQA guidelines that address GHG emissions. The CEQA Guidelines Amendments changed 14 sections of the CEQA Guidelines and incorporate GHG language throughout the Guidelines. However, no GHG emissions thresholds of significance are provided and no specific mitigation measures are identified. The GHG emission reduction amendments went into effect on March 18, 2010 and are summarized below:

- Climate action plans and other greenhouse gas reduction plans can be used to determine whether a project has significant impacts, based upon its compliance with the plan.
- Local governments are encouraged to quantify the greenhouse gas emissions of proposed projects, noting that they have the freedom to select the models and methodologies that best meet their needs and circumstances. The section also recommends consideration of several qualitative factors that may be used in the determination of significance, such as the extent to which the given project complies with state, regional, or local GHG reduction plans and policies. OPR does not set or dictate specific thresholds of significance. Consistent with existing CEQA Guidelines, OPR encourages local governments to develop and publish their own thresholds of significance for GHG impacts assessment.
- When creating their own thresholds of significance, local governments may consider the thresholds of significance adopted or recommended by other public agencies, or recommended by experts.
- New amendments include guidelines for determining methods to mitigate the effects of greenhouse gas emissions in Appendix F of the CEQA Guidelines.
- OPR is clear to state that "to qualify as mitigation, specific measures from an existing plan must be identified and incorporated into the project; general compliance with a plan, by itself, is not mitigation."
- OPR's emphasizes the advantages of analyzing GHG impacts on an institutional, programmatic level. OPR therefore approves tiering of environmental analyses and highlights some benefits of such an approach.
- Environmental impact reports (EIRs) must specifically consider a project's energy use and energy efficiency potential.

**AB 32.** The California State Legislature enacted AB 32, the California Global Warming Solutions Act of 2006. AB 32 requires that greenhouse gases emitted in California be reduced to 1990 levels by the year 2020. "Greenhouse gases" as defined under AB 32 include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. ARB is the state agency charged with monitoring and regulating sources of greenhouse gases. AB 32 states the following:

Global warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California. The potential adverse impacts of global warming include the exacerbation of air quality problems, a reduction in the quality and supply of water to the state from the Sierra snowpack, a rise in sea levels resulting in the displacement of thousands of coastal businesses and residences, damage to marine ecosystems and the natural environment, and an increase in the incidences of infectious diseases, asthma, and other human health-related problems.

The ARB Board approved the 1990 greenhouse gas emissions level of 427 million metric tons of carbon dioxide equivalent (MMTCO<sub>2</sub>e) on December 6, 2007 (California Air Resources Board 2007). Therefore, emissions generated in California in 2020 are required to be equal to or less than 427 MMTCO<sub>2</sub>e. Emissions in 2020 in a “business as usual” scenario are estimated to be 596 MMTCO<sub>2</sub>e.

Under AB 32, the ARB published its Final Expanded List of Early Action Measures to Reduce Greenhouse Gas Emissions in California. Discrete early action measures are currently underway or are enforceable by January 1, 2010. The ARB has 44 early action measures that apply to the transportation, commercial, forestry, agriculture, cement, oil and gas, fire suppression, fuels, education, energy efficiency, electricity, and waste sectors. Of these early action measures, nine are considered discrete early action measures, as they are regulatory and enforceable by January 1, 2010. The ARB estimates that the 44 recommendations are expected to result in reductions of at least 42 MMTCO<sub>2</sub>e by 2020, representing approximately 25 percent of the 2020 target.

The ARB’s Climate Change Scoping Plan (Scoping Plan) contains measures designed to reduce the State’s emissions to 1990 levels by the year 2020 (California Air Resources Board 2008). The Scoping Plan identifies recommended measures for multiple greenhouse gas emission sectors and the associated emission reductions needed to achieve the year 2020 emissions target—each sector has a different emission reduction target. Most of the measures target the transportation and electricity sectors. As stated in the Scoping Plan, the key elements of the strategy for achieving the 2020 greenhouse gas target include:

- Expanding and strengthening existing energy efficiency programs as well as building and appliance standards;
- Achieving a statewide renewables energy mix of 33 percent;
- Developing a California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system;
- Establishing targets for transportation-related greenhouse gas emissions for regions throughout California and pursuing policies and incentives to achieve those targets;
- Adopting and implementing measures pursuant to existing State laws and policies, including California’s clean car standards, goods movement measures, and the Low Carbon Fuel Standard; and
- Creating targeted fees, including a public goods charge on water use, fees on high global warming potential gases, and a fee to fund the administrative costs of the State’s long-term commitment to AB 32 implementation.

In addition, the Scoping Plan differentiates between “capped” and “uncapped” strategies. “Capped” strategies are subject to the proposed cap-and-trade program. The Scoping Plan states that the inclusion of these emissions within the cap-and-trade program will help ensure that the year 2020 emission targets are met despite some degree of uncertainty in the emission reduction estimates for any individual measure. Implementation of the capped strategies is calculated to achieve a sufficient amount of reductions by 2020 to achieve the emission target contained in AB 32. “Uncapped” strategies that will not be subject to the cap-and-trade emissions caps and requirements are provided as a margin of safety by accounting for additional greenhouse gas emission reductions.<sup>4</sup>

The 2022 Scoping Plan was adopted by CARB in November 2022 and expands upon earlier plans with a target of reducing GHG emissions to 85% below 1990 levels by 2045.

**Senate Bill 100.** Senate Bill 100 (SB 100) requires 100 percent of total retail sales of electricity in California to come from eligible renewable energy resources and zero-carbon resources by December 31, 2045. SB 100 was adopted September 2018.

The interim thresholds from prior Senate Bills and Executive Orders would also remain in effect. These include Senate Bill 1078 (SB 1078), which requires retail sellers of electricity, including investor-owned utilities and community choice aggregators, to provide at least 20 percent of their supply from renewable sources by 2017. Senate Bill 107 (SB 107) which changed the target date to 2010. Executive Order S-14-08, which was signed on November 2008 and expanded the State’s Renewable Energy Standard to 33 percent renewable energy by 2020. Executive Order S-21-09 directed the CARB to adopt regulations by July 31, 2010 to enforce S-14-08. Senate Bill X1-2 codifies the 33 percent renewable energy requirement by 2020.

**SB 375.** Senate Bill 375 (SB 375) was adopted September 2008 and aligns regional transportation planning efforts, regional GHG emission reduction targets, and land use and housing allocation. SB 375 requires Metropolitan Planning Organizations (MPO) to adopt a sustainable communities strategy (SCS) or alternate planning strategy (APS) that will prescribe land use allocation in that MPOs Regional Transportation Plan (RTP). CARB, in consultation with each MPO, will provide each affected region with reduction targets for GHGs emitted by passenger cars and light trucks in the region for the years 2020 and 2035. These reduction targets will be updated every eight years but can be updated every four years if advancements in emissions technologies affect the reduction strategies to achieve the targets. CARB is also charged with reviewing each MPO’s sustainable communities strategy or alternate planning strategy for consistency with its assigned targets.

The proposed project is located within the Southern California Association of Governments (SCAG), which has authority to develop the SCS or APS. For the SCAG region, the targets set by CARB are at eight percent below 2005 per capita GHG emissions levels by 2020 and 13 percent below 2005 per capita GHG emissions levels by 2035. On April 4, 2012, SCAG adopted the 2012-2035 Regional Transportation Plan / Sustainable Communities Strategy (RTP/SCS), which meets the CARB emission reduction requirements. The Housing Element Update is required by the State to be completed within 18 months after RTP/SCS adoption or by October 2013.

City and County land use policies, including General Plans, are not required to be consistent with the RTP and associated SCS or APS. However, new provisions of CEQA would incentivize, through streamlining and other provisions, qualified projects that are consistent with an approved SCS or APS and categorized as “transit priority projects.”

**Assembly Bill 939 and Senate Bill 1374.** Assembly Bill 939 (AB 939) requires that each jurisdiction in California to divert at least 50 percent of its waste away from landfills, whether through waste reduction, recycling or other means. Senate Bill 1374 (SB 1374) requires the California Integrated Waste Management Board to adopt a model ordinance by March 1, 2004 suitable for adoption by any local agency to require 50 to 75 percent diversion of construction and demolition of waste materials from landfills.

**Executive Order S-13-08.** Executive Order S-13-08 indicates that “climate change in California during the next century is expected to shift precipitation patterns, accelerate sea level rise and increase temperatures, thereby posing a serious threat to California’s economy, to the health and welfare of its population and to its natural resources.” Pursuant to the requirements in the order, the 2009 California Climate Adaptation Strategy (California Natural Resource Agency 2009) was adopted, which is the “... first statewide, multi-sector, region-specific, and information-based climate change in California, identifying and exploring strategies to adapt to climate change, and specifying a direction for future research.

**Executive Order B-30-15.** Executive Order B-30-15, establishing a new interim statewide greenhouse gas emission reduction target to reduce greenhouse gas emissions to 40 percent below 1990 levels by 2030, was signed by Governor Brown in April 2015.

**Executive Order B-29-15.** Executive Order B-29-15, mandates a statewide 25% reduction in potable water usage and was signed into law on April 1, 2015.

**Executive Order B-37-16.** Executive Order B-37-16, continuing the State’s adopted water reduction, was signed into law on May 9, 2016. The water reduction builds off the mandatory 25% reduction called for in EO B-29-15.

## **2.2.4 South Coast Air Quality Management District**

The Project is within the South Coast Air Basin, which is under the jurisdiction of the South Coast Air Quality Management District (SCAQMD). SCAQMD Regulation XXVII currently includes three rules:

- The purpose of Rule 2700 is to define terms and post global warming potentials.
- The purpose of Rule 2701, SoCal Climate Solutions Exchange, is to establish a voluntary program to encourage, quantify, and certify voluntary, high quality certified greenhouse gas emission reductions in the SCAQMD.
- Rule 2702, Greenhouse Gas Reduction Program, was adopted on February 6, 2009. The purpose of this rule is to create a Greenhouse Gas Reduction Program for greenhouse gas emission reductions

in the SCAQMD. The SCAQMD will fund projects through contracts in response to requests for proposals or purchase reductions from other parties.

### *SCAQMD Threshold Development*

The SCAQMD has established recommended significance thresholds for greenhouse gases for local lead agency consideration (“SCAQMD draft local agency threshold”). SCAQMD has published a five-tiered draft GHG threshold which includes a 10,000 metric ton of CO<sub>2</sub>e per year for stationary/industrial sources and 3,000 metric tons of CO<sub>2</sub>e per year significance threshold for residential/commercial projects (South Coast Air Quality Management District 2010c). Tier 3 is anticipated to be the primary tier by which the SCAQMD will determine significance for projects. The Tier 3 screening level for stationary sources is based on an emission capture rate of 90 percent for all new or modified projects. A 90-percent emission capture rate means that 90 percent of total emissions from all new or modified stationary source projects would be subject to CEQA analysis. The 90-percent capture rate GHG significance screening level in Tier 3 for stationary sources was derived using the SCAQMD’s annual Emissions Reporting Program.

The current draft thresholds consist of the following tiered approach:

- Tier 1 consists of evaluating whether or not the project qualifies for any applicable exemption under CEQA.
- Tier 2 consists of determining whether or not the project is consistent with a greenhouse gas reduction plan. If a project is consistent with a qualifying local greenhouse gas reduction plan, it does not have significant greenhouse gas emissions.
- Tier 3 consists of screening values, which the lead agency can choose but must be consistent. A project’s construction emissions are averaged over 30 years and are added to a project’s operational emissions. If a project’s emissions are under one of the following screening thresholds, then the project is less than significant:
  - All land use types: 3,000 MTCO<sub>2</sub>e per year
  - Based on land use types: residential is 3,500 MTCO<sub>2</sub>e per year; commercial is 1,400 MTCO<sub>2</sub>e per year; mixed use is 3,000 MTCO<sub>2</sub>e per year; and industrial is 10,000 MTCO<sub>2</sub>e per year
- Tier 4 has the following options:
  - Option 1: Reduce emissions from business as usual by a certain percentage; this percentage is currently undefined
  - Option 2: Early implementation of applicable AB 32 Scoping Plan measures
  - Option 3: Year 2020 target for service populations (SP), which includes residents and employees: 4.8 MTCO<sub>2</sub>e/SP/year for projects and 6.6 MTCO<sub>2</sub>e/SP/year for plans;
  - Option 3, 2035 target: 3.0 MTCO<sub>2</sub>e/SP/year for projects and 4.1 MTCO<sub>2</sub>e/SP/year for plans
- Tier 5 involves mitigation offsets to achieve target significance threshold.

## **2.2.5 Local**

### *WRCOG Subregional Climate Action Plan*

The City of Hemet is part of the Western Riverside Council of Government (WRCOG). The WRCOG adopted the WRCOG Subregional Climate Action Plan (CAP) in September 2014. Twelve cities in the subregion joined efforts to develop the Subregional CAP, which set forth a subregional emissions reduction target, emissions reduction measures, and action steps to assist each community to demonstrate consistency with California’s Global Warming Solutions Act of 2006 (Assembly Bill [AB] 32). The CAP consists of an emissions reduction target of 15% below 2010 levels by 2020, and 49% below 2010 levels by 2035. As indicated in the CAP the emission reduction target of 15% from 2010 levels equates to a GHG emissions reduction of nearly 2,330,647 metric tons below business-as-usual (BAU) conditions by 2020. In order to reach these goals, the CAP provides feasible strategies, while affording its communities other economic and environmental benefits.

Therefore, to determine whether the project's GHG emissions are significant, this analysis uses the WRCOG CAP.

The project will be subject to the latest requirements of the California Green Building and Title 24 Energy Efficiency Standards (currently 2022) which would reduce project-related greenhouse gas emissions.

## **2.3 Energy Regulatory Setting**

Federal and state agencies regulate energy use and consumption through various means and programs. On the federal level, the United States Department of Transportation, the United States Department of Energy, and the United States Environmental Protection Agency are three federal agencies with substantial influence over energy policies and programs. On the state level, the PUC and the California Energy Commissions (CEC) are two agencies with authority over different aspects of energy. Relevant federal and state energy-related laws and plans are summarized below.

### **2.3.1 Federal Regulations**

#### *Corporate Average Fuel Economy (CAFÉ) Standards*

First established by the U.S. Congress in 1975, the Corporate Average Fuel Economy (CAFÉ) standards reduce energy consumption by increasing the fuel economy of cars and light trucks. The National Highway Traffic Safety Administration (NHTSA) and U.S. Environmental Protection Agency (USEPA) jointly administer the CAFÉ standards. The U.S. Congress has specified that CAFÉ standards must be set at the “maximum feasible level” with consideration given for: (1) technological feasibility; (2) economic

practicality; (3) effect of other standards on fuel economy; and (4) need for the nation to conserve energy.<sup>1</sup>

Issued by NHTSA and EPA in March 2020 (published on April 30, 2020 and effective after June 29, 2020), the Safer Affordable Fuel-Efficient Vehicles Rule would maintain the CAFÉ and CO<sub>2</sub> standards applicable in model year 2020 for model years 2021 through 2026. The estimated CAFÉ and CO<sub>2</sub> standards for model year 2020 are 43.7 mpg and 204 grams of CO<sub>2</sub> per mile for passenger cars and 31.3 mpg and 284 grams of CO<sub>2</sub> per mile for light trucks, projecting an overall industry average of 37 mpg, as compared to 46.7 mpg under the standards issued in 2012.<sup>2</sup>

#### *Intermodal Surface transportation Efficiency Act of 1991 (ISTEA)*

The Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) promoted the development of inter-modal transportation systems to maximize mobility as well as address national and local interests in air quality and energy. ISTEA contained factors that Metropolitan Planning Organizations (MPOs) were to address in developing transportation plans and programs, including some energy-related factors. To meet the new ISTEA requirements, MPOs adopted explicit policies defining the social, economic, energy, and environmental values guiding transportation decisions.

#### *The Transportation Equity Act of the 21<sup>st</sup> Century (TEA-21)*

The Transportation Equity Act for the 21<sup>st</sup> Century (TEA-21) was signed into law in 1998 and builds upon the initiatives established in the ISTEA legislation, discussed above. TEA-21 authorizes highway, highway safety, transit, and other efficient surface transportation programs. TEA-21 continues the program structure established for highways and transit under ISTEA, such as flexibility in the use of funds, emphasis on measures to improve the environment, and focus on a strong planning process as the foundation of good transportation decisions. TEA-21 also provides for investment in research and its application to maximize the performance of the transportation system through, for example, deployment of Intelligent Transportation Systems, to help improve operations and management of transportation systems and vehicle safety.

### **2.3.2 State Regulations**

#### *Integrated Energy Policy Report (IEPR)*

Senate Bill 1389 requires the California Energy Commission (CEC) to prepare a biennial integrated energy policy report that assesses major energy trends and issues facing the State's electricity, natural

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<sup>1</sup> <https://www.nhtsa.gov/lawsregulations/corporate-average-fuel-economy>.

<sup>2</sup> National Highway Traffic Safety Administration (NHTSA) and U.S. Environmental Protection Agency (USEPA), 2018. Federal Register / Vol. 83, No. 165 / Friday, August 24, 2018 / Proposed Rules, The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021–2026 Passenger Cars and Light Trucks 2018. Available at: <https://www.epa.gov/regulations-emissions-vehicles-and-engines/safer-affordable-fuel-efficient-safe-vehicles-final-rule>.

gas, and transportation fuel sectors and provides policy recommendations to conserve resources; protect the environment; ensure reliable, secure, and diverse energy supplies; enhance the state's economy; and protect public health and safety. The Energy Commission prepares these assessments and associated policy recommendations every two years, with updates in alternate years, as part of the Integrated Energy Policy Report.

The 2019 Integrated Energy Policy Report (2019 IEPR) was adopted February 20, 2020, and continues to work towards improving electricity, natural gas, and transportation fuel energy use in California. The 2019 IEPR focuses on a variety of topics such as decarbonizing buildings, integrating renewables, energy efficiency, energy equity, integrating renewable energy, updates on Southern California electricity reliability, climate adaptation activities for the energy sector, natural gas assessment, transportation energy demand forecast, and the California Energy Demand Forecast.<sup>3</sup>

The 2020 IEPR was adopted March 23, 2021 and identifies actions the state and others can take to ensure a clean, affordable, and reliable energy system. In 2020, the IEPR focuses on California's transportation future and the transition to zero-emission vehicles, examines microgrids, lessons learned from a decade of state-supported research, and stakeholder feedback on the potential of microgrids to contribute to a lean and resilient energy system; and reports on California's energy demand outlook, updated to reflect the global pandemic and help plan for a growth in zero-emission plug in electric vehicles.<sup>4</sup>

### *State of California Energy Plan*

The CEC is responsible for preparing the State Energy Plan, which identifies emerging trends related to energy supply, demand, conservation, public health and safety, and the maintenance of a healthy economy. The Plan calls for the state to assist in the transformation of the transportation system to improve air quality, reduce congestion, and increase the efficient use of fuel supplies with the least environmental and energy costs. To further this policy, the plan identifies a number of strategies, including assistance to public agencies and fleet operators and encouragement of urban designs that reduce vehicle miles traveled and accommodate pedestrian and bicycle access.

### *California Building Standards Code (Title 24)*

#### **California Building Energy Efficiency Standards (Title 24, Part 6)**

The California Building Energy Efficiency Standards for Residential and Nonresidential Buildings (California Code of Regulations, Title 24, Part 6) were adopted to ensure that building construction and system design and installation achieve energy efficiency and preserve outdoor and indoor environmental quality. The current California Building Energy Efficiency Standards (Title 24 standards)

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<sup>3</sup> California Energy Commission. Final 2019 Integrated Energy Policy Report. February 20, 2020. <https://www.energy.ca.gov/data-reports/reports/integrated-energy-policy-report/2019-integrated-energy-policy-report>

<sup>4</sup> California Energy Commission. Final 2020 Integrated Energy Policy Report. March 23, 2020. <https://www.energy.ca.gov/data-reports/reports/integrated-energy-policy-report/2020-integrated-energy-policy-report-update>

are the 2019 Title 24 standards, which became effective on January 1, 2020. The 2019 Title 24 standards include efficiency improvements to the lighting and efficiency improvements to the non-residential standards include alignment with the American Society of Heating and Air-Conditioning Engineers.

All buildings for which an application for a building permit is submitted on or after January 1, 2020 must follow the 2019 standards. The 2016 residential standards were estimated to be approximately 28 percent more efficient than the 2013 standards, whereas the 2019 residential standards are estimated to be approximately 7 percent more efficient than the 2016 standards. Furthermore, once rooftop solar electricity generation is factored in, 2019 residential standards are estimated to be approximately 53 percent more efficient than the 2016 standards. Under the 2019 standards, nonresidential buildings are estimated to be approximately 30 percent more efficient than the 2016 standards. Energy efficient buildings require less electricity; therefore, increased energy efficiency reduces fossil fuel consumption and decreases greenhouse gas emissions.

### **California Building Energy Efficiency Standards (Title 24, Part 11)**

The 2022 California Green Building Standards Code (California Code of Regulations, Title 24, Part 11), commonly referred to as the CALGreen Code, went into effect on January 1, 2023. The 2023 CALGreen Code includes mandatory measures for non-residential development related to site development; energy efficiency; water efficiency and conservation; material conservation and resource efficiency; and environmental quality.

The CEC estimates that over 30 years the 2022 Energy Code will provide \$1.5 billion in consumer benefits and reduce 10 million metric tons of GHG. Changes compared to the 2019 Energy Code include increases to on-site renewable energy generation from solar, increases to electric load flexibility to support grid reliability, reduction of emissions from newly constructed buildings, reduction of air pollution for improved public health, and increased adoption of environmentally beneficial efficient electric technologies.

### ***Senate Bill 100***

Senate Bill 100 (SB 100) requires 100 percent of total retail sales of electricity in California to come from eligible renewable energy resources and zero-carbon resources by December 31, 2045. SB 100 was adopted September 2018.

The interim thresholds from prior Senate Bills and Executive Orders would also remain in effect. These include Senate Bill 1078 (SB 1078), which requires retail sellers of electricity, including investor-owned utilities and community choice aggregators, to provide at least 20 percent of their supply from renewable sources by 2017. Senate Bill 107 (SB 107) which changed the target date to 2010. Executive Order S-14-08, which was signed on November 2008 and expanded the State's Renewable Energy Standard to 33 percent renewable energy by 2020. Executive Order S-21-09 directed the CARB to adopt regulations by July 31, 2010 to enforce S-14-08. Senate Bill X1-2 codifies the 33 percent renewable energy requirement by 2020.

### *Senate Bill 350*

Senate Bill 350 (SB 350) was signed into law October 7, 2015, SB 350 increases California’s renewable electricity procurement goal from 33 percent by 2020 to 50 percent by 2030. This will increase the use of Renewables Portfolio Standard (RPS) eligible resources, including solar, wind, biomass, geothermal, and others. In addition, SB 350 requires the state to double statewide energy efficiency savings in electricity and natural gas end uses by 2030. To help ensure these goals are met and the greenhouse gas emission reductions are realized, large utilities will be required to develop and submit Integrated Resource Plans (IRPs). These IRPs will detail how each entity will meet their customers resource needs, reduce greenhouse gas emissions and ramp up the deployment of clean energy resources.

### *Assembly Bill 32*

In 2006 the California State Legislature adopted Assembly Bill 32 (AB 32), the California Global Warming Solutions Act of 2006. AB 32 requires CARB, to adopt rules and regulations that would achieve GHG emissions equivalent to statewide levels in 1990 by 2020 through an enforceable statewide emission cap which will be phased in starting in 2012. Emission reductions shall include carbon sequestration projects that would remove carbon from the atmosphere and best management practices that are technologically feasible and cost effective.

### *Assembly Bill 1493/Pavley Regulations*

California Assembly Bill 1493 enacted on July 22, 2002, required CARB to develop and adopt regulations that reduce GHGs emitted by passenger vehicles and light duty trucks. In 2005, the CARB submitted a “waiver” request to the EPA from a portion of the federal Clean Air Act in order to allow the State to set more stringent tailpipe emission standards for CO<sub>2</sub> and other GHG emissions from passenger vehicles and light duty trucks. On December 19, 2007 the EPA announced that it denied the “waiver” request. On January 21, 2009, CARB submitted a letter to the EPA administrator regarding the State’s request to reconsider the waiver denial. The EPA approved the waiver on June 30, 2009.

### *Executive Order S-1-07/Low Carbon Fuel Standard*

Executive Order S-1-07 was issued in 2007 and proclaims that the transportation sector is the main source of GHG emissions in the State, since it generates more than 40 percent of the State’s GHG emissions. It establishes a goal to reduce the carbon intensity of transportation fuels sold in the State by at least ten percent by 2020. This Order also directs CARB to determine whether this Low Carbon Fuel Standard (LCFS) could be adopted as a discrete early-action measure as part of the effort to meet the mandates in AB 32.

On April 23, 2009 CARB approved the proposed regulation to implement the low carbon fuel standard and began implementation on January 1, 2011. The low carbon fuel standard is anticipated to reduce GHG emissions by about 16 MMT per year by 2020. CARB approved some amendments to the LCFS in December 2011, which were implemented on January 1, 2013. In September 2015, the Board approved the re-adoption of the LCFS, which became effective on January 1, 2016, to address procedural deficiencies in the way the original regulation was adopted. In 2018, the Board approved

amendments to the regulation, which included strengthening and smoothing the carbon intensity benchmarks through 2030 in-line with California’s 2030 GHG emission reduction target enacted through SB 32, adding new crediting opportunities to promote zero emission vehicle adoption, alternative jet fuel, carbon capture and sequestration, and advanced technologies to achieve deep decarbonization in the transportation sector.

The LCFS is designed to encourage the use of cleaner low-carbon transportation fuels in California, encourage the production of those fuels, and therefore, reduce GHG emissions and decrease petroleum dependence in the transportation sector. Separate standards are established for gasoline and diesel fuels and the alternative fuels that can replace each. The standards are “back-loaded”, with more reductions required in the last five years, than during the first five years. This schedule allows for the development of advanced fuels that are lower in carbon than today’s fuels and the market penetration of plug-in hybrid electric vehicles, battery electric vehicles, fuel cell vehicles, and flexible fuel vehicles. It is anticipated that compliance with the low carbon fuel standard will be based on a combination of both lower carbon fuels and more efficient vehicles.

Reformulated gasoline mixed with corn-derived ethanol at ten percent by volume and low sulfur diesel fuel represent the baseline fuels. Lower carbon fuels may be ethanol, biodiesel, renewable diesel, or blends of these fuels with gasoline or diesel as appropriate. Compressed natural gas and liquefied natural gas also may be low carbon fuels. Hydrogen and electricity, when used in fuel cells or electric vehicles are also considered as low carbon fuels for the low carbon fuel standard.

*Executive Order N-79-20.*

Executive Order N-79-20 was signed into law on September 23, 2020 and mandates 100 percent of in-state sales of new passenger cars and trucks be zero-emission by 2035; 100 percent of medium- and heavy-duty vehicles in the state be zero-emission vehicles by 2045 for all operations where feasible and by 2035 for drayage trucks; and to transition to 100 percent zero-emission off-road vehicles and equipment by 2035 where feasible.

*California Air Resources Board*

**CARB’s Advanced Clean Cars Program**

Closely associated with the Pavley regulations, the Advanced Clean Cars emissions control program was approved by CARB in 2012. The program combines the control of smog, soot, and GHGs with requirements for greater numbers of zero-emission vehicles for model years 2015–2025. The components of the Advanced Clean Cars program include the Low-Emission Vehicle (LEV) regulations that reduce criteria pollutants and GHG emissions from light- and medium-duty vehicles, and the Zero-Emission Vehicle (ZEV) regulation, which requires manufacturers to produce an increasing number of

pure ZEVs (meaning battery electric and fuel cell electric vehicles), with provisions to also produce plug-in hybrid electric vehicles (PHEV) in the 2018 through 2025 model years.<sup>5</sup>

**Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling**

The Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling (Title 13, California Code of Regulations, Division 3, Chapter 10, Section 2435) was adopted to reduce public exposure to diesel particulate matter and other air contaminants by limiting the idling of diesel-fueled commercial motor vehicles. This section applies to diesel-fueled commercial motor vehicles with gross vehicular weight ratings of greater than 10,000 pounds that are or must be licensed for operation on highways. Reducing idling of diesel-fueled commercial motor vehicles reduces the amount of petroleum-based fuel used by the vehicle.

***Regulation to Reduce Emissions of Diesel Particulate Matter, Oxides of Nitrogen, and other Criteria Pollutants, from In-Use Heavy-Duty Diesel-Fueled Vehicles***

The Regulation to Reduce Emissions of Diesel Particulate Matter, Oxides of Nitrogen and other Criteria Pollutants, from In-Use Heavy-Duty Diesel-Fueled Vehicles (Title 13, California Code of Regulations, Division 3, Chapter 1, Section 2025) was adopted to reduce emissions of diesel particulate matter, oxides of nitrogen (NO<sub>x</sub>) and other criteria pollutants from in-use diesel-fueled vehicles. This regulation is phased, with full implementation by 2023. The regulation aims to reduce emissions by requiring the installation of diesel soot filters and encouraging the retirement, replacement, or repower of older, dirtier engines with newer emission-controlled models. The newer emission controlled models would use petroleum-based fuel in a more efficient manner.

***Sustainable Communities Strategy***

The Sustainable Communities and Climate Protection Act of 2008, or Senate Bill 375 (SB 375), coordinates land use planning, regional transportation plans, and funding priorities to help California meet the GHG reduction mandates established in AB 32.

Senate Bill 375 (SB 375) was adopted September 2008 and aligns regional transportation planning efforts, regional GHG emission reduction targets, and land use and housing allocation. SB 375 requires Metropolitan Planning Organizations (MPO) to adopt a sustainable communities strategy (SCS) or alternate planning strategy (APS) that will prescribe land use allocation in that MPOs Regional Transportation Plan (RTP). CARB, in consultation with each MPO, will provide each affected region with reduction targets for GHGs emitted by passenger cars and light trucks in the region for the years 2020 and 2035. These reduction targets will be updated every eight years but can be updated every four years if advancements in emissions technologies affect the reduction strategies to achieve the targets.

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<sup>5</sup> California Air Resources Board, California's Advanced Clean Cars Program, January 18, 2017. [www.arb.ca.gov/msprog/acc/acc.htm](http://www.arb.ca.gov/msprog/acc/acc.htm).

CARB is also charged with reviewing each MPO's sustainable communities strategy or alternate planning strategy for consistency with its assigned targets.

## **3.0 Setting**

### **3.1 Existing Physical Setting**

The project site is located in the City of Hemet, which is part of the South Coast Air Basin (SCAB) that includes all of Orange County as well as the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties. The South Coast Air Basin is located on a coastal plain with connecting broad valleys and low hills to the east. Regionally, the South Coast Air Basin is bounded by the Pacific Ocean to the southwest and high mountains to the east forming the inland perimeter.

#### **3.1.1 Local Climate and Meteorology**

Dominant airflows provide the driving mechanism for transport and dispersion of air pollution. The mountains surrounding the region form natural horizontal barriers to the dispersion of air contaminants. Air pollution created in the coastal areas and around the Los Angeles area is transported inland until it reaches the mountains where the combination of mountains and inversion layers generally prevent further dispersion. This poor ventilation results in a gradual degradation of air quality from the coastal areas to inland areas. Air stagnation may occur during the early evening and early morning periods of transition between day and nighttime flows. The region also experiences periods of hot, dry winds from the desert, known as Santa Ana winds. If the Santa Ana winds are strong, they can surpass the sea breeze, which blows from the ocean to the land, and carry the suspended dust and pollutants out to the ocean. If the winds are weak, they are opposed by the sea breeze and cause stagnation, resulting in high pollution events.

The annual average temperature varies little throughout much of the basin, ranging from the low to middle 60s, measured in degrees Fahrenheit (°F). With more pronounced oceanic influence, coastal areas show less variability in annual minimum and maximum temperatures than inland areas where the project site is located. The majority of the annual rainfall in the basin occurs between November and April. Summer rainfall is minimal and is generally limited to scattered thunderstorms in the coastal regions and slightly heavier showers in the eastern portion of the basin along the coastal side of the mountains. Year-to-year patterns in rainfall are unpredictable because of fluctuations in the weather.

Temperature inversions limit the vertical depth through which pollution can be mixed. Among the most common temperature inversions in the basin are radiation inversions, which form on clear winter nights when cold air off mountains sink to the valley floor while the air aloft over the valley remains warm. These inversions, in conjunction with calm winds, trap pollutants near the source. Other types of temperature inversions that affect the basin include marine, subsidence, and high-pressure inversions.

Summers are often periods of hazy visibility and occasionally unhealthy air. Strong temperature inversions may occur that limit the vertical depth through which air pollution can be dispersed. Air pollutants concentrate because they cannot rise through the inversion layer and disperse. These inversions are more common and persistent during the summer months. Over time, sunlight produces photochemical reactions within this inversion layer that creates ozone, a particularly harmful air

pollutant. Occasionally, strong thermal convections occur which allows the air pollutants to rise high enough to pass over the mountains and ultimately dilute the smog cloudtrap pollutants such as automobile exhaust near their source. While these inversions may lead to air pollution “hot spots” in heavily developed coastal areas of the basin, there is not enough traffic in inland valleys to cause any winter air pollution problems. Despite light wind conditions, especially at night and in the early morning, winter is generally a period of good air quality in the project vicinity.

In the winter, light nocturnal winds result mainly from the drainage of cool air off of the mountains toward the valley floor while the air aloft over the valley remains warm. This forms a type of inversion known as a radiation inversion. Such winds are characterized by stagnation and poor local mixing and trap pollutants such as automobile exhaust near their source. While these inversions may lead to air pollution “hot spots” in heavily developed coastal areas of the basin, there is not enough traffic to cause any winter air pollution problems. Despite light wind conditions, especially at night and in the early morning, winter is generally a period of good air quality in the project vicinity.

The temperature and precipitation levels for the City of San Jacinto are in Table 3. Table 3 shows that August is typically the warmest month and December is typically the coolest month. Rainfall in the project area varies considerably in both time and space. Almost all the annual rainfall comes from the fringes of mid-latitude storms from late November to early April, with summers being almost completely dry.

**Table 3: Meteorological Summary**

Month	Temperature (°F)		Average Precipitation (inches)
	Average High	Average Low	
January	67.0	37.9	2.6
February	67.6	39.6	2.6
March	70.6	42.4	1.9
April	77.2	45.8	0.8
May	83.2	51.0	0.4
June	90.9	55.2	0.1
July	97.1	60.6	0.2
August	98.4	61.5	0.2
September	93.3	57.8	0.3
October	84.0	50.2	0.6
November	73.9	41.6	0.9
December	67.2	36.1	1.6
<b>Annual Average</b>	<b>80.9</b>	<b>48.3</b>	<b>12.2</b>
Notes:			
<sup>1</sup> Source: <a href="https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca7813">https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca7813</a>			

### 3.1.2 Local Air Quality

The SCAQMD is divided into 38 air-monitoring areas with a designated ambient air monitoring station representative of each area. The project site is located in the City of Hemet in the Hemet/San Jacinto Valley Source Receptor Area (Area 28). The nearest air monitoring station to the project site is the

Banning Airport Station. The Banning Airport Station is located approximately 13 miles northeast of the project site, at 200 S Hathaway Street, Banning; however this location does not provide all ambient weather data. Therefore, additional data was pulled from the SCAQMD historical data for the Hemet/San Jacinto Area (Area 28) for both sulfur dioxide and carbon monoxide to provide the existing levels. Table 4 presents the monitored pollutant levels within the vicinity. However, it should be noted that due to the air monitoring station distance from the project site, recorded air pollution levels at the air monitoring station reflect with varying degrees of accuracy, local air quality conditions at the project site.

**Table 4: Local Area Air Quality Levels from the Banning Monitoring Stations**

Pollutant (Standard) <sup>2</sup>	Year		
	2020	2021	2022
<b>Ozone:</b>			
Maximum 1-Hour Concentration (ppm)	0.150	0.139	0.116
Days > CAAQS (0.09 ppm)	<b>29</b>	<b>41</b>	<b>30</b>
Maximum 8-Hour Concentration (ppm)	0.115	0.116	0.100
Days > NAAQS (0.07 ppm)	<b>68</b>	<b>80</b>	<b>56</b>
Days > CAAQS (0.070 ppm)	<b>71</b>	<b>82</b>	<b>59</b>
<b>Carbon Monoxide:</b>			
Maximum 1-Hour Concentration (ppm)	*	*	*
Days > NAAQS (20 ppm)	*	*	*
Maximum 8-Hour Concentration (ppm)	*	*	*
Days > NAAQS (9 ppm)	*	*	*
<b>Nitrogen Dioxide:</b>			
Maximum 1-Hour Concentration (ppm)	0.051	0.057	0.052
Days > NAAQS (0.25 ppm)	0	0	0
<b>Sulfur Dioxide:</b>			
Maximum 1-Hour Concentration (ppm)	*	*	*
Days > CAAQS (0.25 ppm)	*	*	*
<b>Inhalable Particulates (PM10):</b>			
Maximum 24-Hour Concentration (ug/m <sup>3</sup> )	69.3	48.6	52.4
Days > NAAQS (150 ug/m <sup>3</sup> )	0	0	0
Days > CAAQS (50 ug/m <sup>3</sup> )	1	0	0
Annual Average (ug/m <sup>3</sup> )	21.2	21.2	22.5
Annual > NAAQS (50 ug/m <sup>3</sup> )	No	No	No
Annual > CAAQS (20 ug/m <sup>3</sup> )	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>
<b>Ultra-Fine Particulates (PM2.5):</b>			
Maximum 24-Hour Concentration (ug/m <sup>3</sup> )	46.7	40.9	37.9
Days > NAAQS (35 ug/m <sup>3</sup> )	-	-	-
Annual Average (ug/m <sup>3</sup> )	10.5	11.7	9.4
Annual > NAAQS (15 ug/m <sup>3</sup> )	No	No	No
Annual > CAAQS (12 ug/m <sup>3</sup> )	No	No	No
<sup>1</sup> Source: obtained from <a href="https://www.aqmd.gov/home/air-quality/air-quality-data-studies/historical-data-by-year">https://www.aqmd.gov/home/air-quality/air-quality-data-studies/historical-data-by-year</a> and/or <a href="https://www.arb.ca.gov/adam/topfour/topfour1.php">https://www.arb.ca.gov/adam/topfour/topfour1.php</a> <sup>2</sup> CAAQS = California Ambient Air Quality Standard; NAAQS = National Ambient Air Quality Standard; ppm = parts per million <sup>3</sup> No data available.			

The monitoring data presented in Table 4 shows that ozone and particulate matter (PM10) are the air pollutants of primary concern in the project area, which are detailed below.

### **Ozone**

During the 2020 to 2022 monitoring period, the State 1-hour concentration standard for ozone has been exceeded between 29 and 41 days each year at the Banning Airport Station. The State 8-hour ozone standard has been exceeded between 59 and 82 days each year over the past three years at the Banning Airport Station. The Federal 8-hour ozone standard has been exceeded between 56 and 80 days each year over the past three years at the Banning Airport Station.

Ozone is a secondary pollutant as it is not directly emitted. Ozone is the result of chemical reactions between other pollutants, most importantly hydrocarbons and NO<sub>2</sub>, which occur only in the presence of bright sunlight. Pollutants emitted from upwind cities react during transport downwind to produce the oxidant concentrations experienced in the area. Many areas of the SCAQMD contribute to the ozone levels experienced at the monitoring station, with the more significant areas being those directly upwind.

### **Carbon Monoxide**

CO is another important pollutant that is due mainly to motor vehicles. The Hemet/San Jacinto Area did not record an exceedance of the state or federal 1-hour or 8-hour CO standards for the last three years.

### **Nitrogen Dioxide**

The Banning Airport Station did not record an exceedance of the State or Federal NO<sub>2</sub> standards for the last three years.

### **Sulfur Dioxide**

The Hemet/San Jacinto Area did not record an exceedance of the State SO<sub>2</sub> standards for the last three years.

### **Particulate Matter**

During the 2020 to 2022 monitoring period, the Banning Airport Station did not record an exceedance of the Federal 24-hour concentration standards for PM10, while State 24-hour concentration standards for PM10 were exceeded each year.

During the 2020 to 2022 monitoring period, there was insufficient data for the Federal 24-hour standard for PM2.5 at the Banning Airport Station.

According to the EPA, some people are much more sensitive than others to breathing fine particles (PM10 and PM2.5). People with influenza, chronic respiratory and cardiovascular diseases, and the elderly may suffer worsening illness and premature death due to breathing these fine particles. People with bronchitis can expect aggravated symptoms from breathing in fine particles. Children may experience decline in lung function due to breathing in PM10 and PM2.5. Other groups considered

sensitive are smokers and people who cannot breathe well through their noses. Exercising athletes are also considered sensitive, because many breathe through their mouths during exercise.

### 3.1.3 Attainment Status

The EPA and the ARB designate air basins where ambient air quality standards are exceeded as “nonattainment” areas. If standards are met, the area is designated as an “attainment” area. If there is inadequate or inconclusive data to make a definitive attainment designation, they are considered “unclassified.” National nonattainment areas are further designated as marginal, moderate, serious, severe, or extreme as a function of deviation from standards. Each standard has a different definition, or ‘form’ of what constitutes attainment, based on specific air quality statistics. For example, the Federal 8-hour CO standard is not to be exceeded more than once per year; therefore, an area is in attainment of the CO standard if no more than one 8-hour ambient air monitoring values exceeds the threshold per year. In contrast, the federal annual PM<sub>2.5</sub> standard is met if the three-year average of the annual average PM<sub>2.5</sub> concentration is less than or equal to the standard. Table 5 lists the attainment status for the criteria pollutants in the basin.

**Table 5: South Coast Air Basin Attainment Status**

Pollutant	Averaging Time	National Standards <sup>1</sup>	Attainment Date <sup>2</sup>	California Standards <sup>3</sup>
1979 1-Hour Ozone <sup>4</sup>	1-Hour (0.12 ppm)	Nonattainment (Extreme)	11/15/2010 (Not attained <sup>4</sup> )	Extreme Nonattainment
1997 8-Hour Ozone <sup>5</sup>	8-Hour (0.08 ppm)	Nonattainment (Extreme)	6/15/2024	Nonattainment
2008 8-Hour Ozone	8-Hour (0.075 ppm)	Nonattainment (Extreme)	12/31/2032	
2015 8-Hour Ozone	8-Hour (0.070 ppm)	Designations Pending	~2037	
CO	1-Hour (35 ppm) 8-Hour (9 ppm)	Attainment (Maintenance)	6/11/2007 (Attained)	Maintenance
NO <sub>2</sub> <sup>6</sup>	1-Hour (100 ppb) Annual (0.053 ppm)	Attainment (Maintenance)	9/22/1998 (Attained)	Attainment
SO <sub>2</sub> <sup>7</sup>	1-Hour (75 ppb)	Designations Pending	Pending	Attainment
	24-Hour (0.14 ppm) Annual (0.03 ppm)	Unclassifiable/ Attainment	3/19/1979 (Attained)	
PM <sub>10</sub>	24-Hour (150 µg/m <sup>3</sup> )	Nonattainment (Serious) <sup>8</sup>	12/31/2006 (Redesignation request submitted) <sup>8</sup>	Nonattainment
PM <sub>2.5</sub>	24-Hour (35 µg/m <sup>3</sup> )	Nonattainment	12/31/2006 (Redesignation request submitted) <sup>8</sup>	Unclassified
Lead	3-Months Rolling (0.15 µg/m <sup>3</sup> )	Nonattainment (Partial) <sup>9</sup>	12/31/2015	Nonattainment (Partial) <sup>9</sup>

Notes:

<sup>1</sup> Obtained from Draft 2012 AQMP, SCAQMD, 2012. EPA often only declares Nonattainment areas; everywhere else is listed as Unclassified/Attainment or Unclassifiable.

<sup>2</sup> A design value below the NAAQS for data through the full year or smog season prior to the attainment date is typically required for attainment demonstration.

<sup>3</sup> Obtained from <http://www.arb.ca.gov/design/adm/adm.htm>.

<sup>4</sup> 1-hour O<sub>3</sub> standard (0.13 ppm) was revoked, effective June 15, 2005; however, the Basin has not attained this standard based on 2008-2010 data has some continuing obligations under the former standard.

<sup>5</sup> 1997 8-hour O<sub>3</sub> standard (0.08 ppm) was reduced (0.075 ppm), effective May 27, 2008; the 1997 O<sub>3</sub> standard and most related implementation rules remain in place until the 1997 standard is revoked by U.S. EPA.

<sup>6</sup> New NO<sub>2</sub> 1-hour standard, effective August 2, 2010; attainment designations June, 2013; annual NO<sub>2</sub> standard retained.

<sup>7</sup> The 1971 annual and 24-hour SO<sub>2</sub> standards were revoked, effective August 23, 2010; however, these 1971 standards will remain in effect until one year after U.S. EPA promulgates area designations for the 2010 SO<sub>2</sub> 1-hour standard. Area designations expected in 2012, with SSAB designated Unclassifiable/Attainment.

<sup>8</sup> Annual PM<sub>10</sub> standard was revoked, effective December 18, 2006; redesignation request to Attainment of the 24-hour PM<sub>10</sub> standard is pending with U.S. EPA

<sup>9</sup> Partial Nonattainment designation - Los Angeles County portion of Basin only.

## 3.2 Greenhouse Gases

Constituent gases of the Earth's atmosphere, called atmospheric greenhouse gases (GHG), play a critical role in the Earth's radiation amount by trapping infrared radiation emitted from the Earth's surface, which otherwise would have escaped to space. Prominent greenhouse gases contributing to this process include carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), ozone, water vapor, nitrous oxide (N<sub>2</sub>O), and chlorofluorocarbons (CFCs). This phenomenon, known as the Greenhouse Effect, is responsible for maintaining a habitable climate. Anthropogenic (caused or produced by humans) emissions of these greenhouse gases in excess of natural ambient concentrations are responsible for the enhancement of the Greenhouse Effect and have led to a trend of unnatural warming of the Earth's natural climate, known as global warming or climate change. Emissions of gases that induce global warming are attributable to human activities associated with industrial/manufacturing, agriculture, utilities, transportation, and residential land uses. Transportation is responsible for 41 percent of the State's greenhouse gas emissions, followed by electricity generation. Emissions of CO<sub>2</sub> and nitrous oxide (NO<sub>2</sub>) are byproducts of fossil fuel combustion. Methane, a potent greenhouse gas, results from off-gassing associated with agricultural practices and landfills. Sinks of CO<sub>2</sub>, where CO<sub>2</sub> is stored outside of the atmosphere, include uptake by vegetation and dissolution into the ocean. Table 6 provides a description of each of the greenhouse gases and their global warming potential.

Additional information is available: <https://www.arb.ca.gov/cc/inventory/data/data.htm>

<Table 6 on next page>

**Table 6: Description of Greenhouse Gases**

Greenhouse Gas	Description and Physical Properties	Sources
Nitrous oxide	Nitrous oxide (N <sub>2</sub> O), also known as laughing gas is a colorless gas. It has a lifetime of 114 years. Its global warming potential is 298.	Microbial processes in soil and water, fuel combustion, and industrial processes. In addition to agricultural sources, some industrial processes (nylon production, nitric acid production) also emit N <sub>2</sub> O.
Methane	Methane (CH <sub>4</sub> ) is a flammable gas and is the main component of natural gas. It has a lifetime of 12 years. Its global warming potential is 25.	A natural source of CH <sub>4</sub> is from the decay of organic matter. Methane is extracted from geological deposits (natural gas fields). Other sources are from the decay of organic material in landfills, fermentation of manure, and cattle farming.
Carbon dioxide	Carbon dioxide (CO <sub>2</sub> ) is an odorless, colorless, natural greenhouse gas. Carbon dioxide's global warming potential is 1. The concentration in 2005 was 379 parts per million (ppm), which is an increase of about 1.4 ppm per year since 1960.	Natural sources include decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungus; evaporation from oceans; and volcanic outgassing. Anthropogenic sources are from burning coal, oil, natural gas, and wood.
Chlorofluorocarbons	CFCs are nontoxic, nonflammable, insoluble, and chemically unreactive in the troposphere (the level of air at the earth's surface). They are gases formed synthetically by replacing all hydrogen atoms in methane or methane with chlorine and/or fluorine atoms. Global warming potentials range from 3,800 to 8,100.	Chlorofluorocarbons were synthesized in 1928 for use as refrigerants, aerosol propellants, and cleaning solvents. They destroy stratospheric ozone, therefore their production was stopped as required by the Montreal Protocol.
Hydrofluorocarbons	Hydrofluorocarbons (HFCs) are a group of greenhouse gases containing carbon, chlorine, and at least one hydrogen atom. Global warming potentials range from 140 to 11,700.	Hydrofluorocarbons are synthetic manmade chemicals used as a substitute for chlorofluorocarbons in applications such as automobile air conditioners and refrigerants.
Perfluorocarbons	Perfluorocarbons (PFCs) have stable molecular structures and only break down by ultraviolet rays about 60 kilometers above the Earth's surface. They have a lifetime 10,000 to 50,000 years. They have a global warming potential range of 6,200 to 9,500.	Two main sources of perfluorocarbons are primary aluminum production and semiconductor manufacturing.
Sulfur hexafluoride	Sulfur hexafluoride (SF <sub>6</sub> ) is an inorganic, odorless, colorless, and nontoxic, nonflammable gas. It has a lifetime of 3,200 years. It has a high global warming potential, 23,900.	This gas is manmade and used for insulation in electric power transmission equipment, in the magnesium industry, in semiconductor manufacturing, and as a tracer gas for leak detection.
Notes: 1. Sources: Intergovernmental Panel on Climate Change 2014a and Intergovernmental Panel on Climate Change 2014b. <a href="https://www.ipcc.ch/publications_and_data/ar4/wg1/en/ch2s2-10-2.html">https://www.ipcc.ch/publications_and_data/ar4/wg1/en/ch2s2-10-2.html</a>		

## 3.3 Energy

### 3.3.1 Overview

California's estimated annual energy use as of 2021 included:

- Approximately 277,764 gigawatt hours of electricity;<sup>6</sup>
- Approximately 2,092,612 million cubic feet of natural gas per year<sup>7</sup>; and
- Approximately 15.2 billion gallons of transportation fuel (for the year 2018)<sup>8</sup>.

As of 2021, the year of most recent data currently available by the United States Energy Information Administration (EIA), energy use in California by demand sector was:

- Approximately 37.8 percent transportation;
- Approximately 23.2 percent industrial;
- Approximately 20.0 percent residential; and
- Approximately 19.0 percent commercial.<sup>9</sup>

California's electricity in-state generation system generates approximately 194,127 gigawatt-hours each year. In 2021, California produced approximately 72 percent of the electricity it uses; the rest was imported from the Pacific Northwest (approximately 12 percent) and the U.S. Southwest (approximately 18 percent). Natural gas is the main source for electricity generation at approximately 50.2 percent of the total in-state electric generation system power as shown in Table 7.

<Table 7, next page>

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<sup>6</sup>California Energy Commission. Energy Almanac. Total Electric Generation. [Online] 2020.  
<https://www.energy.ca.gov/data-reports/energy-almanac/california-electricity-data/2019-total-system-electric-generation>.

<sup>7</sup>Natural Gas Consumption by End Use. U.S. Energy Information Administration. [Online] August 31, 2020.  
[https://www.eia.gov/dnav/ng/ng\\_cons\\_sum\\_dcu\\_SCA\\_a.htm](https://www.eia.gov/dnav/ng/ng_cons_sum_dcu_SCA_a.htm).

<sup>8</sup>California Energy Commission. Revised Transportation Energy Demand Forecast 2018-2030. [Online] April 19, 2018.  
<https://www.energy.ca.gov/assessments/>

<sup>9</sup>U.S. Energy Information Administration. California Energy Consumption by End-Use Sector. California State Profile and Energy Estimates. [Online] January 16, 2020 <https://www.eia.gov/state/?sid=CA#tabs-2>

**Table 7: Total Electricity System Power (California 2021)**

Fuel Type	California In-State Generation (GWh)	Percent of California In-State Generation	Northwest Imports (GWh)	Southwest Imports (GWh)	Total Imports (GWh)	Percent of Imports	California Power Mix (GWh)	Percent California Power Mix
Coal	303	0.2%	181	7,788	7,969	9.5%	8,272	3.0%
Natural Gas	12,036	6.2%	12,042	1,578	13,620	16.3%	25,656	9.2%
Nuclear	97,431	50.2%	45	7,880	7,925	9.5%	105,365	37.9%
Oil	16,477	8.5%	524	8,756	9,280	11.1%	25,758	9.3%
Other (Petroleum Coke/Waste Heat)	37	0.0%	-	-	-	0.0%	37	0.0%
Large Hydro	382	0.2%	68	15	83	0.1%	465	0.2%
Unspecified Sources of Power	-	0.0%	8,156	10,731	18,887	22.6%	18,887	6.80%
Renewables	67,461	34.8%	11,555	14,317	25,872	30.9%	93,333	33.6%
Biomass	5,381	2.8%	684	26	710	1.1%	6,271	2.3%
Geothermal	11,116	5.7%	192	1906	2,098	2.5%	13,214	4.8%
Somall Hydro	2,531	1.3%	304	1	305	0.4%	2,835	1.0%
Solar	33,260	17.1%	220	5,979	6,199	7.4%	39,458	14.2%
Wind	15,173	7.8%	9,976	6,405	16,381	19.6%	31,555	11.4%
<b>Total</b>	<b>194,127</b>	<b>100.00%</b>	<b>32,572</b>	<b>51,064</b>	<b>83,636</b>	<b>100.0%</b>	<b>277,764</b>	<b>100.00%</b>

Notes:

<sup>1</sup> Source: California Energy Commission. 2021 Total System electric Generation. <https://www.energy.ca.gov/data-reports/energy-almanac/california-electricity-data/2021-total-system-electric-generation>

A summary of and context for energy consumption and energy demands within the State is presented in “U.S. Energy Information Administration, California State Profile and Energy Estimates, Quick Facts” excerpted below:

- California was the seventh-largest producer of crude oil among the 50 states in 2018, and, as of January 2019, it ranked third in oil refining capacity.
- California is the largest consumer of jet fuel among the 50 states and accounted for one-fifth of the nation’s jet fuel consumption in 2018.
- California’s total energy consumption is the second-highest in the nation, but, in 2018, the State’s per capita energy consumption ranked the fourth-lowest, due in part to its mild climate and its energy efficiency programs.
- In 2018, California ranked first in the nation as a producer of electricity from solar, geothermal, and biomass resources and fourth in the nation in conventional hydroelectric power generation.
- In 2018, large- and small-scale solar PV and solar thermal installations provided 19% of California’s net electricity generation<sup>10</sup>.

<sup>10</sup> State Profile and Energy Estimates. Independent Statistics and Analysis. [Online] [Cited: January 16, 2020.] <http://www.eia.gov/state/?sid=CA#tabs2>.

As indicated above, California is one of the nation’s leading energy-producing states, and California per capita energy use is among the nation’s most efficient. Given the nature of the proposed project, the remainder of this discussion will focus on the three sources of energy that are most relevant to the project—namely, electricity and natural gas for building uses, and transportation fuel for vehicle trips associated with the proposed project.

### 3.3.2 Electricity and Natural Gas

Electricity would be provided to the project by Southern California Edison (SCE). SCE provides electric power to more than 15 million persons, within a service area encompassing approximately 50,000 square miles.<sup>11</sup> SCE derives electricity from varied energy resources including: fossil fuels, hydroelectric generators, nuclear power plants, geothermal power plants, solar power generation, and wind farms. SCE also purchases from independent power producers and utilities, including out-of-state suppliers.<sup>12</sup> Table 2 identifies SCE’s specific proportional shares of electricity sources in 2021.

**Table 8: SCE 2021 Power Content Mix**

Energy Resources	2021 SDG&E Power Mix
Eligible Renewable <sup>1</sup>	31.4%
Biomass & Biowaste	0.1%
Geothermal	5.7%
Eligible Hydroelectric	0.5%
Solar	14.9%
Wind	10.2%
Coal	0.0%
Large Hydroelectric	2.3%
Natural Gas	22.3%
Nuclear	9.2%
Other	0.2%
Unspecified Sources of power <sup>2</sup>	34.6%
Total	100.0%

**Notes:**

Source: <https://www.sce.com/sites/default/files/custom-files/Web%20files/2021%20Power%20Content%20Label.pdf>.

(1) The eligible renewable percentage above does not reflect RPS compliance, which is determined using a different methodology.

<sup>11</sup> <https://www.sce.com/about-us/who-we-are/leadership/our-service-territory>

<sup>12</sup> California Energy Commission. Utility Energy Supply plans from 2015. [https://www.energy.ca.gov/almanac/electricity\\_data/supply\\_forms.html](https://www.energy.ca.gov/almanac/electricity_data/supply_forms.html)

(2) Unspecified sources of power means electricity from transactions that are not traceable to specific generation sources.

Natural gas would be provided to the project by Southern California Gas (SoCalGas). The following summary of natural gas resources and service providers, delivery systems, and associated regulation is excerpted from information provided by the California Public Utilities Commission (CPUC).

The CPUC regulates natural gas utility service for approximately 11 million customers that receive natural gas from Pacific Gas and Electric (PG&E), Southern California Gas (SoCalGas), San Diego Gas & Electric (SDG&E), Southwest Gas, and several smaller investor-owned natural gas utilities. The CPUC also regulates independent storage operators Lodi Gas Storage, Wild Goose Storage, Central Valley Storage and Gill Ranch Storage.

The vast majority of California's natural gas customers are residential and small commercial customers, referred to as "core" customers. Larger volume gas customers, like electric generators and industrial customers, are called "noncore" customers. Although very small in number relative to core customers, noncore customers consume about 65% of the natural gas delivered by the state's natural gas utilities, while core customers consume about 35%.

The PUC regulates the California utilities' natural gas rates and natural gas services, including in-state transportation over the utilities' transmission and distribution pipeline systems, storage, procurement, metering and billing.

Most of the natural gas used in California comes from out-of-state natural gas basins. In 2017, for example, California utility customers received 38% of their natural gas supply from basins located in the U.S. Southwest, 27% from Canada, 27% from the U.S. Rocky Mountain area, and 8% from production located in California."<sup>13</sup>

### **3.3.3 Transportation Energy Resources**

The project would attract additional vehicle trips with resulting consumption of energy resources, predominantly gasoline and diesel fuel. Gasoline (and other vehicle fuels) are commercially-provided commodities and would be available to the project patrons and employees via commercial outlets.

The most recent data available shows the transportation sector emits 38 percent of the total greenhouse gases in the state and about 84 percent of smog-forming oxides of nitrogen (NOx).<sup>14,15</sup> About 28 percent of total United States energy consumption in 2021 was for transporting people and

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<sup>13</sup>California Public Utilities Commission. Natural Gas and California. [http://www.cpuc.ca.gov/natural\\_gas/](http://www.cpuc.ca.gov/natural_gas/)

<sup>14</sup>CARB. California Greenhouse Gas Emissions Inventory 2000-2020 – 2022 Edition. <https://ww2.arb.ca.gov/ghg-inventory-data>

<sup>15</sup>CARB. 2016 SIP Emission Projection Data.

[https://www.arb.ca.gov/app/emsinv/2017/emseic1\\_query.php?F\\_DIV=-4&F\\_YR=2012&F\\_SEASON=A&SP=SIP105ADJ&F\\_AREA=CA](https://www.arb.ca.gov/app/emsinv/2017/emseic1_query.php?F_DIV=-4&F_YR=2012&F_SEASON=A&SP=SIP105ADJ&F_AREA=CA)

goods from one place to another. In 2021, petroleum comprised about 90 percent of all transportation energy use, excluding fuel consumed for aviation and most marine vessels.<sup>16</sup> In 2022, about 134.55 billion gallons (or about 3.20 billion barrels) of finished motor gasoline were consumed in the United States, an average of about 369 million gallons (or about 8.78 million barrels) per day.<sup>17</sup>

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<sup>16</sup> US Energy Information Administration. Use of Energy in the United States Explained: Energy Use for Transportation. [https://www.eia.gov/energyexplained/?page=us\\_energy\\_transportation](https://www.eia.gov/energyexplained/?page=us_energy_transportation)

<sup>17</sup> <https://www.eia.gov/tools/faqs/faq.php?id=23&t=10>

## **4.0 Modeling Parameters and Assumptions**

### **4.1 Construction**

Typical emission rates from construction activities were obtained from CalEEMod Version 2022.1.1.21. CalEEMod is a computer model published by the SCAQMD for estimating air pollutant emissions. The CalEEMod program uses the EMFAC2017 computer program to calculate the emission rates specific for the southwestern portion of Riverside County for construction-related employee vehicle trips and the OFFROAD2011 computer program to calculate emission rates for heavy truck operations. EMFAC2017 and OFFROAD2011 are computer programs generated by CARB that calculates composite emission rates for vehicles. Emission rates are reported by the program in grams per trip and grams per mile or grams per running hour. Using CalEEMod, the peak daily air pollutant emissions were calculated and presented below. These emissions represent the highest level of emissions for each of the construction phases in terms of air pollutant emissions.

The analysis assesses the emissions associated with the construction of the proposed project as indicated in Table 1. The project was modeled to be operational in 2027. Construction would begin in January 2026 and last 18 months. The phases of the construction activities which have been analyzed below are: 1) site preparation, 2) grading, 3) building, 4) paving, and 5) architectural coating. For details on construction modeling and construction equipment for each phase, please see Appendix A.

The project will be required to comply with existing SCAQMD rules for the reduction of fugitive dust emissions. SCAQMD Rule 403 establishes these procedures. Compliance with this rule is achieved through application of standard best management practices in construction and operation activities, such as application of water or chemical stabilizers to disturbed soils, managing haul road dust by application of water, covering haul vehicles, restricting vehicle speeds on unpaved roads to 15 mph, sweeping loose dirt from paved site access roadways, cessation of construction activity when winds exceed 25 mph and establishing a permanent, stabilizing ground cover on finished sites. In addition, projects that disturb 50 acres or more of soil or move 5,000 cubic yards of materials per day are required to submit a Fugitive Dust Control Plan or a Large Operation Notification Form to SCAQMD. Based on the size of the Project area (disturbance area of approximately 10.07 acres) and the fact that the project won't export more than 5,000 cubic yards of material a day a Fugitive Dust Control Plan or Large Operation Notification would not be required.

SCAQMD's Rule 403 minimum requirements require that the application of the best available dust control measures are used for all grading operations and include the application of water or other soil stabilizers in sufficient quantity to prevent the generation of visible dust plumes. Compliance with Rule 403 would require the use of water trucks during all phases where earth moving operations would occur. Compliance with Rule 403 is required.

### **4.2 Operations**

Operational or long-term emissions occur over the life of the Project. Both mobile and area sources generate operational emissions. Area source emissions arise from consumer product usage, heaters that consume natural gas, gasoline-powered landscape equipment, and architectural coatings

(painting). Mobile source emissions from motor vehicles are the largest single long-term source of air pollutants from the operation of the Project. Small amounts of emissions would also occur from area sources such as the consumption of natural gas for heating, hearths, from landscaping emissions, and consumer product usage. The operational emissions were estimated using the latest version of CalEEMod.

### **Mobile Sources**

Mobile sources include emissions from the additional vehicle miles generated from the proposed project. The vehicle trips associated with the proposed project are based upon the trip generation rates given in the ITE trip generation manual. The traffic analysis shows a trip generation rate of approximately 1,537 trips per day.

The program then applies the emission factors for each trip which is provided by the EMFAC2017 model to determine the vehicular traffic pollutant emissions. The CalEEMod default trip lengths were used in this analysis. Please see CalEEMod output comments sections in Appendix A for details.

### **Area Sources**

Area sources include emissions from consumer products, landscape equipment and architectural coatings. Landscape maintenance includes fuel combustion emissions from equipment such as lawn mowers, rototillers, shredders/grinders, blowers, trimmers, chain saws, and hedge trimmers, as well as air compressors, generators, and pumps. As specifics were not known about the landscaping equipment fleet, CalEEMod defaults were used to estimate emissions from landscaping equipment.

Per SCAQMD Rule 1113 as amended on June 3, 2011, the architectural coatings that would be applied after January 1, 2014 will be limited to an average of 50 grams per liter or less and the CalEEMod model default was utilized as the new model takes this rule into account.

### **Energy Usage**

2022.1.1.21 CalEEMod defaults were utilized.

## **4.3 Localized Construction Analysis**

The SCAQMD has published a “Fact Sheet for Applying CalEEMod to Localized Significance Thresholds” (South Coast Air Quality Management District 2011b). CalEEMod calculates construction emissions based on the number of equipment hours and the maximum daily disturbance activity possible for each piece of equipment. In order to compare CalEEMod reported emissions against the localized significance threshold lookup tables, the CEQA document should contain in its project design features or its mitigation measures the following parameters:

1. The off-road equipment list (including type of equipment, horsepower, and hours of operation) assumed for the day of construction activity with maximum emissions.
2. The maximum number of acres disturbed on the peak day.
3. Any emission control devices added onto off-road equipment.
4. Specific dust suppression techniques used on the day of construction activity with maximum emissions.

The construction equipment showing the equipment associated with the maximum area of disturbance is shown in Table 9.

**Table 9: Construction Equipment Assumptions<sup>1</sup>**

Activity	Equipment	Number	Acres/8hr-day	Total Acres
Grading	Graders	1	0.5	0.5
	Rubber Tired Dozers	1	0.5	0.5
	Scraper	2	1	2.0
	Tractors/Loaders/Backhoes	2	0.5	1.0
<b>Total Per Phase</b>				<b>4.0</b>
Notes: <sup>1</sup> Source: South Coast AQMD, Fact Sheet for Applying CalEEMod to Localized Significance Thresholds. <a href="http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/caleemod-guidance.pdf?sfvrsn=2">http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/caleemod-guidance.pdf?sfvrsn=2</a>				

As shown in Table 9, the maximum number of acres disturbed in a day would be 4.0 acres during grading.

The local air quality emissions from construction were analyzed using the SCAQMD’s Mass Rate Localized Significant Threshold Look-up Tables and the methodology described in Localized Significance Threshold Methodology, prepared by SCAQMD, revised July 2008. The Look-up Tables were developed by the SCAQMD in order to readily determine if the daily emissions of CO, NOx, PM10, and PM2.5 from the proposed project could result in a significant impact to the local air quality. The emission thresholds were based on the Hemet/San Jacinto Valley source receptor area (SRA 28) and a disturbance of 2 acres per day at a distance of 25 meters (82 feet). The closest receptors are located 5 meters to the south of the site.

#### 4.4 Localized Operational Analysis

For operational emissions, the screening tables for a disturbance area of 5 acres per day, as the project 10.07 acres, and a distance of 25 meters were used to determine significance. The tables were compared to the project’s onsite operational emissions.

## 5.0 Thresholds of Significance

### 5.1 Air Quality Thresholds of Significance

#### 5.1.1 CEQA Guidelines for Air Quality

The CEQA Guidelines define a significant effect on the environment as “a substantial, or potentially substantial, adverse change in the environment.” To determine if a project would have a significant impact on air quality, the type, level, and impact of emissions generated by the project must be evaluated.

The following air quality significance thresholds are contained in Appendix G of the CEQA Guidelines. A significant impact would occur if the project would:

- a) Conflict with or obstruct implementation of the applicable air quality plan;
- b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable national or state ambient air quality standard;
- c) Expose sensitive receptors to substantial pollutant concentrations; or
- d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

While the final determination of whether a project is significant is within the purview of the Lead Agency pursuant to Section 15064(b) of the CEQA Guidelines, SCAQMD recommends that its quantitative air pollution thresholds be used to determine the significance of project emissions. If the Lead Agency finds that the project has the potential to exceed these air pollution thresholds, the project should be considered to have significant air quality impacts. There are daily emission thresholds for construction and operation of a proposed project in the basin.

#### 5.1.2 Regional Significance Thresholds for Construction Emissions

The following CEQA significance thresholds for construction emissions are established for the Basin:

- 75 pounds per day (lbs/day) of VOC
- 100 lbs/day of NO<sub>x</sub>
- 550 lbs/day of CO
- 150 lbs/day of PM<sub>10</sub>
- 55 lbs/day of PM<sub>2.5</sub>
- 150 lbs/day of SO<sub>2</sub>

Projects in the basin with construction-related emissions that exceed any of the emission thresholds are considered to be significant under SCAQMD guidelines.

### 5.1.3 Regional Significance Thresholds for Operational Emissions

The daily operational emissions significance thresholds for the basin are as follows:

- 55 pounds per day (lbs/day) of VOC
- 55 lbs/day of NO<sub>x</sub>
- 550 lbs/day of CO
- 150 lbs/day of PM<sub>10</sub>
- 55 lbs/day of PM<sub>2.5</sub>
- 150 lbs/day of SO<sub>2</sub>

**Local Microscale Concentration Standards** The significance of localized project impacts under CEQA depends on whether ambient CO levels in the vicinity of the project are above or below State and federal CO standards. If ambient levels are below the standards, a project is considered to have a significant impact if project emissions result in an exceedance of one or more of these standards. If ambient levels already exceed a State or federal standard, project emissions are considered significant if they increase 1-hour CO concentrations by 1.0 ppm or more or 8-hour CO concentrations by 0.45 ppm or more. The following are applicable local emission concentration standards for CO:

- California State 1-hour CO standard of 20.0 ppm
- California State 8-hour CO standard of 9.0 ppm

### 5.1.4 Thresholds for Localized Significance

Project-related construction air emissions may have the potential to exceed the State and Federal air quality standards in the project vicinity, even though these pollutant emissions may not be significant enough to create a regional impact to the South Coast Air Basin. In order to assess local air quality impacts the SCAQMD has developed Localized Significant Thresholds (LSTs) to assess the project-related air emissions in the project vicinity. The SCAQMD has also provided Final Localized Significant Threshold Methodology (LST Methodology), June 2003, which details the methodology to analyze local air emission impacts. The Localized Significant Threshold Methodology found that the primary emissions of concern are NO<sub>2</sub>, CO, PM<sub>10</sub>, and PM<sub>2.5</sub>.

The emission thresholds were calculated based on the Hemet/San Jacinto Valley source receptor area (SRA 28) and a disturbance of 2 acres per day at a distance of 25 meters (82 feet), for construction and 5 acres a day for screening of localized operational emissions.

## 5.2 Greenhouse Gas Thresholds of Significance

### 5.2.1 CEQA Guidelines for Greenhouse Gas

CEQA Guidelines define a significant effect on the environment as “a substantial, or potentially substantial, adverse change in the environment.” To determine if a project would have a significant impact on greenhouse gases, the type, level, and impact of emissions generated by the project must be evaluated.

The following greenhouse gas significance thresholds are contained in Appendix G of the CEQA Guidelines, which were amendments adopted into the Guidelines on March 18, 2010, pursuant to SB 97. A significant impact would occur if the project would:

- (a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; or
- (b) Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases.

However, despite this, currently neither the CEQA statutes, OPR guidelines, nor the draft proposed changes to the CEQA Guidelines prescribe thresholds of significance or a particular methodology for performing an impact analysis; as with most environmental topics, significance criteria are left to the judgment and discretion of the Lead Agency. As previously discussed (Section 2.2.4 of this report), SCAQMD has drafted interim thresholds. The screening threshold of 3,000 MTCO<sub>2</sub>e per year for all land uses was used in this analysis.

## 6.0 Air Quality Emissions Impact

### 6.1 Construction Air Quality Emissions Impact

The latest version of CalEEMod was used to estimate the onsite and offsite construction emissions. The emissions incorporate Rule 402 and 403. Rule 402 and 403 (fugitive dust) are not considered mitigation measures as the project by default is required to incorporate these rules during construction.

#### 6.1.1 Regional Construction Emissions

The construction emissions for the project would not exceed the SCAQMD’s daily emission thresholds at the regional level as demonstrated in Table 10, and therefore would be considered less than significant.

**Table 10: Regional Significance - Construction Emissions (pounds/day)**

Activity	Pollutant Emissions (pounds/day)					
	VOC	NOx	CO	SO <sub>2</sub>	PM10	PM2.5
<b>Site Preparation</b>						
On-Site <sup>2</sup>	2.13	19.80	19.80	0.03	5.95	3.40
Off-Site <sup>3</sup>	0.05	0.05	0.68	0.00	0.16	0.04
<b>Total</b>	<b>2.18</b>	<b>19.85</b>	<b>20.48</b>	<b>0.03</b>	<b>6.11</b>	<b>3.44</b>
<b>Grading</b>						
On-Site <sup>2</sup>	3.04	27.20	27.60	0.06	4.71	2.45
Off-Site <sup>3</sup>	0.08	0.09	1.09	0.00	0.26	0.06
<b>Total</b>	<b>3.12</b>	<b>27.29</b>	<b>28.69</b>	<b>0.06</b>	<b>4.97</b>	<b>2.51</b>
<b>Building Construction</b>						
On-Site <sup>2</sup>	1.07	9.85	13.00	0.02	0.38	0.35
Off-Site <sup>3</sup>	0.90	1.80	15.21	0.01	2.99	0.71
<b>Total</b>	<b>1.97</b>	<b>11.65</b>	<b>28.21</b>	<b>0.03</b>	<b>3.37</b>	<b>1.06</b>
<b>Paving</b>						
On-Site <sup>2</sup>	1.45	6.94	9.95	0.01	0.30	0.27
Off-Site <sup>3</sup>	0.06	0.20	1.05	0.00	0.25	0.06
<b>Total</b>	<b>1.51</b>	<b>7.14</b>	<b>11.00</b>	<b>0.01</b>	<b>0.55</b>	<b>0.33</b>
<b>Architectural Coating</b>						
On-Site <sup>2</sup>	60.01	0.83	1.13	0.00	0.02	0.02
Off-Site <sup>3</sup>	0.17	0.14	2.75	0.00	0.54	0.13
<b>Total</b>	<b>60.18</b>	<b>0.97</b>	<b>3.88</b>	<b>0.00</b>	<b>0.56</b>	<b>0.15</b>
<b>Total of overlapping phases<sup>4</sup></b>	<b>63.66</b>	<b>19.76</b>	<b>43.09</b>	<b>0.04</b>	<b>4.48</b>	<b>1.54</b>
<b>SCAQMD Thresholds</b>	<b>75</b>	<b>100</b>	<b>550</b>	<b>150</b>	<b>150</b>	<b>55</b>
<b>Exceeds Thresholds</b>	No	No	No	No	No	No
Notes:						
<sup>1</sup> Source: CalEEMod Version 2022.1.1.21						
<sup>2</sup> On-site emissions from equipment operated on-site that is not operated on public roads.						
<sup>3</sup> Off-site emissions from equipment operated on public roads.						
<sup>4</sup> Construction, architectural coatings and paving phases may overlap.						

### 6.1.2 Localized Construction Emissions

The data provided in Table 11 shows that none of the analyzed criteria pollutants would exceed the local emissions thresholds at the nearest sensitive receptors. Therefore, a less than significant local air quality impact would occur from construction of the proposed project.

**Table 11: Localized Significance – Construction**

Phase	On-Site Pollutant Emissions (pounds/day) <sup>1</sup>			
	NOx	CO	PM10	PM2.5
Site Preparation	19.80	19.80	5.95	3.40
Grading	27.20	27.60	4.71	2.45
Building Construction	9.85	13.00	0.38	0.35
Paving	6.94	9.95	0.30	0.27
Architectural Coating	0.83	1.13	0.02	0.02
Total of overlapping phases	17.62	24.08	0.70	0.64
<b>SCAQMD Threshold for 25 meters (82 feet) or less<sup>2</sup></b>	<b>234</b>	<b>1,100</b>	<b>7</b>	<b>4</b>
Exceeds Threshold?	No	No	No	No
Notes:				
<sup>1</sup> Source: Calculated from CalEEMod and SCAQMD's Mass Rate Look-up Tables for two acres in Hemet/San Jacinto Valley Source Receptor Area (SRA 28). Project will disturb a maximum of 4.0 acres per day (see Table 7).				
<sup>2</sup> The nearest sensitive receptor is located 5 meters south; therefore, the 25-meter threshold has been used.				

### 6.1.3 Odors

Potential sources that may emit odors during construction activities include the application of materials such as asphalt pavement. The objectionable odors that may be produced during the construction process are of short-term in nature and the odor emissions are expected cease upon the drying or hardening of the odor producing materials. Diesel exhaust and VOCs would be emitted during construction of the project, which are objectionable to some; however, emissions would disperse rapidly from the project site and therefore should not reach an objectionable level at the nearest sensitive receptors. Due to the short-term nature and limited amounts of odor producing materials being utilized, no significant impact related to odors would occur during construction of the proposed project.

The SCAQMD recommends that odor impacts be addressed in a qualitative manner. Such an analysis shall determine whether the project would result in excessive nuisance odors, as defined under the California Code of Regulations and Section 41700 of the California Health and Safety Code, and thus would constitute a public nuisance related to air quality.

Potential sources that may emit odors during the on-going operations of the proposed project would include odor emissions from trash storage areas and vehicle emissions. Due to the distance of the nearest receptors from the project site and through compliance with SCAQMD's Rule 402 no significant impact related to odors would occur during the on-going operations of the proposed project.

#### **6.1.4 Construction-Related Toxic Air Contaminant Impact**

The greatest potential for toxic air contaminant emissions would be related to diesel particulate emissions associated with heavy equipment operations during construction of the proposed project. The Office of Environmental Health Hazard Assessment (OEHHA) has issued the Air Toxic Hot Spots Program Risk Assessment Guidelines and Guidance Manual for the Preparation of Health Risk Assessments, February 2015 to provide a description of the algorithms, recommended exposure variates, cancer and noncancer health values, and the air modeling protocols needed to perform a health risk assessment (HRA) under the Air Toxics Hot Spots Information and Assessment Act of 1987. Hazard identification includes identifying all substances that are evaluated for cancer risk and/or non-cancer acute, 8-hour, and chronic health impacts. In addition, identifying any multi-pathway substances that present a cancer risk or chronic non-cancer hazard via non-inhalation routes of exposure.

Given the relatively limited number of heavy-duty construction equipment and construction schedule, the proposed project would not result in a long-term substantial source of toxic air containment emissions and corresponding individual cancer risk. Furthermore, construction-based particulate matter (PM) emissions (including diesel exhaust emissions) do not exceed any local or regional thresholds. Therefore, no significant short-term toxic air contaminant impacts would occur during construction of the proposed project.

#### **6.1.5 Valley Fever**

Coccidioidomycosis, more commonly known as “valley fever,” is an infection caused by inhalation of the spores of the *Coccidioides immitis* fungus, which grows in the soils of the southwestern United States. When fungal spores are present, any activity that disturbs the soil, such as digging, grading, or other earth-moving operations, can cause the spores to become airborne and thereby increase the risk of exposure. The ecologic factors that appear to be most conducive to survival and replication of the spores are high summer temperatures, mild winters, sparse rainfall, and alkaline sandy soils. Per the California Department of Public Health (CDPH), in 2018, there were between five and nine cases of coccidioidomycosis per 100,000 people were reported in Riverside County. Statewide incidences in 2018 were 18.8 per 100,000 people (CDPH 2021), occurring largely in Central California north of the project location. The project would be required to comply with SCAQMD Rule 403, which would require fugitive dust mitigation, which would control the release of the *Coccidioides immitis* fungus during construction activities. Therefore, the project would have a less-than-significant impact with respect to valley fever exposure for sensitive receptors.

### **6.2 Operational Air Quality Emissions Impact**

#### **6.2.1 Regional Operational Emissions**

The operations-related criteria air quality impacts created by the proposed project have been analyzed through the use of CalEEMod model. The operating emissions were based on year 2027. The summer and winter emissions created by the proposed project’s long-term operations were calculated and the highest emissions from either summer or winter are summarized in Table 12.

**Table 12: Regional Significance - Unmitigated Operational Emissions (lbs/day)**

Activity	Pollutant Emissions (pounds/day) <sup>1</sup>					
	VOC	NOx	CO	SO2	PM10	PM2.5
Area Sources <sup>2</sup>	7.86	0.16	16.40	0.00	0.01	0.01
Energy Usage <sup>3</sup>	0.05	0.94	0.40	0.01	0.08	0.08
Mobile Sources <sup>4</sup>	5.54	3.93	35.60	0.09	7.56	1.96
<b>Total Emissions</b>	<b>13.45</b>	<b>5.03</b>	<b>52.40</b>	<b>0.10</b>	<b>7.65</b>	<b>2.05</b>
SCAQMD Thresholds	<b>55</b>	<b>55</b>	<b>550</b>	<b>150</b>	<b>150</b>	<b>55</b>
Exceeds Threshold?	No	No	No	No	No	No
Notes:						
<sup>1</sup> Source: CalEEMod Version 2022.1.1.21						
<sup>2</sup> Area sources consist of emissions from consumer products, architectural coatings, and landscaping equipment.						
<sup>3</sup> Energy usage consists of emissions from on-site natural gas usage.						
<sup>4</sup> Mobile sources consist of emissions from vehicles and road dust.						

Table 12 provides the Project's unmitigated operational emissions. Table 12 shows that the Project does not exceed the SCAQMD daily emission threshold and regional operational emissions are considered to be less than significant.

### 6.2.2 Localized Operational Emissions

Table 13 shows the calculated emissions for the proposed operational activities compared with appropriate LSTs. The LST analysis only includes on-site sources; however, the CalEEMod software outputs do not separate on-site and off-site emissions for mobile sources. For a worst-case scenario assessment, the emissions shown in Table 13 include all on-site project-related stationary sources and 10% of the project-related new mobile sources. This percentage is an estimate of the amount of project-related new vehicle traffic that will occur on-site.

**Table 13: Localized Significance – Unmitigated Operational Emissions**

On-Site Emission Source	On-Site Pollutant Emissions (pounds/day) <sup>1</sup>			
	NOx	CO	PM10	PM2.5
Area Sources <sup>2</sup>	0.16	16.40	0.01	0.01
Energy Usage <sup>3</sup>	0.94	0.40	0.08	0.08
On-Site Vehicle Emissions <sup>4</sup>	0.39	3.56	0.76	0.20
<b>Total Emissions</b>	<b>1.49</b>	<b>20.36</b>	<b>0.85</b>	<b>0.29</b>
<b>SCAQMD Threshold for 25 meters (82 feet) or less<sup>2</sup></b>	<b>371</b>	<b>1,965</b>	<b>4</b>	<b>2</b>
Exceeds Threshold?	No	No	No	No
Notes:				
<sup>1</sup> Source: Calculated from CalEEMod and SCAQMD's Mass Rate Look-up Tables for 5 acres in Hemet/San Jacinto Valley Source Receptor Area (SRA 28). Project will be approximately 10.07 acres.				
<sup>2</sup> Area sources consist of emissions from consumer products, architectural coatings, and landscaping equipment.				
<sup>3</sup> Energy usage consists of emissions from generation of electricity and on-site natural gas usage.				
<sup>4</sup> On-site vehicular emissions based on 1/10 of the gross vehicular emissions and road dust.				
<sup>5</sup> The nearest sensitive receptor is located 5 meters south; therefore, the 25-meter threshold has been used.				

Table 13 indicates that the local operational emission would not exceed the LST thresholds at the nearest sensitive receptors, located adjacent to the project. Therefore, the project will not result in significant Localized Operational emissions.

### **6.3 CO Hot Spot Emissions**

CO is the pollutant of major concern along roadways because the most notable source of CO is motor vehicles. For this reason, CO concentrations are usually indicative of the local air quality generated by a roadway network and are used as an indicator of potential local air quality impacts. Local air quality impacts can be assessed by comparing future without and with project CO levels to the State and Federal CO standards which were presented in above in Section 5.0.

To determine if the proposed project could cause emission levels in excess of the CO standards discussed above in Section 5.0, a sensitivity analysis is typically conducted to determine the potential for CO “hot spots” at a number of intersections in the general project vicinity. Because of reduced speeds and vehicle queuing, “hot spots” potentially can occur at high traffic volume intersections with a Level of Service E or worse.

Micro-scale air quality emissions have traditionally been analyzed in environmental documents where the air basin was a non-attainment area for CO. However, the SCAQMD has demonstrated in the CO attainment redesignation request to EPA that there are no “hot spots” anywhere in the air basin, even at intersections with much higher volumes, much worse congestion, and much higher background CO levels than anywhere in Riverside County. If the worst-case intersections in the air basin have no “hot spot” potential, any local impacts will be below thresholds.

The traffic analysis showed that the project would generate 1,537 trips per day. The 1992 Federal Attainment Plan for Carbon Monoxide (1992 CO Plan) showed that an intersection which has a daily traffic volume of approximately 100,000 vehicles per day would not violate the CO standard. The volume of traffic at project buildout would be well below 100,000 vehicles and below the necessary volume to even get close to causing a violation of the CO standard. Therefore, no CO “hot spot” modeling was performed and no significant long-term air quality impact is anticipated to local air quality with the on-going use of the proposed project.

### **6.4 Cumulative Regional Air Quality Impacts**

Cumulative projects include local development as well as general growth within the project area. However, as with most development, the greatest source of emissions is from mobile sources, which travel well out of the local area. Therefore, from an air quality standpoint, the cumulative analysis would extend beyond any local projects and when wind patterns are considered, would cover an even larger area. Accordingly, the cumulative analysis for the project’s air quality must be generic by nature.

The Project area is out of attainment for both ozone and PM10 particulate matter. Construction and operation of cumulative projects will further degrade the local air quality, as well as the air quality of the South Coast Air Basin. The greatest cumulative impact on the quality of regional air cell will be the incremental addition of pollutants mainly from increased traffic from residential, commercial, and

industrial development and the use of heavy equipment and trucks associated with the construction of these projects. Air quality will be temporarily degraded during construction activities that occur separately or simultaneously. However, in accordance with the SCAQMD methodology, projects that do not exceed the SCAQMD criteria or can be mitigated to less than criteria levels are not significant and do not add to the overall cumulative impact. The Project does not exceed any of the thresholds of significance and therefore is considered less than significant.

## **6.5 Air Quality Compliance**

The California Environmental Quality Act (CEQA) requires a discussion of any inconsistencies between a proposed project and applicable General Plans and Regional Plans (CEQA Guidelines Section 15125). The regional plan that applies to the proposed project includes the SCAQMD Air Quality Management Plan (AQMP). Therefore, this section discusses any potential inconsistencies of the proposed project with the AQMP.

The purpose of this discussion is to set forth the issues regarding consistency with the assumptions and objectives of the AQMP and discuss whether the proposed project would interfere with the region's ability to comply with Federal and State air quality standards. If the decision-makers determine that the proposed project is inconsistent, the lead agency may consider project modifications or inclusion of mitigation to eliminate the inconsistency.

The SCAQMD CEQA Handbook states that "New or amended General Plan Elements (including land use zoning and density amendments), Specific Plans, and significant projects must be analyzed for consistency with the AQMP." Strict consistency with all aspects of the plan is usually not required. A proposed project should be considered to be consistent with the AQMP if it furthers one or more policies and does not obstruct other policies. The SCAQMD CEQA Handbook identifies two key indicators of consistency:

- (1) Whether the project will result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations, or delay timely attainment of air quality standards or the interim emission reductions specified in the AQMP.
- (2) Whether the project will exceed the assumptions in the AQMP in 2016 or increments based on the year of project buildout and phase.

Both of these criteria are evaluated in the following sections.

### **A. Criterion 1 - Increase in the Frequency or Severity of Violations**

Based on the air quality modeling analysis contained in this Air Analysis, short-term construction impacts will not result in significant impacts based on the SCAQMD regional and local thresholds of significance. This Air Analysis also found that, long-term operations impacts would not result in significant impacts based on the SCAQMD regional thresholds of significance.

Therefore, the proposed Project is not projected to contribute to the exceedance of any air pollutant concentration standards and is found to be consistent with the AQMP for the first criterion.

**B. Criterion 2 - Exceed Assumptions in the AQMP?**

Consistency with the AQMP assumptions is determined by performing an analysis of the proposed project with the assumptions in the AQMP. The emphasis of this criterion is to ensure that the analyses conducted for the proposed project are based on the same forecasts as the AQMP. The 2020-2045 Regional Transportation/Sustainable Communities Strategy, prepared by SCAG, 2020, includes chapters on: the challenges in a changing region, creating a plan for our future, and the road to greater mobility and sustainable growth. These chapters currently respond directly to federal and state requirements placed on SCAG. Local governments are required to use these as the basis of their plans for purposes of consistency with applicable regional plans under CEQA. For this project, the City of Hemet Land Use Plans define the assumptions that are represented in the AQMP.

The City of Hemet General Plan identifies the land use designation of the site as Multiple Family Residential (R-3).

The proposed project is a multi-family residential development. Therefore, the proposed project is not anticipated to exceed the AQMP assumptions for the project site and is found to be consistent with the AQMP for the second criterion.

Based on the above, the proposed Project will not result in an inconsistency with the SCAQMD AQMP. Therefore, a less than significant impact will occur.

## 7.0 Greenhouse Gas Impact Analysis

### 7.1 Construction Greenhouse Gas Emissions Impact

The greenhouse gas emissions from project construction equipment and worker vehicles are shown in Table 14. The total construction emissions amortized over a period of 30 years are estimated at 32.33 metric tons of CO<sub>2</sub>e per year. Annual CalEEMod output calculations are provided in Appendix A.

**Table 14: Construction Greenhouse Gas Emissions**

Activity	Emissions (MTCO <sub>2</sub> e) <sup>1</sup>
	Total
2026	714.00
2027	256.00
<b>Total</b>	<b>970.00</b>
<b>Averaged over 30 years<sup>2</sup></b>	<b>32.33</b>

### 7.2 Operational Greenhouse Gas Emissions Impact

Operational emissions occur over the life of the project. The operational emissions for the project are 2,180 metric tons of CO<sub>2</sub>e per year as shown in Table 15. These emissions do not exceed the SCAQMD screening threshold of 3,000 metric tons of CO<sub>2</sub>e per year. Therefore, the Project's GHG emissions are considered to be less than significant.

**Table 15: Opening Year Unmitigated Project-Related Greenhouse Gas Emissions**

Category	Greenhouse Gas Emissions (Metric Tons/Year) <sup>1</sup>						
	Bio-CO <sub>2</sub>	NonBio-CO <sub>2</sub>	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O	R	CO <sub>2</sub> e
Area Sources <sup>2</sup>	0.00	4.95	4.95	0.00	0.00	0.00	4.97
Energy Usage <sup>3</sup>	0.00	640.00	640.00	0.04	0.00	0.00	642.00
Mobile Sources <sup>4</sup>	0.00	1,373.00	1,373.00	0.07	0.07	1.95	1,398.00
Solid Waste <sup>5</sup>	19.00	0.00	19.00	1.90	0.00	0.00	66.50
Water <sup>6</sup>	3.72	19.50	23.22	0.38	0.01	0.00	35.50
Refrigeration	0.00	0.00	0.00	0.00	0.00	0.33	0.33
Construction <sup>7</sup>	0.00	31.90	31.90	0.00	0.00	0.02	32.33
<b>Total Emissions</b>	<b>22.72</b>	<b>2,069.35</b>	<b>2,092.07</b>	<b>2.39</b>	<b>0.08</b>	<b>2.30</b>	<b>2,179.63</b>
<b>SCAQMD Draft Screening Threshold</b>							<b>3,000</b>
<b>Exceeds Threshold?</b>							<b>No</b>
Notes:							
<sup>1</sup> Source: CalEEMod Version 2022.1.1.21							
<sup>2</sup> Area sources consist of GHG emissions from consumer products, architectural coatings, and landscape equipment.							
<sup>3</sup> Energy usage consist of GHG emissions from electricity and natural gas usage.							
<sup>4</sup> Mobile sources consist of GHG emissions from vehicles.							
<sup>5</sup> Solid waste includes the CO <sub>2</sub> and CH <sub>4</sub> emissions created from the solid waste placed in landfills.							
<sup>6</sup> Water includes GHG emissions from electricity used for transport of water and processing of wastewater.							
<sup>7</sup> Construction GHG emissions based on a 30-year amortization rate.							

### 7.3 Greenhouse Gas Plan Consistency

The proposed project would have the potential to conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of GHGs. The City of Hemet is participating the Western Riverside Council of Governments (WRCOG) Subregional Climate Action Plan. The WRCOG Subregional CAP establishes a community-wide emissions reduction target of 15% below 2010, following guidance from CARB and the Governor’s Office of Planning and Research. CARB and the California Attorney General have determined this approach to be consistent with the state-wide AB 32 goal of reducing emissions to 1990 levels.

As shown in Table 16, the project is consistent with applicable local reduction measures identified in the WRCOG Subregional CAP and would result in a less than significant impact.

Therefore, the project would not conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases. Furthermore, the project will also comply with applicable Green Building Standards and City of Hemet’s policies regarding sustainability (as dictated by the City’s General Plan). With incorporation of regulatory compliance discussed in Tables 16 through 18 below, impacts are considered to be less than significant, further analysis is not warranted.

**Table 16: Applicable WRCOG Subregional CAP Local Reduction Measure Project Comparison<sup>1</sup>**

WRCOG Local Reduction Measure	Measure Description	Project Compliance with Measure
E-1: Energy Action Plan	Improve municipal and community wide energy efficiency and reduce energy consumption through the adoption of local Energy Action Plans (EAP).	Not directly applicable to the project; however, the project will be compliant with the current Title 24 standards.
E-3: Shade Trees	Strategically plant trees to reduce the urban heat island effect.	The proposed project is to include trees per City requirements for new developments.
T-2: Bicycle Parking	Provide additional options for bicycle parking.	The proposed project will follow City requirements for bicycle parking.
T-8: Density	Improve jobs-housing balance and reduce vehicle miles traveled by increasing household and employment densities.	The proposed project is multi-family residential and located within 0.25 miles of commercial uses.
T-10: Design/Site Planning	Design neighborhoods and sites to reduce VMT.	The proposed project is multi-family residential and located within 0.25 miles of commercial uses.
T-14: Voluntary Transportation Demand Management	Reduce demand for roadway travel through incentives for alternative modes of transportation and disincentives for driving	The proposed project is multi-family residential and located within 0.25 miles of commercial uses.
SW-1: Yard Waste Collection	Provide green waste collection bins community-wide.	The project will be required to comply with City programs, such as City’s recycling and waste reduction program, which comply, with the 75 percent reduction required by 2020 per AB 341.

WRCOG Local Reduction Measure	Measure Description	Project Compliance with Measure
SW-2: Food Scrap and Paper Division	Divert food and paper waste from landfills by implementing collection system.	The project will be required to comply with City programs, such as City’s recycling and waste reduction program, which comply, with the 75 percent reduction required by 2020 per AB 341.

<sup>1</sup> Source: WRCOG Subregional Climate Action Plan (2014).

### Consistency with AB32 Scoping Plan

The ARB Board approved a Climate Change Scoping Plan in December 2008. The Scoping Plan outlines the State’s strategy to achieve the 2020 greenhouse gas emissions limit. The Scoping Plan “proposes a comprehensive set of actions designed to reduce overall greenhouse gas emissions in California, improve our environment, reduce our dependence on oil, diversify our energy sources, save energy, create new jobs, and enhance public health” (California Air Resources Board 2008). The measures in the Scoping Plan have been in place since 2012.

This Scoping Plan calls for an “ambitious but achievable” reduction in California’s greenhouse gas emissions, cutting approximately 30 percent from business-as-usual emission levels projected for 2020, or about 10 percent from today’s levels. In May 2014, the CARB released its *First Update to the Climate Change Scoping Plan* (CARB 2014). This *Update* identifies the next steps for California’s leadership on climate change. In November 2017, the CARB released the 2017 Scoping Plan. This Scoping Plan incorporates, coordinates, and leverages many existing and ongoing efforts and identifies new policies and actions to accomplish the State’s climate goals, and includes a description of a suite of specific actions to meet the State’s 2030 GHG limit. The 2017 Scoping Plan builds upon the successful framework established by the Initial Scoping Plan and First Update, while identifying new, technologically feasible, and cost-effective strategies to ensure that California meets its GHG reduction targets.

As the latest, 2022 Scoping Plan builds upon previous versions, project consistency with applicable strategies of both the 2008 and 2017 Plan are assessed as well in Table 17. As shown in Table 17, the project is consistent with the applicable strategies within the Scoping Plan.

**Table 17: Project Consistency with CARB Scoping Plan Policies and Measures<sup>1</sup>**

2008 Scoping Plan Measures to Reduce Greenhouse Gas Emissions	Project Compliance with Measure
California Light-Duty Vehicle Greenhouse Gas Standards – Implement adopted standards and planned second phase of the program. Align zero-emission vehicle, alternative and renewable fuel and vehicle technology programs with long-term climate change goals.	Consistent. These are CARB enforced standards; vehicles that access the project that are required to comply with the standards will comply with the strategy.
Energy Efficiency – Maximize energy efficiency building and appliance standards; pursue additional efficiency including new technologies, policy, and implementation mechanisms. Pursue comparable	Consistent. The project will be compliant with the current Title 24 standards.

investment in energy efficiency from all retail providers of electricity in California.	
Low Carbon Fuel Standard – Develop and adopt the Low Carbon Fuel Standard.	Consistent. These are CARB enforced standards; vehicles that access the project that are required to comply with the standards will comply with the strategy.
Vehicle Efficiency Measures – Implement light-duty vehicle efficiency measures.	Consistent. These are CARB enforced standards; vehicles that access the project that are required to comply with the standards will comply with the strategy.
Medium/Heavy-Duty Vehicles – Adopt medium and heavy-duty vehicle efficiency measures.	Consistent. These are CARB enforced standards; vehicles that access the project that are required to comply with the standards will comply with the strategy.
Green Building Strategy – Expand the use of green building practices to reduce the carbon footprint of California’s new and existing inventory of buildings.	Consistent. The California Green Building Standards Code (proposed Part 11, Title 24) was adopted as part of the California Building Standards Code in the CCR. Part 11 establishes voluntary standards, that are mandatory in the 2019 edition of the Code, on planning and design for sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and internal air contaminants. The project will be subject to these mandatory standards.
High Global Warming Potential Gases – Adopt measures to reduce high global warming potential gases.	Consistent. CARB identified five measures that reduce HFC emissions from vehicular and commercial refrigeration systems; vehicles that access the project that are required to comply with the measures will comply with the strategy.
Recycling and Waste – Reduce methane emissions at landfills. Increase waste diversion, composting, and commercial recycling. Move toward zero-waste.	Consistent. The state is currently developing a regulation to reduce methane emissions from municipal solid waste landfills. The project will be required to comply with City programs, such as City’s recycling and waste reduction program, which comply, with the 75 percent reduction required by 2020 per AB 341.
Water – Continue efficiency programs and use cleaner energy sources to move and treat water.	Consistent. The project will comply with all applicable City ordinances and CAL Green requirements.
<b>2017 Scoping Plan Recommended Actions to Reduce Greenhouse Gas Emissions</b>	<b>Project Compliance with Recommended Action</b>
Implement Mobile Source Strategy: Further increase GHG stringency on all light-duty vehicles beyond existing Advanced Clean Car regulations.	Consistent. These are CARB enforced standards; vehicles that access the project that are required to comply with the standards will comply with the strategy.
Implement Mobile Source Strategy: At least 1.5 million zero emission and plug-in hybrid light-duty electric vehicles by 2025 and at least 4.2 million zero emission and plug-in hybrid light-duty electric vehicles by 2030.	Consistent. These are CARB enforced standards; vehicles that access the project that are required to comply with the standards will comply with the strategy.

Implement Mobile Source Strategy: Innovative Clean Transit: Transition to a suite of to-be-determined innovative clean transit options. Assumed 20 percent of new urban buses purchased beginning in 2018 will be zero emission buses with the penetration of zero-emission technology ramped up to 100 percent of new sales in 2030. Also, new natural gas buses, starting in 2018, and diesel buses, starting in 2020, meet the optional heavy-duty low-NOX standard.	Consistent. These are CARB enforced standards; vehicles that access the project that are required to comply with the standards will comply with the strategy.
Implement Mobile Source Strategy: Last Mile Delivery: New regulation that would result in the use of low NOX or cleaner engines and the deployment of increasing numbers of zero-emission trucks primarily for class 3-7 last mile delivery trucks in California. This measure assumes ZEVs comprise 2.5 percent of new Class 3–7 truck sales in local fleets starting in 2020, increasing to 10 percent in 2025 and remaining flat through 2030.	Consistent. These are CARB enforced standards; vehicles that access the project that are required to comply with the standards will comply with the strategy.
Implement SB 350 by 2030: Establish annual targets for statewide energy efficiency savings and demand reduction that will achieve a cumulative doubling of statewide energy efficiency savings in electricity and natural gas end uses by 2030.	Consistent. The project will be compliant with the current Title 24 standards.
By 2019, develop regulations and programs to support organic waste landfill reduction goals in the SLCP and SB 1383.	Consistent. The project will be required to comply with City programs, such as City’s recycling and waste reduction program, which comply, with the 75 percent reduction required by 2020 per AB 341.
<b>2022 Scoping Plan Recommended Actions to Reduce Greenhouse Gas Emissions</b>	<b>Project Compliance with Recommended Action</b>
Deploy ZEVs and reduce driving demand	Consistent. The project will be in an urbanized area within a quarter mile of transit.
Coordinate supply of liquid fossil fuels with declining California fuel demand	Consistent. The project will be compliant with the current Title 24 standards.
Generate clean electricity	Consistent. The project will be compliant with the current Title 24 standards and would not interfere with clean energy generation.
Decarbonize industrial energy supply	Consistent. The project will be compliant with the current Title 24 standards and would be residential, therefore would not interfere with this goal.
Decarbonize buildings	Consistent. The project will be compliant with the current Title 24 standards.
Reduce non-combustion emissions	Consistent. The project will be compliant with the current Title 24 standards.
Notes: <sup>1</sup> Source: CARB Scoping Plan (2008, 2017, and 2022)	

**Consistency with SCAG’s 2020-2045 RTP/SCS**

At the regional level, the 2020-2045 RTP and Sustainable Communities Strategy represent the region’s Climate Action Plan that defines strategies for reducing GHGs. In order to assess the project’s potential to conflict with the RTP/SCS, this section analyzes the project’s land use profile for consistency with those in the Sustainable Communities Strategy. Generally, projects are considered consistent with the

provisions and general policies of applicable City and regional land use plans and regulations, such as SCAG’s Sustainable Communities Strategy, if they are compatible with the general intent of the plans and would not preclude the attainment of their primary goals.

Table 18 demonstrates the project’s consistency with the Actions and Strategies set forth in the 2020-2045 RTP/SCS. As shown in Table 18, the project would be consistent with the GHG reduction related actions and strategies contained in the 2020-2045 RTP/SCS.

**Table 18: Project Consistency with SCAG 2020-2045 RTP/SCS<sup>1</sup>**

Actions and Strategies	Responsible Party(ies)	Consistency Analysis
<b>Land Use Strategies</b>		
Reflect the changing population and demands, including combating gentrification and displacement, by increasing housing supply at a variety of affordability levels.	Local Jurisdictions	Consistent. The proposed project is a residential development on a currently vacant site; therefore, it will not displace existing housing.
Focus new growth around transit.	Local Jurisdictions	Consistent. The proposed project is a residential development that would be consistent with the 2020 RTP/SCS focus on growing near transit facilities.
Plan for growth around livable corridors, including growth on the Livable Corridors network.	SCAG, Local Jurisdictions	Consistent. The proposed project is a residential development that would be consistent with the 2020 RTP/SCS focus on growing along the 2,980 miles of Livable Corridors in the region.
Provide more options for short trips through Neighborhood Mobility Areas and Complete Communities.	SCAG, Local Jurisdictions	Consistent. The proposed project would help further jobs/housing balance objectives. The proposed project is also consistent with the Complete Communities initiative that focuses on creation of mixed-use districts in growth areas.
Support local sustainability planning, including developing sustainable planning and design policies, sustainable zoning codes, and Climate Action Plans.	Local Jurisdictions	Not Applicable. This strategy calls on local governments to adopt General Plan updates, zoning codes, and Climate Action Plans to further sustainable communities. The proposed project would not interfere with such policymaking and would be consistent with those policy objectives.
Protect natural and farmlands, including developing conservation strategies.	SCAG, Local Jurisdictions	Consistent. The proposed project is a residential development in an existing residential community that would help reduce demand for growth in urbanizing areas that threaten green fields and open spaces.
<b>Transportation Strategies</b>		
Preserve our existing transportation system.	SCAG, County Transportation Commissions, Local Jurisdictions	Not Applicable. This strategy calls on investing in the maintenance of our existing transportation system. The proposed project would not interfere with such policymaking.
Manage congestion through programs like the Congestion Management Program, Transportation	County Transportation	Consistent. The proposed project is a residential development that will minimize congestion

Actions and Strategies	Responsible Party(ies)	Consistency Analysis
Demand Management, and Transportation Systems Management strategies.	Commissions, Local Jurisdictions	impacts on the region because of its proximity to public transit and general density of population and jobs.
Promote safety and security in the transportation system.	SCAG, County Transportation Commissions, Local Jurisdictions	Not Applicable. This strategy aims to improve the safety of the transportation system and protect users from security threats. The proposed project would not interfere with such policymaking.
Complete our transit, passenger rail, active transportation, highways and arterials, regional express lanes goods movement, and airport ground transportation systems.	SCAG, County Transportation Commissions, Local Jurisdictions	Not Applicable. This strategy calls for transportation planning partners to implement major capital and operational projects that are designed to address regional growth. The proposed project would not interfere with this larger goal of investing in the transportation system.
<b>Technological Innovation and 21st Century Transportation</b>		
Promote zero-emissions vehicles.	SCAG, Local Jurisdictions	Consistent. While this action/strategy is not necessarily applicable on a project-specific basis, the City's Building Code requires the proposed building to provide conduit for on-site electric vehicle charging stalls, which the project is to provide in the proposed parking garage.
Promote neighborhood electric vehicles.	SCAG, Local Jurisdictions	Consistent. While this action/strategy is not necessarily applicable on a project-specific basis, the City's Building Code requires the proposed building to provide conduit for on-site electric vehicle charging stalls, which the project is to provide in the proposed parking garage.
Implement shared mobility programs.	SCAG, Local Jurisdictions	Not Applicable. This strategy is designed to integrate new technologies for last-mile and alternative transportation programs. The proposed project would not interfere with these emerging programs.
Notes: <sup>1</sup> Source: Southern California Association of Governments; 2020–2045 RTP/SCS, May 2020.		

## **8.0 Energy Analysis**

Information from the CalEEMod 2022.1.1.21 Daily and Annual Outputs contained in the air quality and greenhouse gas analyses above was utilized for this analysis. The CalEEMod outputs detail project related construction equipment, transportation energy demands, and facility energy demands.

## 8.1 Construction Energy Demand

### 8.1.1 Construction Equipment Electricity Usage Estimates

Electrical service will be provided by Southern California Edison (SCE). Based on the 2017 National Construction Estimator, Richard Pray (2017)<sup>18</sup>, the typical power cost per 1,000 square feet of building construction per month is estimated to be \$2.32. The project plans to develop the site with 276,480 square feet of new residential space over the course of approximately 18 months. Based on Table 19, the total power cost of the on-site electricity usage during the construction of the proposed project is estimated to be approximately \$11,545.80. As shown in Table 19, the total electricity usage from Project construction related activities is estimated to be approximately 209,924 kWh.<sup>19</sup>

**Table 19: Project Construction Power Cost and Electricity Usage**

Power Cost (per 1,000 square foot of building per month of construction)	Total Building Size (1,000 Square Foot) <sup>1</sup>	Construction Duration (months)	Total Project Construction Power Cost
\$2.32	276.480	18	\$11,545.80

Cost per kWh	Total Project Construction Electricity Usage (kWh)
\$0.06	209,924

\* Assumes the project will be under the GS-1 General Service rate under SCE.

### 8.1.2 Construction Equipment Fuel Estimates

Using the CalEEMod data input, the project’s construction phase would consume electricity and fossil fuels as a single energy demand, that is, once construction is completed their use would cease. CARB’s 2017 Emissions Factors Tables show that on average aggregate fuel consumption (gasoline and diesel

<sup>18</sup> Pray, Richard. 2017 National Construction Estimator. Carlsbad: Craftsman Book Company, 2017.

<sup>19</sup> LADWP’s Small Commercial & Multi-Family Service (A-1) is approximately \$0.06 per kWh of electricity Southern California Edison (SCE). Rates & Pricing Choices: General Service/Industrial Rates. [https://library.sce.com/content/dam/sce-doclib/public/regulatory/historical/electric/2020/schedules/general-service-&-industrial-rates/ELECTRIC\\_SCHEDULES\\_GS-1\\_2020.pdf](https://library.sce.com/content/dam/sce-doclib/public/regulatory/historical/electric/2020/schedules/general-service-&-industrial-rates/ELECTRIC_SCHEDULES_GS-1_2020.pdf)

fuel) would be approximately 18.5 hp-hr-gal.<sup>20</sup> As presented in Table 20 below, project construction activities would consume an estimated 46,260 gallons of diesel fuel.

**Table 20: Construction Equipment Fuel Consumption Estimates**

Phase	Number of Days	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor	HP hrs/day	Total Fuel Consumption (gal diesel fuel) <sup>1</sup>
Site Preparation	15	Rubber Tired Dozers	2	8	367	0.4	2,349	1,904
	15	Earthmover/Tractors/Loaders/Backhoes	3	8	84	0.37	746	605
Grading	30	Excavators	2	8	36	0.38	219	355
	30	Graders	1	8	148	0.41	485	787
	30	Rubber Tired Dozers	1	8	367	0.4	1,174	1,904
	30	Scrapers	2	8	423	0.48	3,249	5,268
	30	Earthmover/Tractors/Loaders/Backhoes	2	8	84	0.37	497	806
Building Construction	300	Cranes	1	7	367	0.29	745	12,081
	300	Forklifts	3	8	82	0.2	394	6,383
	300	Generator Sets	1	8	14	0.74	83	1,344
	300	Earthmover/Tractors/Loaders/Backhoes	3	7	84	0.37	653	10,584
	300	Welders	1	8	46	0.45	166	2,685
Paving	20	Pavers	2	8	81	0.42	544	588
	20	Paving Equipment	2	8	89	0.36	513	554
	20	Rollers	2	8	36	0.38	219	237
Architectural Coating	30	Air Compressors	1	6	37	0.48	107	173
<b>CONSTRUCTION FUEL DEMAND (gallons of diesel fuel)</b>								<b>46,260</b>
Notes: <sup>1</sup> Using Carl Moyer Guidelines Table D-21 Fuel consumption rate factors (bhp-hr/gal) for engines less than 750 hp. (Source: <a href="https://www.arb.ca.gov/msprog/moyer/guidelines/2017gl/2017_gl_appendix_d.pdf">https://www.arb.ca.gov/msprog/moyer/guidelines/2017gl/2017_gl_appendix_d.pdf</a> )								

### 8.1.3 Construction Worker Fuel Estimates

It is assumed that all construction worker trips are from light duty autos (LDA) along area roadways. With respect to estimated VMT, the construction worker trips would generate an estimated 1,192,001 VMT. Vehicle fuel efficiencies for construction workers were estimated in the air quality and

<sup>20</sup> Aggregate fuel consumption rate for all equipment was estimated at 18.5 hp-hr/day (from CARB's 2017 Emissions Factors Tables and fuel consumption rate factors as shown in Table D-21 of the Moyer Guidelines: [https://www.arb.ca.gov/msprog/moyer/guidelines/2017gl/2017\\_gl\\_appendix\\_d.pdf](https://www.arb.ca.gov/msprog/moyer/guidelines/2017gl/2017_gl_appendix_d.pdf)).

greenhouse gas analysis using information generated using CARB’s EMFAC model (see Appendix B for details). Table 21 shows that an estimated 38,503 gallons of fuel would be consumed for construction worker trips.

**Table 21: Construction Worker Fuel Consumption Estimates**

Phase	Number of Days	Worker Trips/Day	Trip Length (miles)	Vehicle Miles Traveled	Average Vehicle Fuel Economy (mpg)	Estimated Fuel Consumption (gallons)
Site Preparation	15	12.5	18.5	3,469	30.95	112
Grading	30	20.0	18.5	11,100	31.95	347
Building Construction	300	207.0	18.5	1,148,850	30.95	37,120
Paving	20	15.0	18.5	5,550	30.95	179
Architectural Coating	30	41.5	18.5	23,033	30.95	744
<b>Total Construction Worker Fuel Consumption</b>						<b>38,503</b>

Notes:

<sup>1</sup>Assumptions for the worker trip length and vehicle miles traveled are consistent with CalEEMod 2022.1.1.21 defaults.

### 8.1.4 Construction Vendor/Hauling Fuel Estimates

Tables 22 and 23 show the estimated fuel consumption for vendor and hauling during building construction and architectural coating. With respect to estimated VMT, the vendor and hauling trips would generate an estimated 107,268 VMT. For the architectural coatings it is assumed that the contractors would be responsible for bringing coatings and equipment with them in their light duty vehicles.<sup>21</sup> Tables 22 and 23 show that an estimated 12,113 gallons of fuel would be consumed for vendor and hauling trips.

< Tables 22 and 23, next page >

<sup>21</sup> Vendors delivering construction material or hauling debris from the site during grading would use medium to heavy duty vehicles with an average fuel consumption of 9.22 mpg for medium heavy-duty trucks and 6.74 mpg for heavy heavy-duty trucks (see Appendix B for details).

**Table 22: Construction Vendor Fuel Consumption Estimates (MHD Trucks)<sup>1</sup>**

Phase	Number of Days	Vendor Trips/Day	Trip Length (miles)	Vehicle Miles Traveled	Average Vehicle Fuel Economy (mpg)	Estimated Fuel Consumption (gallons)
Site Preparation	15	0	10.2	0	9.22	0
Grading	30	0	10.2	0	9.22	0
Building Construction	300	30.8	10.2	94,248	9.22	10,222
Paving	20	5.0	10.2	1,020	9.22	111
Architectural Coating	30	0	10.2	0	9.22	0
<b>Total Vendor Fuel Consumption</b>						<b>10,333</b>

Notes:

<sup>1</sup> Assumptions for the vendor trip length and vehicle miles traveled are consistent with CalEEMod 2022.1.1.21 defaults.

**Table 23: Construction Hauling Fuel Consumption Estimates (HHD Trucks)<sup>1</sup>**

Phase	Number of Days	Hauling Trips/Day	Trip Length (miles)	Vehicle Miles Traveled	Average Vehicle Fuel Economy (mpg)	Estimated Fuel Consumption (gallons)
Site Preparation	15	0	20	0	6.74	0
Grading	30	20.0	20	12,000	6.74	1,780
Building Construction	300	0	20	0	6.74	0
Paving	20	0	20	0	6.74	0
Architectural Coating	30	0	20	0	6.74	0
<b>Total Construction Hauling Fuel Consumption</b>						<b>1,780</b>

Notes:

<sup>1</sup> Assumptions for the hauling trip length and vehicle miles traveled are consistent with CalEEMod 2022.1.1.21 defaults.

### 8.1.5 Construction Energy Efficiency/Conservation Measures

Construction equipment used over the approximately 18-month construction phase would conform to CARB regulations and California emissions standards and is evidence of related fuel efficiencies. In addition, the CARB Airborne Toxic Control Measure limits idling times of construction vehicles to no more than five minutes, thereby minimizing unnecessary and wasteful consumption of fuel due to unproductive idling of construction equipment. Furthermore, the project has been designed in compliance with California’s Energy Efficiency Standards and 2022 CALGreen Standards.

Construction of the proposed residential development would require the typical use of energy resources. There are no unusual project characteristics or construction processes that would require the use of equipment that would be more energy intensive than is used for comparable activities; or equipment that would not conform to current emissions standards (and related fuel efficiencies). Equipment employed in construction of the project would therefore not result in inefficient wasteful, or unnecessary consumption of fuel.

## 8.2 Operational Energy Demand

Energy consumption in support of or related to project operations would include transportation energy demands (energy consumed by employee and patron vehicles accessing the project site) and facilities energy demands (energy consumed by building operations and site maintenance activities).

### 8.2.1 Transportation Fuel Consumption

The largest source of operational energy use would be vehicle operation of customers. The site is located in an urbanized area just in close proximity to transit stops. Using the CalEEMod output, it is assumed that an average trip length would be 6.9 miles. To show a worst-case analysis, as the proposed project is a residential project, it was assumed that vehicles would operate 365 days per year. Table 24 shows the worst-case estimated annual fuel consumption for all classes of vehicles from autos to heavy-heavy trucks.<sup>22</sup> Table 24 shows that an estimated 209,666 gallons of fuel would be consumed per year for the operation of the proposed project.

**Table 24: Estimated Vehicle Operations Fuel Consumption<sup>1</sup>**

Vehicle Type	Vehicle Mix	Number of Vehicles	Average Trip (miles) <sup>2</sup>	Daily VMT	Average Fuel Economy (mpg)	Total Gallons per Day	Total Annual Fuel Consumption (gallons)
Light Auto	Automobile	250.6	6.9	1,729	31.82	54.33	19,831
Light Truck	Automobile	43.8	6.9	302	27.16	11.13	4,062
Light Truck	Automobile	134.9	6.9	931	25.6	36.37	13,275
Medium Truck	Automobile	107.8	6.9	744	20.81	35.76	13,051
Light Heavy Truck	2-Axle Truck	20.2	6.9	139	13.81	10.09	3,681
Light Heavy Truck 10,000 lbs +	2-Axle Truck	113.3	6.9	781	14.18	55.11	20,114
Medium Heavy Truck	3-Axle Truck	8.9	6.9	62	9.58	6.42	2,345
Heavy Heavy Truck	4-Axle Truck	75.5	6.9	521	7.14	72.96	26,631
Total		1,537	--	10,605	--	574.43	--
<b>Total Annual Fuel Consumption</b>							<b>209,666</b>

Notes:

<sup>1</sup> The project is to generate 1,537 total net new trips after reduction of existing uses. Default CalEEMod vehicle fleet mix utilized.

<sup>2</sup> Based on the size of the site and relative location, trips were assumed to be local rather than regional.

Trip generation generated by the proposed project are consistent with other similar residential uses of similar scale and configuration as reflected in the traffic data. That is, the proposed project does not propose uses or operations that would inherently result in excessive and wasteful vehicle trips, nor associated excess and wasteful vehicle energy consumption. Therefore, project transportation energy consumption would not be considered inefficient, wasteful, or otherwise unnecessary.

<sup>22</sup> Average fuel economy based on aggregate mileage calculated in EMFAC 2017 for opening year (2023). See Appendix B for EMFAC output.

## 8.2.2 Facility Energy Demands (Electricity and Natural Gas)

The annual natural gas and electricity demands were provided per the CalEEMod output and are provided in Table 25.

**Table 25: Project Unmitigated Annual Operational Energy Demand Summary<sup>1</sup>**

Natural Gas Demand		kBTU/year
Apartments High Rise		3,713,130
	<b>Total</b>	3,713,130
Electricity Demand		kWh/year
Apartments High Rise		1,629,838
Parking Lot		207,010
	<b>Total</b>	1,836,848

Notes:

<sup>1</sup>Taken from the CalEEMod 2022.1.1.21 annual output.

As shown in Table 25, the estimated electricity demand for the proposed project is approximately 1,836,848 kWh per year. In 2022, the residential sector of the County of Riverside consumed approximately 9,061 million kWh of electricity.<sup>23</sup> In addition, the estimated natural gas consumption for the proposed project is approximately 3,713,130 kBTU per year. In 2022, the residential sector of the County of Riverside consumed approximately 284 million therms of gas.<sup>24</sup> Therefore, the increase in both electricity and natural gas demand from the proposed project is insignificant compared to the County’s 2022 demand.

## 8.3 Renewable Energy and Energy Efficiency Plan Consistency

The Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) promoted the development of inter-modal transportation systems to maximize mobility as well as address national and local interests in air quality and energy. Regarding federal transportation regulations, the project site is located in an already developed area. Access to/from the project site is from existing roads. These roads are already in place so the project would not interfere with, nor otherwise obstruct intermodal transportation plans or projects that may be proposed pursuant to the ISTEA because SCAG is not planning for intermodal facilities in the project area.

The California Energy Commission (CEC) is responsible for preparing the State Energy Plan, which identifies emerging trends related to energy supply, demand, conservation, public health and safety, and the maintenance of a healthy economy. For consistency with the State’s Energy Plan and with Title 24 CCR energy efficiency standards, the applicant is required to comply with the California Green

<sup>23</sup> California Energy Commission, Electricity Consumption by County. <https://ecdms.energy.ca.gov/elecbycounty.aspx>

<sup>24</sup> California Energy Commission, Gas Consumption by County. <http://ecdms.energy.ca.gov/gasbycounty.aspx>

Building Standard Code requirements for energy efficient buildings and appliances as well as utility energy efficiency programs implemented by the SCE and Southern California Gas Company.

Regarding the State's Renewable Energy Portfolio Standards, the project would be required to meet or exceed the energy standards established in the California Green Building Standards Code, Title 24, Part 11 (CalGreen). CalGreen Standards require that new buildings reduce water consumption, employ building commissioning to increase building system efficiencies, divert construction waste from landfills, and install low pollutant-emitting finish materials.

#### *Site Conditions for Renewable Energy Usage*

On-site renewable energy sources have been considered. Geothermal energy, the use of heat naturally present in shallow soil or in groundwater or rock to provide building heating/cooling and to heat water, requires the installation of a heat exchanger consisting of a network of below-ground pipes to convey heated or cooled air to a building. The presence of natural-occurring methane and hydrogen sulfide gases, in the soil beneath the project site and in the project area, associated with underlying and nearby oil and gas fields, requires the implementation of a Gas Mitigation and Monitoring System to ensure subsurface gases do not pose a significant health or safety risk, and makes the construction and operation of a heat exchanger for project buildings infeasible. Installation of a heat exchanger would also require additional excavation compared to the project, which could increase impacts on paleontological resources.

Although methane is a renewable derived biogas, it is not available on the project site in commercially viable quantities or form (i.e., a form that could be used without further treatment), and its extraction and treatment for energy purposes would result in secondary impacts.

Wind power represents variable-energy, or intermittent, resources that are generally used to augment, but not replace, natural gas-fired energy power generation, since reliability of energy availability and transmission is necessary to meet demand, which is constant.

With respect to other on-site renewable energy sources, because of the Project's location, there are no local sources of energy from the following sources: biodiesel, biomass hydroelectric and small hydro, digester gas, fuel cells, landfill gas, municipal solid waste, ocean thermal, ocean wave, and tidal current technologies, or multi-fuel facilities using renewable fuels.

#### *Future Renewable Energy Usage*

The project is to be built with rooftop solar panels, which will reduce the overall external energy demand of the project.

## 9.0 References

The following references were used in the preparing this analysis.

### California Air Pollution Control Officers Association

2009 Health Risk Assessments for Proposed Land Use Projects

### California Air Resources Board

2008 Resolution 08-43

2008 Recommended Approaches for Setting Interim Significance Thresholds for Greenhouse Gases under the California Environmental Quality Act

2008 ARB Recommended Interim Risk Management Policy for Inhalation-Based Residential Cancer Risk – Frequently Asked Questions

2008 Climate Change Scoping Plan, a framework for change.

2011 Supplement to the AB 32 Scoping Plan Functional Equivalent Document

2013 Revised Emission Factors for Gasoline Marketing Operations at California Gasoline Dispensing Facilities

2014 First Update to the Climate Change Scoping Plan, Building on the Framework Pursuant to AB32, the California Global Warming Solutions Act of 2006. May.

2018 Historical Air Quality, Top 4 Summary

### California Department of Public Health (CDPH)

2021 Valley Fever Fact Sheet. June.

### County of Riverside

2015 County of Riverside General Plan. December 8.

### Governor's Office of Planning and Research

2008 CEQA and Climate: Addressing Climate Change Through California Environmental Quality Act (CEQA) Review

2009 CEQA Guideline Sections to be Added or Amended

### Office of Environmental Health Hazard Assessment

2015 Air Toxics Hot Spots Program Risk Assessment Guidelines

**South Coast Air Quality Management District**

- 1993 CEQA Air Quality Handbook
- 2005 Rule 403 Fugitive Dust
- 2007 2007 Air Quality Management Plan
- 2008 Final Localized Significance Threshold Methodology, Revised
- 2011 Appendix A Calculation Details for CalEEMod
- 2012 Final 2012 Air Quality Management Plan
- 2016 Final 2016 Air Quality Management Plan

## **Appendix A:**

CalEEMod Emission Output

# Aster Apartments Detailed Report

## Table of Contents

1. Basic Project Information
  - 1.1. Basic Project Information
  - 1.2. Land Use Types
  - 1.3. User-Selected Emission Reduction Measures by Emissions Sector
2. Emissions Summary
  - 2.1. Construction Emissions Compared Against Thresholds
  - 2.2. Construction Emissions by Year, Unmitigated
  - 2.4. Operations Emissions Compared Against Thresholds
  - 2.5. Operations Emissions by Sector, Unmitigated
3. Construction Emissions Details
  - 3.1. Site Preparation (2026) - Unmitigated
  - 3.3. Grading (2026) - Unmitigated
  - 3.5. Building Construction (2026) - Unmitigated
  - 3.7. Building Construction (2027) - Unmitigated

3.9. Paving (2027) - Unmitigated

3.11. Architectural Coating (2027) - Unmitigated

#### 4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

4.3. Area Emissions by Source

4.3.1. Unmitigated

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

5. Activity Data

5.1. Construction Schedule

5.2. Off-Road Equipment

5.2.1. Unmitigated

5.3. Construction Vehicles

5.3.1. Unmitigated

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

5.5. Architectural Coatings

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

5.6.2. Construction Earthmoving Control Strategies

5.7. Construction Paving

5.8. Construction Electricity Consumption and Emissions Factors

5.9. Operational Mobile Sources

5.9.1. Unmitigated

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.2. Architectural Coatings

5.10.3. Landscape Equipment

5.11. Operational Energy Consumption

5.11.1. Unmitigated

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

5.13. Operational Waste Generation

5.13.1. Unmitigated

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

5.16.2. Process Boilers

5.17. User Defined

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

5.18.2. Sequestration

5.18.2.1. Unmitigated

## 6. Climate Risk Detailed Report

6.1. Climate Risk Summary

6.2. Initial Climate Risk Scores

6.3. Adjusted Climate Risk Scores

6.4. Climate Risk Reduction Measures

## 7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

7.2. Healthy Places Index Scores

7.3. Overall Health & Equity Scores

7.4. Health & Equity Measures

7.5. Evaluation Scorecard

7.6. Health & Equity Custom Measures

## 8. User Changes to Default Data

# 1. Basic Project Information

## 1.1. Basic Project Information

Data Field	Value
Project Name	Aster Apartments
Construction Start Date	1/1/2026
Operational Year	2027
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.50
Precipitation (days)	8.60
Location	33.72876283778935, -116.98334430509405
County	Riverside-South Coast
City	Hemet
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	5568
EDFZ	11
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.21

## 1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
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Apartments High Rise	288	Dwelling Unit	4.65	276,480	—	—	930	—
Parking Lot	452	Space	5.42	0.00	12,670	—	—	—

### 1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

## 2. Emissions Summary

### 2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	60.2	11.7	28.2	0.03	0.39	2.97	3.37	0.36	0.71	1.07	—	6,184	6,184	0.24	0.26	12.2	6,280
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.12	27.3	28.7	0.06	1.12	5.27	6.11	1.03	2.66	3.44	—	6,852	6,852	0.27	0.27	0.32	6,878
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	5.45	10.1	18.0	0.02	0.36	2.28	2.64	0.33	0.65	0.98	—	4,258	4,258	0.12	0.16	3.16	4,313
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.99	1.84	3.29	< 0.005	0.07	0.42	0.48	0.06	0.12	0.18	—	705	705	0.02	0.03	0.52	714

### 2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	1.97	11.7	28.2	0.03	0.39	2.97	3.37	0.36	0.71	1.07	—	6,184	6,184	0.24	0.26	12.2	6,280
2027	60.2	11.1	27.0	0.03	0.35	2.97	3.32	0.32	0.71	1.03	—	6,114	6,114	0.15	0.25	11.0	6,204
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	3.12	27.3	28.7	0.06	1.12	5.27	6.11	1.03	2.66	3.44	—	6,852	6,852	0.27	0.27	0.32	6,878
2027	1.83	11.2	23.7	0.03	0.35	2.97	3.32	0.32	0.71	1.03	—	5,889	5,889	0.15	0.25	0.29	5,969
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	1.48	10.1	18.0	0.02	0.36	2.28	2.64	0.33	0.65	0.98	—	4,258	4,258	0.12	0.16	3.16	4,313
2027	5.45	3.08	6.44	0.01	0.10	0.74	0.84	0.09	0.18	0.27	—	1,523	1,523	0.04	0.06	1.19	1,543
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.27	1.84	3.29	< 0.005	0.07	0.42	0.48	0.06	0.12	0.18	—	705	705	0.02	0.03	0.52	714
2027	0.99	0.56	1.18	< 0.005	0.02	0.14	0.15	0.02	0.03	0.05	—	252	252	0.01	0.01	0.20	256

## 2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	13.5	5.02	52.4	0.09	0.15	7.50	7.64	0.14	1.90	2.04	137	12,769	12,906	14.5	0.49	29.3	13,444
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	11.7	5.14	31.3	0.09	0.14	7.50	7.64	0.13	1.90	2.04	137	12,204	12,341	14.5	0.51	2.69	12,856

Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	12.6	5.31	43.5	0.09	0.14	7.46	7.60	0.14	1.89	2.03	137	12,309	12,446	14.5	0.51	13.8	12,974
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.30	0.97	7.94	0.02	0.03	1.36	1.39	0.03	0.35	0.37	22.7	2,038	2,061	2.40	0.08	2.28	2,148

## 2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	5.54	3.93	35.6	0.09	0.06	7.50	7.56	0.06	1.90	1.96	—	8,740	8,740	0.40	0.41	27.3	8,901
Area	7.86	0.16	16.4	< 0.005	0.01	—	0.01	0.01	—	0.01	—	43.7	43.7	< 0.005	< 0.005	—	43.8
Energy	0.05	0.94	0.40	0.01	0.08	—	0.08	0.08	—	0.08	—	3,867	3,867	0.27	0.02	—	3,881
Water	—	—	—	—	—	—	—	—	—	—	22.4	118	140	2.31	0.06	—	215
Waste	—	—	—	—	—	—	—	—	—	—	115	0.00	115	11.5	0.00	—	401
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.98	1.98
Total	13.5	5.02	52.4	0.09	0.15	7.50	7.64	0.14	1.90	2.04	137	12,769	12,906	14.5	0.49	29.3	13,444
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	5.17	4.20	30.9	0.08	0.06	7.50	7.56	0.06	1.90	1.96	—	8,219	8,219	0.42	0.43	0.71	8,357
Area	6.43	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.05	0.94	0.40	0.01	0.08	—	0.08	0.08	—	0.08	—	3,867	3,867	0.27	0.02	—	3,881
Water	—	—	—	—	—	—	—	—	—	—	22.4	118	140	2.31	0.06	—	215
Waste	—	—	—	—	—	—	—	—	—	—	115	0.00	115	11.5	0.00	—	401
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.98	1.98

Total	11.7	5.14	31.3	0.09	0.14	7.50	7.64	0.13	1.90	2.04	137	12,204	12,341	14.5	0.51	2.69	12,856
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	5.12	4.27	31.9	0.08	0.06	7.46	7.52	0.06	1.89	1.95	—	8,294	8,294	0.42	0.43	11.8	8,445
Area	7.41	0.11	11.2	< 0.005	0.01	—	0.01	< 0.005	—	< 0.005	—	29.9	29.9	< 0.005	< 0.005	—	30.0
Energy	0.05	0.94	0.40	0.01	0.08	—	0.08	0.08	—	0.08	—	3,867	3,867	0.27	0.02	—	3,881
Water	—	—	—	—	—	—	—	—	—	—	22.4	118	140	2.31	0.06	—	215
Waste	—	—	—	—	—	—	—	—	—	—	115	0.00	115	11.5	0.00	—	401
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.98	1.98
Total	12.6	5.31	43.5	0.09	0.14	7.46	7.60	0.14	1.89	2.03	137	12,309	12,446	14.5	0.51	13.8	12,974
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.93	0.78	5.83	0.01	0.01	1.36	1.37	0.01	0.35	0.36	—	1,373	1,373	0.07	0.07	1.95	1,398
Area	1.35	0.02	2.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.95	4.95	< 0.005	< 0.005	—	4.97
Energy	0.01	0.17	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	640	640	0.04	< 0.005	—	642
Water	—	—	—	—	—	—	—	—	—	—	3.72	19.5	23.2	0.38	0.01	—	35.5
Waste	—	—	—	—	—	—	—	—	—	—	19.0	0.00	19.0	1.90	0.00	—	66.5
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.33	0.33
Total	2.30	0.97	7.94	0.02	0.03	1.36	1.39	0.03	0.35	0.37	22.7	2,038	2,061	2.40	0.08	2.28	2,148

### 3. Construction Emissions Details

#### 3.1. Site Preparation (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.13	19.8	19.8	0.03	0.84	—	0.84	0.77	—	0.77	—	3,629	3,629	0.15	0.03	—	3,641
Dust From Material Movement	—	—	—	—	—	5.11	5.11	—	2.63	2.63	—	—	—	—	—	—	—
Onsite truck	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.81	0.82	< 0.005	0.03	—	0.03	0.03	—	0.03	—	149	149	0.01	< 0.005	—	150
Dust From Material Movement	—	—	—	—	—	0.21	0.21	—	0.11	0.11	—	—	—	—	—	—	—
Onsite truck	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.15	0.15	< 0.005	0.01	—	0.01	0.01	—	0.01	—	24.7	24.7	< 0.005	< 0.005	—	24.8
Dust From Material Movement	—	—	—	—	—	0.04	0.04	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.68	0.00	0.00	0.16	0.16	0.00	0.04	0.04	—	159	159	< 0.005	0.01	0.02	160
Vendor	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
Hauling	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	6.60	6.60	< 0.005	< 0.005	0.01	6.69
Vendor	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
Hauling	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.09	1.09	< 0.005	< 0.005	< 0.005	1.11
Vendor	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
Hauling	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

### 3.3. Grading (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.04	27.2	27.6	0.06	1.12	—	1.12	1.03	—	1.03	—	6,599	6,599	0.27	0.05	—	6,621

Dust From Material Movement	—	—	—	—	—	3.59	3.59	—	1.42	1.42	—	—	—	—	—	—	—
Onsite truck	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.25	2.24	2.27	0.01	0.09	—	0.09	0.08	—	0.08	—	542	542	0.02	< 0.005	—	544
Dust From Material Movement	—	—	—	—	—	0.30	0.30	—	0.12	0.12	—	—	—	—	—	—	—
Onsite truck	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.41	0.41	< 0.005	0.02	—	0.02	0.02	—	0.02	—	89.8	89.8	< 0.005	< 0.005	—	90.1
Dust From Material Movement	—	—	—	—	—	0.05	0.05	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.09	1.09	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	254	254	< 0.005	0.01	0.02	257
Vendor	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
Hauling	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

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.09	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	21.1	21.1	< 0.005	< 0.005	0.03	21.4
Vendor	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
Hauling	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.50	3.50	< 0.005	< 0.005	0.01	3.54
Vendor	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
Hauling	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

### 3.5. Building Construction (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.63	5.82	7.66	0.01	0.22	—	0.22	0.21	—	0.21	—	1,417	1,417	0.06	0.01	—	1,422
Onsite truck	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	1.06	1.40	< 0.005	0.04	—	0.04	0.04	—	0.04	—	235	235	0.01	< 0.005	—	235
Onsite truck	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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.88	0.81	14.9	0.00	0.00	2.71	2.71	0.00	0.64	0.64	—	2,860	2,860	0.12	0.10	9.69	2,902
Vendor	0.02	0.99	0.31	0.01	0.01	0.26	0.28	0.01	0.07	0.09	—	927	927	0.02	0.14	2.53	972
Hauling	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.83	0.91	11.3	0.00	0.00	2.71	2.71	0.00	0.64	0.64	—	2,630	2,630	0.04	0.10	0.25	2,662
Vendor	0.02	1.03	0.32	0.01	0.01	0.26	0.28	0.01	0.07	0.09	—	927	927	0.02	0.14	0.07	971
Hauling	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.49	0.59	6.98	0.00	0.00	1.59	1.59	0.00	0.37	0.37	—	1,574	1,574	0.02	0.06	2.47	1,595
Vendor	0.01	0.61	0.18	< 0.005	0.01	0.15	0.16	0.01	0.04	0.05	—	548	548	0.01	0.08	0.64	574
Hauling	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.11	1.27	0.00	0.00	0.29	0.29	0.00	0.07	0.07	—	261	261	< 0.005	0.01	0.41	264
Vendor	< 0.005	0.11	0.03	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	90.7	90.7	< 0.005	0.01	0.11	95.0
Hauling	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

## 3.7. Building Construction (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.03	9.39	12.9	0.02	0.34	—	0.34	0.31	—	0.31	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.03	9.39	12.9	0.02	0.34	—	0.34	0.31	—	0.31	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.24	2.17	2.99	0.01	0.08	—	0.08	0.07	—	0.07	—	554	554	0.02	< 0.005	—	555
Onsite truck	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.40	0.55	< 0.005	0.01	—	0.01	0.01	—	0.01	—	91.6	91.6	< 0.005	< 0.005	—	92.0
Onsite truck	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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.83	0.72	13.8	0.00	0.00	2.71	2.71	0.00	0.64	0.64	—	2,807	2,807	0.03	0.10	8.72	2,846
Vendor	0.02	0.95	0.30	0.01	0.01	0.26	0.28	0.01	0.07	0.09	—	910	910	0.02	0.14	2.32	953
Hauling	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.79	0.81	10.4	0.00	0.00	2.71	2.71	0.00	0.64	0.64	—	2,581	2,581	0.04	0.10	0.23	2,612
Vendor	0.02	0.99	0.31	0.01	0.01	0.26	0.28	0.01	0.07	0.09	—	910	910	0.02	0.14	0.06	952
Hauling	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.18	0.21	2.52	0.00	0.00	0.62	0.62	0.00	0.15	0.15	—	604	604	0.01	0.02	0.87	611
Vendor	< 0.005	0.23	0.07	< 0.005	< 0.005	0.06	0.06	< 0.005	0.02	0.02	—	210	210	< 0.005	0.03	0.23	220
Hauling	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.04	0.46	0.00	0.00	0.11	0.11	0.00	0.03	0.03	—	99.9	99.9	< 0.005	< 0.005	0.14	101
Vendor	< 0.005	0.04	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	34.8	34.8	< 0.005	0.01	0.04	36.4
Hauling	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

### 3.9. Paving (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.74	6.94	9.95	0.01	0.30	—	0.30	0.27	—	0.27	—	1,511	1,511	0.06	0.01	—	1,516
Paving	0.71	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.38	0.55	< 0.005	0.02	—	0.02	0.02	—	0.02	—	82.8	82.8	< 0.005	< 0.005	—	83.1
Paving	0.04	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.07	0.10	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	13.7	13.7	< 0.005	< 0.005	—	13.8
Paving	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	1.00	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	203	203	< 0.005	0.01	0.63	206
Vendor	< 0.005	0.15	0.05	< 0.005	< 0.005	0.04	0.05	< 0.005	0.01	0.01	—	148	148	< 0.005	0.02	0.38	155
Hauling	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	10.4	10.4	< 0.005	< 0.005	0.01	10.5
Vendor	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.10	8.10	< 0.005	< 0.005	0.01	8.47
Hauling	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.72	1.72	< 0.005	< 0.005	< 0.005	1.74
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.34	1.34	< 0.005	< 0.005	< 0.005	1.40
Hauling	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

### 3.11. Architectural Coating (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.83	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	59.9	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.07	0.09	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	11.0	11.0	< 0.005	< 0.005	—	11.0
Architectural Coatings	4.92	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.01	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.82	1.82	< 0.005	< 0.005	—	1.82	
Architectural Coatings	0.90	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Onsite truck	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	
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Worker	0.17	0.14	2.75	0.00	0.00	0.54	0.54	0.00	0.13	0.13	—	561	561	0.01	0.02	1.74	569	
Vendor	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	
Hauling	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	
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Worker	0.01	0.01	0.18	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	43.0	43.0	< 0.005	< 0.005	0.06	43.5	
Vendor	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	
Hauling	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	
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Worker	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	7.11	7.11	< 0.005	< 0.005	0.01	7.21	
Vendor	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	
Hauling	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	

## 4. Operations Emissions Details

### 4.1. Mobile Emissions by Land Use

#### 4.1.1. Unmitigated

Mobile source emissions results are presented in Sections 2.6. No further detailed breakdown of emissions is available.

### 4.2. Energy

#### 4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments High Rise	—	—	—	—	—	—	—	—	—	—	—	2,375	2,375	0.15	0.02	—	2,384
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	302	302	0.02	< 0.005	—	303
Total	—	—	—	—	—	—	—	—	—	—	—	2,677	2,677	0.17	0.02	—	2,687
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments High Rise	—	—	—	—	—	—	—	—	—	—	—	2,375	2,375	0.15	0.02	—	2,384
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	302	302	0.02	< 0.005	—	303
Total	—	—	—	—	—	—	—	—	—	—	—	2,677	2,677	0.17	0.02	—	2,687
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Apartments	—	—	—	—	—	—	—	—	—	—	—	393	393	0.02	< 0.005	—	395
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	50.0	50.0	< 0.005	< 0.005	—	50.1
Total	—	—	—	—	—	—	—	—	—	—	—	443	443	0.03	< 0.005	—	445

### 4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments High Rise	0.05	0.94	0.40	0.01	0.08	—	0.08	0.08	—	0.08	—	1,190	1,190	0.11	< 0.005	—	1,193
Parking Lot	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
Total	0.05	0.94	0.40	0.01	0.08	—	0.08	0.08	—	0.08	—	1,190	1,190	0.11	< 0.005	—	1,193
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments High Rise	0.05	0.94	0.40	0.01	0.08	—	0.08	0.08	—	0.08	—	1,190	1,190	0.11	< 0.005	—	1,193
Parking Lot	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
Total	0.05	0.94	0.40	0.01	0.08	—	0.08	0.08	—	0.08	—	1,190	1,190	0.11	< 0.005	—	1,193
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments High Rise	0.01	0.17	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	197	197	0.02	< 0.005	—	198
Parking Lot	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

Total	0.01	0.17	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	197	197	0.02	< 0.005	—	198
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### 4.3. Area Emissions by Source

#### 4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	5.94	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.49	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	1.43	0.16	16.4	< 0.005	0.01	—	0.01	0.01	—	0.01	—	43.7	43.7	< 0.005	< 0.005	—	43.8
Total	7.86	0.16	16.4	< 0.005	0.01	—	0.01	0.01	—	0.01	—	43.7	43.7	< 0.005	< 0.005	—	43.8
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	5.94	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.49	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	6.43	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Consumer	1.08	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.09	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.18	0.02	2.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.95	4.95	< 0.005	< 0.005	—	4.97
Total	1.35	0.02	2.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.95	4.95	< 0.005	< 0.005	—	4.97

#### 4.4. Water Emissions by Land Use

##### 4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments High Rise	—	—	—	—	—	—	—	—	—	—	22.4	116	139	2.31	0.06	—	213
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	1.55	1.55	< 0.005	< 0.005	—	1.56
Total	—	—	—	—	—	—	—	—	—	—	22.4	118	140	2.31	0.06	—	215
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments High Rise	—	—	—	—	—	—	—	—	—	—	22.4	116	139	2.31	0.06	—	213
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	1.55	1.55	< 0.005	< 0.005	—	1.56

Total	—	—	—	—	—	—	—	—	—	—	22.4	118	140	2.31	0.06	—	215
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartment High Rise	—	—	—	—	—	—	—	—	—	—	3.72	19.2	23.0	0.38	0.01	—	35.3
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.26	0.26	< 0.005	< 0.005	—	0.26
Total	—	—	—	—	—	—	—	—	—	—	3.72	19.5	23.2	0.38	0.01	—	35.5

## 4.5. Waste Emissions by Land Use

### 4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartment High Rise	—	—	—	—	—	—	—	—	—	—	115	0.00	115	11.5	0.00	—	401
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	115	0.00	115	11.5	0.00	—	401
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartment High Rise	—	—	—	—	—	—	—	—	—	—	115	0.00	115	11.5	0.00	—	401
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	115	0.00	115	11.5	0.00	—	401

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartmen ts High Rise	—	—	—	—	—	—	—	—	—	—	19.0	0.00	19.0	1.90	0.00	—	66.5
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	19.0	0.00	19.0	1.90	0.00	—	66.5

## 4.6. Refrigerant Emissions by Land Use

### 4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartmen ts High Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.98	1.98
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.98	1.98
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartmen ts High Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.98	1.98
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.98	1.98
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartmen ts High Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.33	0.33
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.33	0.33

## 4.7. Offroad Emissions By Equipment Type

### 4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

## 4.8. Stationary Emissions By Equipment Type

### 4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

### 4.9. User Defined Emissions By Equipment Type

#### 4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

### 4.10. Soil Carbon Accumulation By Vegetation Type

#### 4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Sequeste	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequeste red	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequeste red	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

## 5. Activity Data

## 5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Site Preparation	Site Preparation	1/1/2026	1/21/2026	5.00	15.0	—
Grading	Grading	1/22/2026	3/4/2026	5.00	30.0	—
Building Construction	Building Construction	3/5/2026	4/28/2027	5.00	300	—
Paving	Paving	4/29/2027	5/26/2027	5.00	20.0	—
Architectural Coating	Architectural Coating	5/27/2027	7/7/2027	5.00	30.0	—

## 5.2. Off-Road Equipment

### 5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Rubber Tired Dozers	Diesel	Average	2.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	3.00	8.00	84.0	0.37
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Grading	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42

Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

## 5.3. Construction Vehicles

### 5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	12.5	18.5	LDA,LDT1,LDT2
Site Preparation	Vendor	—	10.2	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	18.5	LDA,LDT1,LDT2
Grading	Vendor	—	10.2	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	207	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	30.8	10.2	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	18.5	LDA,LDT1,LDT2
Paving	Vendor	5.00	10.2	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT

Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	41.5	18.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	10.2	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

## 5.4. Vehicles

### 5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

## 5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	559,872	186,624	0.00	0.00	14,179

## 5.6. Dust Mitigation

### 5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Site Preparation	—	—	15.0	0.00	—
Grading	—	—	90.0	0.00	—
Paving	0.00	0.00	0.00	0.00	5.42

### 5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%

## 5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Apartments High Rise	—	0%
Parking Lot	5.42	100%

## 5.8. Construction Electricity Consumption and Emissions Factors

### kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2026	0.00	532	0.03	< 0.005
2027	0.00	532	0.03	< 0.005

## 5.9. Operational Mobile Sources

### 5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Total all Land Uses	1,537	1,537	1,537	561,005	10,586	10,586	10,586	3,863,906

## 5.10. Operational Area Sources

### 5.10.1. Hearths

#### 5.10.1.1. Unmitigated

### 5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
559872	186,624	0.00	0.00	14,179

### 5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	250

### 5.11. Operational Energy Consumption

#### 5.11.1. Unmitigated

#### Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Apartments High Rise	1,629,838	532	0.0330	0.0040	3,713,130
Parking Lot	207,010	532	0.0330	0.0040	0.00

### 5.12. Operational Water and Wastewater Consumption

#### 5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Apartments High Rise	11,714,047	0.00
Parking Lot	0.00	200,892

### 5.13. Operational Waste Generation

#### 5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Apartments High Rise	213	—
Parking Lot	0.00	—

## 5.14. Operational Refrigeration and Air Conditioning Equipment

### 5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Apartments High Rise	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Apartments High Rise	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00

## 5.15. Operational Off-Road Equipment

### 5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
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## 5.16. Stationary Sources

### 5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor
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### 5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)
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## 5.17. User Defined

Equipment Type	Fuel Type
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## 5.18. Vegetation

### 5.18.1. Land Use Change

#### 5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres
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### 5.18.1. Biomass Cover Type

#### 5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres
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### 5.18.2. Sequestration

#### 5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)
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## 6. Climate Risk Detailed Report

### 6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	26.6	annual days of extreme heat
Extreme Precipitation	2.85	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	10.3	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters

Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

## 6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	3	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

## 6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	3	1	1	3
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2

Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

## 6.4. Climate Risk Reduction Measures

# 7. Health and Equity Details

## 7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	91.1
AQ-PM	37.9
AQ-DPM	23.0
Drinking Water	65.8
Lead Risk Housing	52.3
Pesticides	71.0
Toxic Releases	36.3
Traffic	17.6
Effect Indicators	—
CleanUp Sites	0.00

Groundwater	0.00
Haz Waste Facilities/Generators	16.6
Impaired Water Bodies	0.00
Solid Waste	0.00
Sensitive Population	—
Asthma	94.1
Cardio-vascular	96.2
Low Birth Weights	67.4
Socioeconomic Factor Indicators	—
Education	70.8
Housing	71.6
Linguistic	38.6
Poverty	76.4
Unemployment	95.5

## 7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	6.056717567
Employed	8.956756063
Median HI	5.979725395
Education	—
Bachelor's or higher	12.06210702
High school enrollment	100
Preschool enrollment	80.08469139
Transportation	—

Auto Access	29.34684974
Active commuting	11.4718337
Social	—
2-parent households	10.3554472
Voting	26.44681124
Neighborhood	—
Alcohol availability	43.42358527
Park access	2.194276915
Retail density	45.25856538
Supermarket access	74.61824714
Tree canopy	1.154882587
Housing	—
Homeownership	38.16245348
Housing habitability	34.30001283
Low-inc homeowner severe housing cost burden	69.22879507
Low-inc renter severe housing cost burden	15.24445015
Uncrowded housing	52.91928654
Health Outcomes	—
Insured adults	25.13794431
Arthritis	0.9
Asthma ER Admissions	8.0
High Blood Pressure	1.5
Cancer (excluding skin)	2.7
Asthma	8.7
Coronary Heart Disease	0.8
Chronic Obstructive Pulmonary Disease	0.5
Diagnosed Diabetes	4.9

Life Expectancy at Birth	7.5
Cognitively Disabled	4.6
Physically Disabled	3.6
Heart Attack ER Admissions	0.8
Mental Health Not Good	20.5
Chronic Kidney Disease	1.0
Obesity	16.2
Pedestrian Injuries	63.6
Physical Health Not Good	6.0
Stroke	0.8
Health Risk Behaviors	—
Binge Drinking	95.3
Current Smoker	17.7
No Leisure Time for Physical Activity	9.5
Climate Change Exposures	—
Wildfire Risk	0.2
SLR Inundation Area	0.0
Children	37.8
Elderly	6.0
English Speaking	77.0
Foreign-born	15.6
Outdoor Workers	91.1
Climate Change Adaptive Capacity	—
Impervious Surface Cover	49.3
Traffic Density	37.5
Traffic Access	23.0
Other Indices	—

Hardship	88.8
Other Decision Support	—
2016 Voting	29.6

### 7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	65.0
Healthy Places Index Score for Project Location (b)	11.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

### 7.4. Health & Equity Measures

No Health & Equity Measures selected.

### 7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

### 7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

## 8. User Changes to Default Data

Screen	Justification
Land Use	Per site plan
Construction: Construction Phases	No demolition required
Operations: Hearths	No hearths

## **Appendix B:**

EMFAC2017 Output

Source: EMFAC2017 (v1.0.3) Emissions Inventory

Region Type: Air District

Region: South Coast AQMD

Calendar Year: 2023

Season: Annual

Vehicle Classification: EMFAC2007 Categories

Units: miles/day for VMT, trips/day for Trips, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

Region	Calendar Yr	Vehicle Cat	Model Year	Speed	Fuel	Population	VMT	Trips	Fuel Consumption	Fuel Consumption	Total Fuel Consumption	VMT	Total VMT	Miles Per Gallon	Vehicle Class
South Coas	2023	HHDT	Aggregate	Aggregate	Gasoline	75.10442936	8265.097	1502.689	1.936286145	1936.286145		1913466.474	8265.097	13656273.03	7.14 <b>HHD</b>
South Coas	2023	HHDT	Aggregate	Aggregate	Diesel	109818.6753	13648008	1133618	1911.530188	1911530.188		13648008			
South Coas	2023	LDA	Aggregate	Aggregate	Gasoline	6635002.295	2.53E+08	31352477	7971.24403	7971244.03		8020635.698	2.53E+08	255180358.3	31.82 <b>LDA</b>
South Coas	2023	LDA	Aggregate	Aggregate	Diesel	62492.97958	2469816	297086.6	49.3916685	49391.6685		2469816			
South Coas	2023	LDA	Aggregate	Aggregate	Electricity	150700.3971	6237106	751566	0	0		6237106			
South Coas	2023	LDT1	Aggregate	Aggregate	Gasoline	758467.6481	27812996	3504563	1023.913006	1023913.006		1024279.466	27812996	27821405.09	27.16 <b>LDT1</b>
South Coas	2023	LDT1	Aggregate	Aggregate	Diesel	360.7799144	8408.618	1256.88	0.366459477	366.4594769		8408.618			
South Coas	2023	LDT1	Aggregate	Aggregate	Electricity	7122.93373	303507.5	35798.19	0	0		303507.5			
South Coas	2023	LDT2	Aggregate	Aggregate	Gasoline	2285150.139	85272416	10723315	3338.798312	3338798.312		3356536.438	85272416	85922778.34	25.60 <b>LDT2</b>
South Coas	2023	LDT2	Aggregate	Aggregate	Diesel	15594.68309	650362.8	76635.83	17.73812611	17738.12611		650362.8			
South Coas	2023	LDT2	Aggregate	Aggregate	Electricity	28809.63735	917592.8	145405.4	0	0		917592.8			
South Coas	2023	LHDT1	Aggregate	Aggregate	Gasoline	174910.3847	6216643	2605904	583.3851736	583385.1736		811563.1022	6216643	11211395.79	13.81 <b>LHDT1</b>
South Coas	2023	LHDT1	Aggregate	Aggregate	Diesel	125545.0822	4994753	1579199	228.1779285	228177.9285		4994753			
South Coas	2023	LHDT2	Aggregate	Aggregate	Gasoline	30102.75324	1034569	448486.2	111.5753864	111575.3864		209423.5025	1034569	2969599.008	14.18 <b>LHDT2</b>
South Coas	2023	LHDT2	Aggregate	Aggregate	Diesel	50003.13116	1935030	628976.5	97.84811618	97848.11618		1935030			
South Coas	2023	MCY	Aggregate	Aggregate	Gasoline	305044.5141	2104624	610089	57.849018	57849.018		57849.018	2104624	2104623.657	36.38 <b>MCY</b>
South Coas	2023	MDV	Aggregate	Aggregate	Gasoline	1589862.703	55684188	7354860	2693.883526	2693883.526		2744536.341	55684188	57109879.73	20.81 <b>MDV</b>
South Coas	2023	MDV	Aggregate	Aggregate	Diesel	36128.1019	1425691	176566.9	50.65281491	50652.81491		1425691			
South Coas	2023	MDV	Aggregate	Aggregate	Electricity	16376.67653	537591.7	83475.95	0	0		537591.7			
South Coas	2023	MH	Aggregate	Aggregate	Gasoline	34679.50542	330042.9	3469.338	63.26295123	63262.95123		74893.26955	330042.9	454344.9436	6.07 <b>MH</b>
South Coas	2023	MH	Aggregate	Aggregate	Diesel	13122.69387	124302	1312.269	11.63031832	11630.31832		124302			
South Coas	2023	MHDT	Aggregate	Aggregate	Gasoline	25624.3151	1363694	512691.3	265.2060557	265206.0557		989975.6425	1363694	9484317.768	9.58 <b>MHDT</b>
South Coas	2023	MHDT	Aggregate	Aggregate	Diesel	122124.488	8120623	1221858	724.7695868	724769.5868		8120623			
South Coas	2023	OBUS	Aggregate	Aggregate	Gasoline	5955.291639	245774	119153.5	48.07750689	48077.50689		86265.88761	245774	579743.8353	6.72 <b>OBUS</b>
South Coas	2023	OBUS	Aggregate	Aggregate	Diesel	4286.940093	333969.8	41558.29	38.18838072	38188.38072		333969.8			
South Coas	2023	SBUS	Aggregate	Aggregate	Gasoline	2783.643068	112189.6	11134.57	12.19474692	12194.74692		39638.85935	112189.6	323043.5203	8.15 <b>SBUS</b>
South Coas	2023	SBUS	Aggregate	Aggregate	Diesel	6671.825716	210853.9	76991.94	27.44411242	27444.11242		210853.9			
South Coas	2023	UBUS	Aggregate	Aggregate	Gasoline	957.7686184	89782.63	3831.074	17.62416327	17624.16327		17863.66378	89782.63	91199.2533	5.11 <b>UBUS</b>
South Coas	2023	UBUS	Aggregate	Aggregate	Diesel	13.00046095	1416.622	52.00184	0.239500509	239.5005093		1416.622			
South Coas	2023	UBUS	Aggregate	Aggregate	Electricity	16.11693886	1320.163	64.46776	0	0		1320.163			