AIR QUALITY AND GREENHOUSE GAS IMPACT ANALYSIS

INDUSTRIAL OUTDOOR VENTURE PROJECT

CITY OF JURUPA VALLEY

RIVERSIDE COUNTY, CALIFORNIA

LSA

March 2023

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RIVERSIDE COUNTY, CALIFORNIA

Prepared for:

MIG
1650 Spruce Street, Suite 106
Riverside, California 92507

Prepared by:

LSA Associates, Inc.
3210 El Camino Real, Suite 100
Irvine, California 92602
(949) 553-0666

Project No. MIG2201

LSA

March 2023

EXECUTIVE SUMMARY

LSA was retained to prepare an air quality and greenhouse gas (GHG) impact study for the Industrial Outdoor Ventures Project (proposed project) to be located in the City of Jurupa Valley (City) in Riverside County, California. The proposed project would include the development of a 30,616-square foot building and establish equipment rental/sales on a 6.88-acre property located on Riverside Drive.

The air quality study provides a discussion of the proposed project, the physical setting of the project area, and the regulatory framework for air quality. The report provides data on existing air quality and evaluates potential air quality impacts associated with the proposed project.

Construction emissions would meet the criteria pollutant thresholds established by the South Coast Air Quality Management District (SCAQMD). Compliance with SCAQMD Rules and Regulations during construction will reduce construction-related air quality impacts from fugitive dust emissions and construction equipment emissions. Standard dust suppression measures recommended by the SCAQMD have been identified for short-term construction to meet SCAQMD emissions thresholds. Construction emissions for the proposed project would not exceed the localized significance thresholds (LSTs).

Pollutant emissions from project operation would not exceed the SCAQMD thresholds. LSTs would not be exceeded by long-term emissions from the operations of the project. Therefore, the proposed project-related operational emissions impact on air quality would be less than significant.

The proposed project is located in Riverside County, which has been identified to have serpentine and ultramafic rock in its soil (California Department of Conservation 2000). However, according to the California Geological Survey, no such rock has been identified in the project vicinity. Therefore, the potential risk for naturally occurring asbestos during project construction is small and less than significant.

The potential of the project to generate GHG emissions is addressed in this study. Short-term construction and long-term operational emissions of the principal GHGs, including carbon dioxide and methane, are quantified and their significance relative to the California Air Resources Board (ARB) Scoping Plan is discussed. The proposed project's GHG emissions would not exceed the GHG thresholds established by the SCAQMD. In September 2017, the City adopted the 2017 General Plan, which includes goals and priorities to serve as a long-term vision for City staff, decision-makers, and residents to achieve environmental justice, healthy community, and future economic sustainability goals.

Under the adopted 2017 General Plan (and in compliance with Section 15064.7(c) of the *State CEQA Guidelines*), the City of Jurupa Valley has decided to use the SCAQMD CEQA air quality and GHG threshold levels to determine the significance of impacts. The *State CEQA Guidelines* indicate that the City may identify emissions by either selecting a model or methodology to quantify the emissions and/or by relying on qualitative analysis or other performance based standards. The project site is currently vacant with a proposed designation of a commercial land use within the

Industrial Park (I-P) zone. According to the City's General Plan Air Quality Element, the proposed project would be consistent with proposed commercial industrial park land uses. The City's General Plan is consistent with the Southern California Association of Governments (SCAG) Regional Transportation Plan (RTP) Guidelines and the SCAQMD Air Quality Management Plan (AQMP). Based on the consistency analysis presented in the report, the proposed project is consistent with the City's General Plan and the regional Air Quality Management Plan.

This evaluation was prepared in conformance with appropriate air quality standards and GHG guidelines, using procedures and methodologies in the SCAQMD *CEQA Air Quality Handbook* (SCAQMD 1993) and the City's 2017 General Plan (City of Jurupa Valley 2017).

TABLE OF CONTENTS

APPENDIX

FIGURES AND TABLES

FIGURES

TABLES

LIST OF ABBREVIATIONS AND ACRONYMS

°F	degrees Fahrenheit
°C	degrees Celsius
$\mu g/m^3$	micrograms per cubic meter
AAQS	Ambient Air Quality Standards
AB	Assembly Bill
AQMP	Air Quality Management Plan
ARB	California Air Resources Board
Basin	South Coast Air Basin
BAU	Business As Usual
Bio-CO_2	Biologically Generated Carbon Dioxide
CAA	Clean Air Act
CAAQS	California ambient air quality standards
CAFE	Corporate Average Fuel Economy
CalEEMod	California Emissions Estimator Model
CalEPA	California Environmental Protection Agency
CALGreen	California Green Building Standards Code
CalRecycle	California Department of Resources Recycling and Recovery
CAP	Climate Action Plan
CAPCOA	California Air Pollution Control Officers Association
CAT	Climate Action Team
CBIA	*California Building Industry Association v. Bay Area Air Quality Management District*
CCAA	California Clean Air Act
CCAR	California Climate Action Registry
CCR	California Code of Regulations
CEC	California Energy Commission
CEQ	Council on Environmental Quality
CEQA	California Environmental Quality Act
CH_4	Methane
City	City of Jurupa Valley
CNRA	California Natural Resources Agency
CO	Carbon Monoxide
CO_2	Carbon Dioxide
CO_2e	Carbon Dioxide Equivalent
CPUC	California Public Utilities Commission

DPM	Diesel Particulate Matter
DWR	California Department of Water Resources
EO	Executive Order
EPA	United States Environmental Protection Agency
g/l	Gram(s) per Liter
GCC	Global Climate Change
GHG	Greenhouse Gas
GWP	Global Warming Potential
H_2S	Hydrogen Sulfide
HFCs	Hydrofluorocarbons
HSC	Health and Safety Code
IPCC	Intergovernmental Panel on Climate Change
lbs/day	Pounds per Day
LST	Localized Significance Threshold
mg/m^3	Milligrams per Cubic Meter
MMT	Million Metric Tons
MMT CO_2e	Million Metric Tons of Carbon Dioxide Equivalent
mph	Miles per Hour
MPO	Metropolitan Planning Organization
MT/yr	Metric Tons per Year
MT	Metric Ton(s)
MT CO_2e	Metric Tons of Carbon Dioxide Equivalent
MW	Megawatt
N_2O	Nitrous Oxide
NAAQS	National Ambient Air Quality Standards
NBio-CO_2	Non-Biologically Generated Carbon Dioxide
NEPA	National Environmental Policy Act
NHTSA	National Highway Traffic Safety Administration
NO	Nitric Oxide
NO_2	Nitrogen Dioxide
NOx	Nitrogen Oxides
O_3	Ozone (or smog)
OMB	White House Office of Management and Budget
PFCs	Perfluorocarbons
PM	Particulate Matter
PM_{10}	Particulate Matter less than 10 Microns in Size
$PM_{2.5}$	Particulate Matter less than 2.5 Microns in Size

ppb	Parts per Billion
ppm	Parts per Million
PRC	Public Resources Code
ROCs	Reactive Organic Compounds
ROGs	Reactive Organic Gases
RPS	Renewable Portfolio Standard
RTP	Regional Transportation Plan
RTP/SCS	Regional Transportation Plan/Sustainable Communities Strategy
SB	Senate Bill
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCS	Sustainable Communities Strategy
SF_6	Sulfur Hexafluoride
SIP	State Implementation Plan
SLCP	Short-Lived Climate Pollutant
SO_2	Sulfur Dioxide
SOx	Sulfur Oxides
SRA	Source Receptor Area
State	State of California
TACs	Toxic Air Contaminants
Under 2 MOU	Global Climate Leadership Memorandum of Understanding
UNFCCC	United Nations Framework Convention on Climate Change
VOCs	Volatile Organic Compounds
WRCOG	Western Riverside County Organization of Governments
ZEV	Zero Emissions Vehicle
ZNE	Zero Net Energy

INTRODUCTION

This air quality and greenhouse gas (GHG) analysis has been prepared to evaluate the potential air quality and climate change impacts and mitigation measures associated with the proposed Industrial Outdoor Ventures Project (proposed project) in the City of Jurupa Valley (City) in Riverside County, California. This report provides a project-specific air quality and climate change impact analysis by examining the impacts of the proposed uses on adjacent sensitive uses as well as the impacts on the proposed uses on the project site. Guidelines identified by the South Coast Air Quality Management District (SCAQMD) in its *CEQA Air Quality Handbook* (SCAQMD 1993), *Air Quality Analysis Guidance Handbook,* and subsequent updates (SCAQMD 2017) were implemented in this air quality impact analysis.

PROJECT LOCATION AND DESCRIPTION

The proposed project consists of the 6.88-acre site (Assessor's Parcel Numbers 156-030-016, 156-030-017, and 156-030-042) located on Riverside Drive, at the southeast corner of Interstate 15 and State Route 60. Currently, the site is vacant. See Figure 1, Project Location and Vicinity, and Figure 2, Project Site Plan below.

The proposed project would include the construction of a 30,616-square foot (sq ft) building with equipment rental/sales lots. The proposed project would include approximately 5,616 sq ft of office space. In addition, the proposed project would include approximately 44,988 sq ft of landscaping that would cover approximately 15 percent of the project site. The proposed project would also include 105 parking spaces including 5 American with Disabilities ACT (ADA) spaces, 10 bicycle spaces, and 21 electric vehicle (EV) spaces. The project is assumed to operate 24 hours per day, 7 days per week; however, this may shift depending on the tenant, as the hours of operation are unknown. Based on the project's *Traffic Assessment Memorandum*[1], the proposed project would generate approximately 834 average daily trips.

Project construction is anticipated to occur over 13-month period with a probable start date in 2023 and a planned opening in 2024. The proposed project would require the export of approximately 8,290 cubic yards of soil and the import of approximately 6,228 cubic yards of soil, for a net total of 2,062 cubic yards of soil export. Construction activities for the proposed project include grading and excavation, site preparation, building construction, landscape installation, paving, and architectural coating.

[1] Urban Crossroads. 2023. *Industrial Outdoor Ventures Focused Traffic Assessment.* March 2.

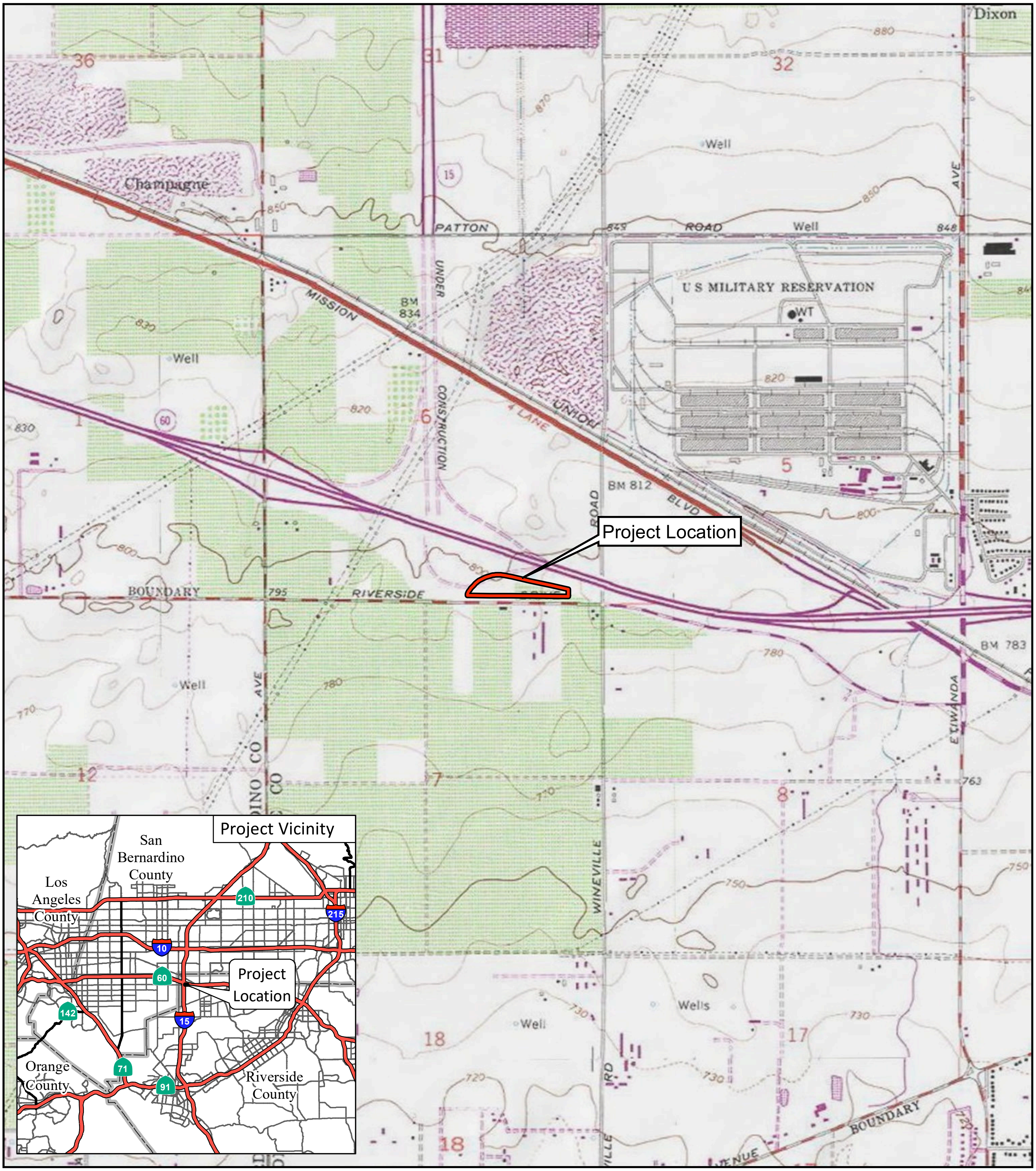

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FIGURE 1

LEGEND

Project Site

0 1000 2000
FEET

Industrial Outdoor Ventures Project

Project Location

SOURCE: USGS 7.5' Quad: Guasti(1981), CA

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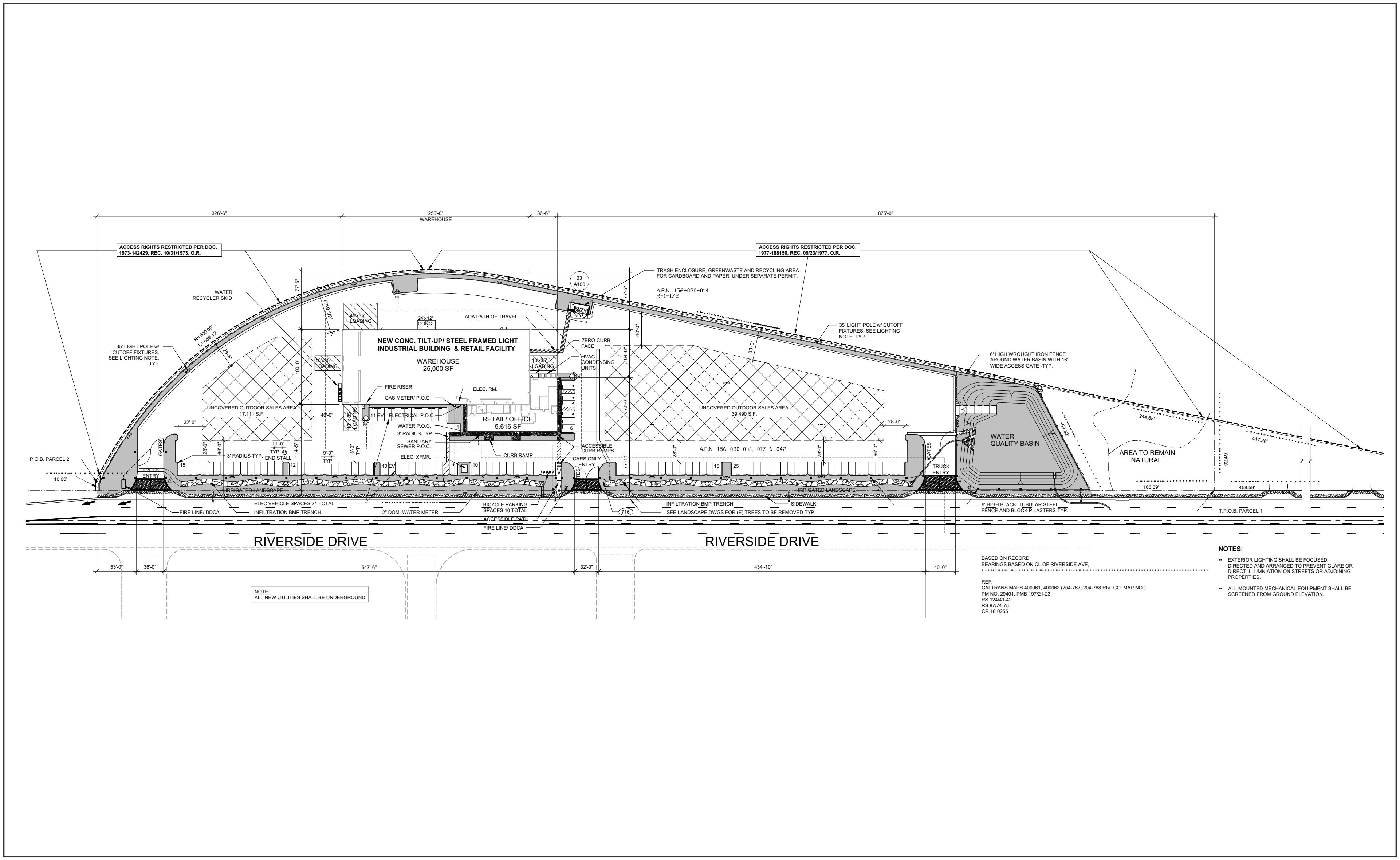

FIGURE 2

FEET

SOURCE: AOG Architecture Studio

Industrial Outdoor Ventures Project

Project Site Plan

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EXISTING SENSITIVE LAND USES IN THE PROJECT AREA

For the purposes of a California Environmental Quality Act (CEQA) analysis, sensitive receptors include residences, schools, hospitals, and similar uses sensitive to air quality. Receptor locations include residential, commercial, and industrial land use areas and any other areas where persons can be situated for an hour or longer at a time (SCAQMD 2003). The project site is bounded by high cube warehouses and a commercial container/trailer storage parking lots to the south; heavily traveled freeways to the north and west; and high cube warehouses and a commercial container/ trailer storage parking lots to the east. There are no sensitive receptors within 1,000 feet from the project site. The nearest sensitive receptors are residential homes located approximately 5,400 feet to the west and southwest of the project site.

BACKGROUND

This section provides current background information on air pollutants and their health effects. It also provides current regulatory background information, including information from the California Air Resources Board's (CARB) Air Quality and Land Use Handbook[1] (CARB Handbook); a description of the general health risks of toxics, and the significance criteria for project evaluation.

Air Pollutants and Health Effects

Both State and federal governments have established health-based ambient air quality standards (California Ambient Air Quality Standards [CAAQS] and National Ambient Air Quality Standards [NAAQS], respectively) for six criteria air pollutants:[2] carbon monoxide (CO), ozone (O_3), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), lead (Pb), and suspended particulate matter (PM). In addition, the State has set standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. These standards are designed to protect the health and welfare of the populace with a reasonable margin of safety. Long-term exposure to elevated levels of criteria pollutants may result in adverse health effects. However, emission thresholds established by an air district are used to manage total regional emissions within an air basin based on the air basin's attainment status for criteria pollutants. These emission thresholds were established for individual projects that would contribute to regional emissions and pollutant concentrations and could adversely affect or delay the projected attainment target year for certain criteria pollutants.

Because of the conservative nature of the thresholds and the basin-wide context of individual project emissions, there is no known direct correlation between a single project and localized air quality-related health effects. One individual project that generates emissions exceeding a threshold does not necessarily result in adverse health effects for residents in the project vicinity. This condition is especially true when the criteria pollutants exceeding thresholds are those with regional effects, such as ozone precursors like nitrogen oxides (NO_X) and volatile organic compounds (VOCs).

Occupants of facilities such as schools, daycare centers, parks and playgrounds, hospitals, and nursing and convalescent homes are considered to be more sensitive than the general public to air pollutants because these population groups have increased susceptibility to respiratory disease. Persons engaged in strenuous outdoor work or exercise also have increased sensitivity to poor air quality. Residential areas are considered more sensitive to air quality conditions, compared to commercial and industrial areas, because people generally spend longer periods of time at their residences, with greater associated exposure to ambient air quality conditions. Recreational uses are also considered sensitive compared to commercial and industrial uses due to greater exposure to ambient air quality conditions associated with exercise.

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[1] California Air Resources Board (CARB). 2005. *Air Quality and Land Use Handbook: A Community Health Perspective.* April.

[2] Criteria pollutants are defined as those pollutants for which the federal and State governments have established ambient air quality standards, or criteria, for outdoor concentrations in order to protect public health.

Ozone

Rather than being directly emitted, ozone (smog) is formed by photochemical reactions between NO_X and VOC. Ozone is a pungent, colorless gas. Elevated ozone concentrations result in reduced lung function, particularly during vigorous physical activity. This health problem is particularly acute in sensitive receptors such as the sick, elderly, and young children. Ozone levels peak during the summer and early fall months.

Carbon Monoxide

CO is formed by the incomplete combustion of fossil fuels, almost entirely from automobiles. It is a colorless, odorless gas that can cause dizziness, fatigue, and impairments to central nervous system functions. CO passes through the lungs into the bloodstream, where it interferes with the transfer of oxygen to body tissues.

Particulate Matter

Particulate matter is the term used for a mixture of solid particles and liquid droplets found in the air. Coarse particles are those that are 10 microns or less in diameter, or PM_{10}. Fine, suspended particulate matter with an aerodynamic diameter of 2.5 microns or less, or $PM_{2.5}$, is not readily filtered out by the lungs. Nitrates, sulfates, dust, and combustion particulates are major components of PM_{10} and $PM_{2.5}$. These small particles can be directly emitted into the atmosphere as byproducts of fuel combustion; through abrasion, such as tire or brake lining wear; or through fugitive dust (wind or mechanical erosion of soil). They can also be formed in the atmosphere through chemical reactions. Particulates may transport carcinogens and other toxic compounds that adhere to the particle surfaces and can enter the human body through the lungs.

Nitrogen Dioxide

NO_2 is a reddish brown gas that is a byproduct of combustion processes. Automobiles and industrial operations are the main sources of NO_2. Aside from its contribution to ozone formation, NO_2 also contributes to other pollution problems, including a high concentration of fine particulate matter, poor visibility, and acid deposition. NO_2 may be visible as a coloring component on high pollution days, especially in conjunction with high ozone levels. NO_2 decreases lung function and may reduce resistance to infection.

Sulfur Dioxide

SO_2 is a colorless, irritating gas formed primarily from incomplete combustion of fuels containing sulfur. Industrial facilities also contribute to gaseous SO_2 levels in the region. SO_2 irritates the respiratory tract, can injure lung tissue when combined with fine particulate matter, and reduces visibility and the level of sunlight.

Lead

Leaded gasoline (phased out in the United States beginning in 1973), paint (on older houses and cars), smelters (metal refineries), and the manufacture of lead storage batteries have been the primary sources of lead released into the atmosphere. Lead has multiple adverse neurotoxic health effects, and children are at special risk. Some lead-containing chemicals cause cancer in animals.

Lead levels in the air have decreased substantially since leaded gasoline was eliminated. Ambient lead concentrations are only monitored on an as-warranted, site-specific basis in California. On October 15, 2008, the United States Environmental Protection Agency (USEPA) strengthened the NAAQS for lead by lowering it from 1.5 to 0.15 micrograms per cubic meter (µg/m^3). The USEPA revised the monitoring requirements for lead in December 2010. These requirements focus on airports and large urban areas, resulting in an increase in 76 monitors nationally.

Volatile Organic Compounds

VOCs (also known as reactive organic gases [ROGs] and reactive organic compounds [ROCs]) are formed from the combustion of fuels and the evaporation of organic solvents. VOCs are not defined as criteria pollutants, however, because VOCs accumulate in the atmosphere more quickly during the winter, when sunlight is limited and photochemical reactions are slower, they are a prime component of the photochemical smog reaction. There are no attainment designations for VOCs.

Toxic Air Contaminants

In addition to the criteria pollutants discussed above, toxic air contaminants (TACs) are another group of pollutants of concern. TACs are injurious in small quantities and are regulated by the USEPA and the CARB. Some examples of TACs include benzene, butadiene, formaldehyde, and hydrogen sulfide. The identification, regulation, and monitoring of TACs is relatively recent compared to that for criteria pollutants.

TACs do not have ambient air quality standards, but are regulated by the USEPA, CARB, and the SCAQMD. In 1998, the CARB identified particulate matter from diesel-fueled engines as a TAC. The CARB has completed a risk management process that identified potential cancer risks for a range of activities using diesel-fueled engines.[1] High-volume freeways, stationary diesel engines, and facilities attracting heavy and constant diesel vehicle traffic (e.g., distribution centers and truck stops) were identified as posing the highest risk to adjacent receptors. Other facilities associated with increased risk include warehouse distribution centers, large retail or industrial facilities, high-volume transit centers, and schools with a high volume of bus traffic. Health risks from TACs are a function of both concentration and duration of exposure.

Unlike TACs emitted from industrial and other stationary sources noted above, most diesel particulate matter is emitted from mobile sources—primarily “off-road” sources such as construction and mining equipment, agricultural equipment, and truck-mounted refrigeration units, as well as “on-road” sources such as trucks and buses traveling on freeways and local roadways.

Although not specifically monitored, recent studies indicate that exposure to diesel particulate matter may contribute significantly to a cancer risk (a risk of approximately 500 to 700 in 1,000,000) that is greater than all other measured TACs combined.[2] The technology for reducing diesel particulate

1 CARB. 2000. Stationary Source Division and Mobile Source Control Division. *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles.* October. (accessed March 2023)

2 Ibid.

matter emissions from heavy-duty trucks is well established, and both State and federal agencies are moving aggressively to regulate engines and emission control systems to reduce and remediate diesel emissions. The CARB anticipated that by 2020, average statewide diesel particulate matter concentrations will decrease by 85 percent from levels in 2000 with full implementation of the CARB's Diesel Risk Reduction Plan,[1] meaning that the statewide health risk from diesel particulate matter is expected to decrease from 540 cancer cases in 1,000,000 to 21.5 cancer cases in 1,000,000. The CARB 2000 Diesel Risk Reduction Plan is still the most recent version and has not been updated.

Table A summarizes the sources and health effects of air pollutants discussed in this section. Table B presents a summary of CAAQS and NAAQS.

Table A: Sources and Health Effects of Air Pollutants

Pollutants	Sources	Primary Effects
Carbon Monoxide (CO)	• Incomplete combustion of fuels and other carbon-containing substances, such as motor exhaust • Natural events, such as decomposition of organic matter	• Reduced tolerance for exercise • Impairment of mental function • Impairment of fetal development • Death at high levels of exposure • Aggravation of some heart diseases (angina)
Nitrogen Dioxide (NO_2)	• Motor vehicle exhaust • High temperature stationary combustion • Atmospheric reactions	• Aggravation of respiratory illness • Reduced visibility • Reduced plant growth • Formation of acid rain
Ozone (O_3)	• Atmospheric reaction of organic gases with nitrogen oxides in sunlight	• Aggravation of respiratory and cardiovascular diseases • Irritation of eyes • Impairment of cardiopulmonary function • Plant leaf injury
Lead (Pb)	• Contaminated soil	• Impairment of blood functions and nerve construction • Behavioral and hearing problems in children
Suspended Particulate Matter ($PM_{2.5}$ and PM_{10})	• Stationary combustion of solid fuels • Construction activities • Industrial processes • Atmospheric chemical reactions	• Reduced lung function • Aggravation of the effects of gaseous pollutants • Aggravation of respiratory and cardiorespiratory diseases • Increased cough and chest discomfort • Soiling • Reduced visibility
Sulfur Dioxide (SO_2)	• Combustion of sulfur-containing fossil fuels • Smelting of sulfur-bearing metal ores Industrial processes	• Aggravation of respiratory diseases (asthma, emphysema) • Reduced lung function • Irritation of eyes • Reduced visibility • Plant injury • Deterioration of metals, textiles, leather, finishes, coatings, etc.

Source: California Air Resources Board (2015).

[1] CARB. 2000. Stationary Source Division and Mobile Source Control Division. *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles.* October.(accessed March 2023)

Table B: Federal and State Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards[a]		Federal Standards[b]		
		Concentration[c]	Method[d]	Primary[c,e]	Secondary[c,f]	Method[g]
Ozone (O_3)[h]	1-Hour	0.09 ppm (180 $\mu g/m^3$)	Ultraviolet Photometry	–	Same as Primary Standard	Ultraviolet Photometry
	8-Hour	0.07 ppm (137 $\mu g/m^3$)		0.070 ppm (137 $\mu g/m^3$)		
Respirable Particulate Matter (PM_{10})[i]	24-Hour	50 $\mu g/m^3$	Gravimetric or Beta Attenuation	150 $\mu g/m^3$	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 $\mu g/m^3$		–		
Fine Particulate Matter ($PM_{2.5}$)[i]	24-Hour	-		35 $\mu g/m^3$	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 $\mu g/m^3$	Gravimetric or Beta Attenuation	12.0 $\mu g/m^3$		
Carbon Monoxide (CO)	8-Hour	9.0 ppm (10 mg/m^3)	Non-Dispersive Infrared Photometry (NDIR)	9 ppm (10 mg/m^3)	–	Non-Dispersive Infrared Photometry (NDIR)
	1-Hour	20 ppm (23 mg/m^3)		35 ppm (40 mg/m^3)		
	8-Hour (Lake Tahoe)	6 ppm (7 mg/m^3)		–	–	
Nitrogen Dioxide (NO_2)[j]	Annual Arithmetic Mean	0.03 ppm (57 $\mu g/m^3$)	Gas Phase Chemi-luminescence	53 ppb (100 $\mu g/m^3$)	Same as Primary Standard	Gas Phase Chemi-luminescence
	1-Hour	0.18 ppm (339 $\mu g/m^3$)		100 ppb (188 $\mu g/m^3$)	-	
Lead (Pb)[l,m]	30-Day Average	1.5 $\mu g/m^3$	Atomic Absorption	–	–	High-Volume Sampler and Atomic Absorption
	Calendar Quarter	–		1.5 $\mu g/m^3$ (for certain areas)[l]	Same as Primary Standard	
	Rolling 3-Month Average[i]	–		0.15 $\mu g/m^3$		
Sulfur Dioxide (SO_2)[k]	24-Hour	0.04 ppm (105 $\mu g/m^3$)	Ultraviolet Fluorescence	0.14 ppm (for certain areas)	–	Ultraviolet Fluorescence; Spectro-photometry (Pararosaniline Method)
	3-Hour	–		–	0.5 ppm (1300 $\mu g/m^3$)	
	1-Hour	0.25 ppm (655 $\mu g/m^3$)		75 ppb (196 $\mu g/m^3$)[k]	–	
	Annual Arithmetic Mean	–		0.030 ppm (for certain areas)[k]	–	
Visibility-Reducing Particles[l]	8-Hour	See footnote n	Beta Attenuation and Transmittance through Filter Tape.	No Federal Standards		
Sulfates	24-Hour	25 $\mu g/m^3$	Ion Chromatography			
Hydrogen Sulfide	1-Hour	0.03 ppm (42 $\mu g/m^3$)	Ultraviolet Fluorescence			
Vinyl Chloride[j]	24-Hour	0.01 ppm (26 $\mu g/m^3$)	Gas Chromatography			

Source: California Air Resources Board (2016) (Website: https://www.arb.ca.gov/research/aaqs/aaqs2.pdf; accessed March 2023).

Table notes are provided on the following page.

[a] California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1- and 24-hour), nitrogen dioxide, and particulate matter (PM_{10}, $PM_{2.5}$, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled 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.

[b] 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_{10}, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 $\mu g/m^3$ is equal to or less than one. For $PM_{2.5}$, 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 USEPA for further clarification and current national policies.

[c] 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.

[d] Any equivalent measurement method which can be shown to the satisfaction of the CARB to give equivalent results at or near the level of the air quality standard may be used.

[e] National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.

[f] National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

[g] Reference method as described by the USEPA. An “equivalent method” of measurement may be used but must have a “consistent relationship to the reference method” and must be approved by the USEPA.

[h] On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.

[i] On December 14, 2012, the national annual $PM_{2.5}$ primary standard was lowered from 15 $\mu g/m^3$ to 12.0 $\mu g/m^3$. The existing national 24- hour $PM_{2.5}$ standards (primary and secondary) were retained at 35 $\mu g/m^3$, as was the annual secondary standard of 15 $\mu g/m^3$. The existing 24-hour PM_{10} standards (primary and secondary) of 150 $\mu g/m^3$ also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.

[j] 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.

[k] On June 2, 2010, a new 1-hour SO_2 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 SO_2 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.

[l] The CARB 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.

[m] The national standard for lead was revised on October 15, 2008, to a rolling 3-month average. The 1978 lead standard (1.5 $\mu g/m^3$ 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.

[n] In 1989, the CARB 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.

°C = degrees Celsius
$\mu g/m^3$ = micrograms per cubic meter
CARB = California Air Resources Board
mg/m^3 = milligrams per cubic meter
ppb = parts per billion
ppm = parts per million
USEPA = United States Environmental Protection Agency

GREENHOUSE GASES

GHGs are present in the atmosphere naturally, are released by natural sources, or are formed from secondary reactions taking place in the atmosphere. The gases that are widely seen as the principal contributors to human-induced global climate change are:

- CO_2
- Methane (CH_4)
- Nitrous oxide (N_2O)
- Hydrofluorocarbons (HFCs)
- Perfluorocarbons (PFCs)
- Sulfur hexafluoride (SF_6)

Over the last 200 years, humans have caused substantial quantities of GHGs to be released into the atmosphere. These extra emissions are increasing GHG concentrations in the atmosphere, and enhancing the natural greenhouse effect, which is believed to be causing global warming. While manmade GHGs include naturally-occurring GHGs such as CO_2, methane, and N_2O, some gases, like HFCs, PFCs, and SF_6 are completely new to the atmosphere.

Certain gases, such as water vapor, are short-lived in the atmosphere. Others remain in the atmosphere for significant periods of time, contributing to climate change in the long term. Water vapor is excluded from the list of GHGs above because it is short-lived in the atmosphere and its atmospheric concentrations are largely determined by natural processes, such as oceanic evaporation. For the purposes of this air quality analysis, the term "GHGs" will refer collectively to the six gases listed above.

These gases vary considerably in terms of Global Warming Potential (GWP), which is a concept developed to compare the ability of each GHG to trap heat in the atmosphere relative to another gas. The global warming potential is based on several factors, including the relative effectiveness of a gas to absorb infrared radiation and length of time that the gas remains in the atmosphere ("atmospheric lifetime"). The GWP of each gas is measured relative to carbon dioxide, the most abundant GHG; the definition of GWP for a particular GHG is the ratio of heat trapped by one unit mass of the GHG to the ratio of heat trapped by one unit mass of CO_2 over a specified time period. GHG emissions are typically measured in terms of pounds or tons of "CO_2 equivalents" (CO_2e). Table C shows the GWP for each type of GHG. For example, SF_6 is 23,900 times more potent at contributing to global warming than CO_2.

Table C: Global Warming Potential of Greenhouse Gases

Gas	Atmospheric Lifetime (Years)	Global Warming Potential (100-Year Time Horizon)
Carbon Dioxide	50-200	1
Methane	12	25
Nitrous Oxide	114	310
HFC-23	270	11,700
HFC-134a	14	140
HFC-152a	1.4	140
PFC: Tetrafluoromethane (CF_4)	50,000	6,500
PFC: Hexafluoromethane (C_2F_6)	10,000	9,200
Sulfur Hexafluoride (SF_6)	3,200	23,900

Source: *Second Update to the Climate Change Scoping Plan: Building on the Framework* (CARB 2017). Website: www.arb.ca.gov/our-work/programs/ab-32-climate-change-scoping-plan/2017-scoping-plan-documents (accessed March 2023).

The following discussion summarizes the characteristics of the six GHGs and black carbon.

Carbon Dioxide

In the atmosphere, carbon generally exists in its oxidized form, as CO_2. Natural sources of CO_2 include the respiration (breathing) of humans, animals and plants, volcanic out gassing, decomposition of organic matter and evaporation from the oceans. Human caused sources of CO_2 include the combustion of fossil fuels and wood, waste incineration, mineral production, and deforestation. Natural sources release approximately 150 billion tons of CO_2 each year, far outweighing the 7 billion tons of man-made emissions of CO_2 each year. Nevertheless, natural removal processes, such as photosynthesis by land- and ocean-dwelling plant species, cannot keep pace with this extra input of man-made CO_2, and consequently, the gas is building up in the atmosphere.

In 2020, total annual CO_2 accounted for approximately 80.2 percent of California's overall GHG emissions.[1] Transportation is the single largest source of CO_2 in California, which is primarily comprised of on-road travel. Electricity production, industrial and residential sources also make important contributions to CO_2 emissions in California.

Methane

Methane is produced when organic matter decomposes in environments lacking sufficient oxygen. Natural sources include wetlands, termites, and oceans. Decomposition occurring in landfills accounts for the majority of human-generated CH_4 emissions in California and in the United States as a whole. Agricultural processes such as intestinal fermentation, manure management, and rice cultivation are also significant sources of CH_4 in California. Total annual emissions of CH_4 accounted for approximately 10.5 percent of GHG emissions in California in 2020.[2]

1 California Air Resources Board (CARB). 2022a. GHGs Descriptions & Sources in California. Website: ww2.arb.ca.gov/ghg-descriptions-sources (accessed March 2023).

2 CARB. 2021b. GHGs Descriptions & Sources in California. Website: ww2.arb.ca.gov/ghg-descriptions-sources (accessed March 2023).

Nitrous Oxide

Nitrous oxide is produced naturally by a wide variety of biological sources, particularly microbial action in soils and water. Tropical soils and oceans account for the majority of natural source emissions. Nitrous oxide is a product of the reaction that occurs between nitrogen and oxygen during fuel combustion. Both mobile and stationary combustion emit N_2O, and the quantity emitted varies according to the type of fuel, technology, and pollution control device used, as well as maintenance and operating practices. Agricultural soil management and fossil fuel combustion are the primary sources of human-generated N_2O emissions in California. Nitrous oxide emissions accounted for approximately 3.5 percent of GHG emissions in California in 2020.[1]

Hydrofluorocarbons, Perfluorocarbons, and Sulfur Hexafluoride

HFCs are primarily used as substitutes for ozone-depleting substances regulated under the Montreal Protocol.[2] PFCs and SF_6 are emitted from various industrial processes, including aluminum smelting, semiconductor manufacturing, electric power transmission and distribution, and magnesium casting. There is no aluminum or magnesium production in California; however, the rapid growth in the semiconductor industry leads to greater use of PFCs. HFCs, PFCs, and SF_6 accounted for about 5.5 percent of GHG emissions in California in 2020.[3]

Black Carbon

Black carbon is the most strongly light-absorbing component of PM formed by burning fossil fuels such as coal, diesel, and biomass. Black carbon is emitted directly into the atmosphere in the form of $PM_{2.5}$ and is the most effective form of PM, by mass, at absorbing solar energy. Per unit of mass in the atmosphere, black carbon can absorb one million times more energy than CO_2.[4] Black carbon contributes to climate change both directly, such as absorbing sunlight, and indirectly, such as affecting cloud formation. However, because black carbon is short-lived in the atmosphere, it can be difficult to quantify its effect on global warming.

Most U.S. emissions of black carbon come from mobile sources (52 percent), particularly from diesel-fueled vehicles. The other major source of black carbon is open biomass burning, including wildfires, although residential heating and industry also contribute. The CARB estimates that the annual black carbon emissions in California will be reduced approximately 50 percent below 2013 levels by 2030.[5]

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1 CARB. 2021b. GHGs Descriptions & Sources in California. Website: ww2.arb.ca.gov/ghg-descriptions-sources (accessed March 2023).

2 The Montreal Protocol is an international treaty that was approved on January 1, 1989, and was designated to protect the ozone layer by phasing out the production of several groups of halogenated hydrocarbons believed to be responsible for ozone depletion.

3 CARB. 2021b. op. cit.

4 U.S. Environmental Protection Agency (USEPA). 2015. Black Carbon, Basic Information. February 14, 2017. Website: 19january2017snapshot.epa.gov/www3/airquality/blackcarbon/basic.html (accessed March 2023).

5 CARB. 2017b. *Short-Lived Climate Pollutant Reduction Strategy.* March. Website: https://ww2.arb.ca.gov/sites/default/files/2020-07/final_SLCP_strategy.pdf (accessed March 2023).

REGULATORY SETTING

AIR QUALITY REGULATIONS

The USEPA and the CARB regulate direct emissions from motor vehicles. The SCAQMD is the regional agency primarily responsible for regulating air pollution emissions from stationary sources (e.g., factories) and indirect sources (e.g., traffic associated with new development), as well as monitoring ambient pollutant concentrations.

Federal Regulations

Federal Clean Air Act

The 1970 federal Clean Air Act (CAA) authorized the establishment of national health-based air quality standards and also set deadlines for their attainment. The Federal Clean Air Act Amendments of 1990 changed deadlines for attaining national standards as well as the remedial actions required of areas of the nation that exceed the standards. Under the Clean Air Act, State and local agencies in areas that exceed the national standards are required to develop State Implementation Plans to demonstrate how they will achieve the national standards by specified dates.

State Regulations

California Clean Air Act

In 1988, the California Clean Air Act (CCAA) required that all air districts in the State endeavor to achieve and maintain CAAQS for CO, O_3, SO_2, and NO_2 by the earliest practical date. The California Clean Air Act provides districts with authority to regulate indirect sources and mandates that air quality districts focus particular attention on reducing emissions from transportation and area-wide emission sources. Each nonattainment district is required to adopt a plan to achieve a 5 percent annual reduction, averaged over consecutive 3-year periods, in district-wide emissions of each nonattainment pollutant or its precursors. A Clean Air Plan shows how a district would reduce emissions to achieve air quality standards. Generally, the State standards for these pollutants are more stringent than the national standards.

California Air Resources Board

The CARB is the State's "clean air agency." The CARB's goals are to attain and maintain healthy air quality, protect the public from exposure to toxic air contaminants, and oversee compliance with air pollution rules and regulations.

Assembly Bill 2588 Air Toxics "Hot Spots" Information and Assessment Act. Under Assembly Bill (AB) 2588, stationary sources of air pollutants are required to report the types and quantities of certain substances their facilities routinely released into the air. The goals of the Air Toxics "Hot Spots" Act are to collect emission data, identify facilities having localized impacts, determine health risks, and notify nearby residents of significant risks.

The California Air Resources Board Handbook. The CARB has developed an Air Quality and Land Use Handbook[1] which is intended to serve as a general reference guide for evaluating and reducing air pollution impacts associated with new projects that go through the land use decision-making process. According to the CARB Handbook, air pollution studies have shown an association between respiratory and other non-cancer health effects and proximity to high traffic roadways. Other studies have shown that diesel exhaust and other cancer-causing chemicals emitted from cars and trucks are responsible for much of the overall cancer risk from airborne toxics in California. The CARB Handbook recommends that county and city planning agencies strongly consider proximity to these sources when finding new locations for "sensitive" land uses such as homes, medical facilities, daycare centers, schools, and playgrounds.

Land uses that can produce air pollution sources of concern include freeways, rail yards, ports, refineries, distribution centers, chrome plating facilities, dry cleaners, and large gasoline service stations. Key recommendations in the CARB Handbook include taking steps to avoid siting new, sensitive land uses:

- Within 500 feet of a freeway, urban roads with 100,000 vehicles/day or rural roads with 50,000 vehicles/day;
- Within 1,000 feet of a major service and maintenance rail yard;
- Immediately downwind of ports (in the most heavily impacted zones) and petroleum refineries;
- Within 300 feet of any dry cleaning operation (for operations with two or more machines, provide 500 feet); and
- Within 300 feet of a large gas station (defined as a facility with a throughput of 3.6 million gallons per year or greater).

The CARB Handbook specifically states that its recommendations are advisory and acknowledges land use agencies have to balance other considerations, including housing and transportation needs, economic development priorities, and other quality of life issues.

The recommendations are generalized and do not consider site-specific meteorology, freeway truck percentages, or other factors that influence risk for a particular project site. The purpose of this guidance is to help land use agencies determine when to further examine project sites for actual health risk associated with the location of new sensitive land uses.

Regional Regulations

South Coast Air Quality Management District

The SCAQMD has jurisdiction over most air quality matters in the South Coast Air Basin (Basin). This area includes all of Orange County, Los Angeles County except for the Antelope Valley, the non-

[1] CARB. 2005. *Air Quality and Land Use Handbook: A Community Health Perspective.* April.

desert portion of western San Bernardino County, and the western and Coachella Valley portions of Riverside County. The SCAQMD is the agency principally responsible for comprehensive air pollution control in the Basin and is tasked with implementing certain programs and regulations required by the CAA and the CCAA. The SCAQMD prepares plans to attain CAAQS and NAAQS. SCAQMD is directly responsible for reducing emissions from stationary (area and point) sources. The SCAQMD develops rules and regulations, establishes permitting requirements, inspects emissions sources, and enforces such measures though educational programs or fines, when necessary.

The proposed project could be subject to the following SCAQMD rules and regulations:

- **Regulation IV - Prohibitions:** This regulation sets forth the restrictions for visible emissions, odor nuisance, fugitive dust, various air pollutant emissions, fuel contaminants, start-up/shutdown exemptions, and breakdown events.
    - **Rule 402 - Nuisance:** This rule restricts the discharge of any contaminant in quantities that cause or have a natural ability to cause injury, damage, nuisance, or annoyance to businesses, property, or the public.
    - **Rule 403 - Fugitive Dust:** This rule requires the prevention, reduction, or mitigation of fugitive dust emissions from a project site. Rule 403 restricts visible fugitive dust to a project property line, restricts the net PM_{10} emissions to less than 50 $\mu g/m^3$ and restricts the tracking out of bulk materials onto public roads. Additionally, Rule 403 requires an applicant to utilize one or more of the best available control measures (identified in the tables within the rule). Control measures may include adding freeboard to haul vehicles, covering loose material on haul vehicles, watering, using chemical stabilizers, and/or ceasing all activities. Finally, Rule 403 requires that a contingency plan be prepared if so determined by the USEPA. In addition, SCAQMD Rule 403(e), Additional Requirements for Large Operations, includes requirements to provide Large Operation Notification Form 403 N, appropriate signage, additional dust control measures, and employment of a dust control supervisor that has successfully completed the Dust Control training class in the South Coast Air Basin.
- **Regulation XI - Source Specific Standards:** Regulation XI sets emissions standards for different sources.
    - **Rule 1113 - Architectural Coatings:** This rule limits the amount of VOCs from architectural coatings and solvents, which lowers the emissions of odorous compounds.

The SCAQMD is responsible for demonstrating regional compliance with ambient air quality standards but has limited indirect involvement in reducing emissions from fugitive, mobile, and natural sources. To that end, the SCAQMD works cooperatively with the CARB, the Southern California Association of Governments (SCAG), county transportation commissions, local governments, and other federal and State government agencies. It has responded to this requirement by preparing a series of Air Quality Management Plans (AQMPs) to meet CAAQS and NAAQS. SCAQMD and the SCAG are responsible for formulating and implementing the AQMP for the Basin. The main purpose of an AQMP is to bring the area into compliance with federal and State air quality standards. Every 3 years, SCAQMD prepares a new AQMP, updating the previous plan and 20-year horizon.[1]

The Final 2022 Air Quality Management Plan is the currently adopted AQMP. Key elements of the Final 2022 AQMP include the following:

- Calculating and taking credit for co-benefits from other planning efforts (e.g., climate, energy, and transportation);
- A strategy with fair-share emission reductions at the federal, State, and local levels;
- Investment in strategies and technologies meeting multiple air quality objectives;
- Seeking new partnerships and significant funding for incentives to accelerate deployment of zero-emission and near-zero emission technologies;
- Enhanced socioeconomic assessment, including an expanded environmental justice analysis;
- Attainment of the 24-hour $PM_{2.5}$ standard in 2019 with no additional measures;
- Attainment of the annual $PM_{2.5}$ standard by 2025 with implementation of a portion of the O_3 strategy; and
- Attainment of the 1-hour O_3 standard by 2022 with no reliance on "black box" future technology (federal CAA Section 182(e)(5) measures).

The 2022 AQMP builds upon measures already in place from previous AQMPs. It also includes a variety of additional strategies such as regulation, accelerated deployment of available cleaner technologies (e.g., zero emissions technologies, when cost-effective and feasible, and low NO_X technologies in other applications), best management practices, co-benefits from existing programs (e.g., climate and energy efficiency), incentives, and other CAA measures to achieve the 2015 8-hour ozone standard.

Southern California Association of Governments

SCAG is a council of governments for Los Angeles, Orange, Riverside, San Bernardino, Imperial, and Ventura Counties. It is a regional planning agency and serves as a forum for regional issues relating to transportation, the economy and community development, and the environment. SCAG is the federally designated Metropolitan Planning Organization (MPO) for the majority of the southern California region and is the largest MPO in the nation. With regard to air quality planning, SCAG prepares the Regional Transportation Plan (RTP) and Regional Transportation Improvement Program (RTIP), which address regional development and growth forecasts and form the basis for the land use and transportation control portions of the AQMP and are utilized in the preparation of the air

[1] SCAQMD. 2022. *Final 2022 Air Quality Management Plan*. December 2.

quality forecasts and consistency analysis included in the AQMP. The RTP, RTIP, and AQMP are based on projections originating within local jurisdictions.

Although SCAG is not an air quality management agency, it is responsible for developing transportation, land use, and energy conservation measures that affect air quality. SCAG's Regional Comprehensive Plan (RCP) provides growth forecasts that are used in the development of air quality-related land use and transportation control strategies by the SCAQMD. The RCP is a framework for decision-making for local governments, assisting them in meeting federal and State mandates for growth management, mobility, and environmental standards, while maintaining consistency with regional goals regarding growth and changes. Policies within the RCP include consideration of air quality, land use, transportation, and economic relationships by all levels of government.

SCAG adopted the 2020–2045 Regional Transportation Plan/Sustainable Communities Strategy (Connect SoCal) on September 3, 2020. Connect SoCal is a long-range visioning plan that balances future mobility and housing needs with economic, environmental, and public health goals. Connect SoCal is an important planning document for the region, allowing project sponsors to qualify for federal funding and takes into account operations and maintenance costs, to ensure reliability, longevity, and cost effectiveness. The forecasted development pattern, when integrated with the financially constrained transportation investments identified in Connect SoCal, would reach the regional target of reducing GHG emissions from autos and light-duty trucks by 19 percent by 2035 (compared to 2005 levels).

Local Regulations

The Air Quality Element of the General Plan contains policies and programs intended to help maintain healthy air quality in Jurupa Valley. The pattern of land use transportation systems can help reduce motor vehicle emissions and have positive, healthy effects on the quality of life for residents and visitors. The element is particularly important because Jurupa Valley, and the Inland Empire as a whole, has some of the worst air quality in the South Coast Air Basin due to prevailing wind patterns that transport pollution to the area.

City of Jurupa Valley General Plan

The City of Jurupa Valley's General Plan was adopted on September 7, 2017[1]. The Air Quality Element of the Jurupa Valley General Plan is intended to ensure that the City, in collaboration with regional agencies, is able to preserve and improve air quality to the greatest extent possible. Additionally, the Land Use Element of the Jurupa Valley General Plan provides policies in order to reduce commute times, ease regional congestion, and capitalize on the broadening of choices provided by the regional transportation system. The following policies are applicable to the proposed project:

1 City of Jurupa Valley. 2017. *City of Jurupa Valley 2017 General Plan.* September 7. Website: 2017-Master-General-Plan-PDF (jurupavalley.org) (accessed March 2023)

- **Policy AQ 1.1:** Promote and participate with regional and local agencies, both public and private, to protect and improve air quality.
- **Policy AQ 2.1:** Require City Land use planning efforts and site plan designs to protect people and land uses sensitive to air pollution, using barriers and/or distance from emissions sources, and protect sensitive receptors from polluting sources, wherever possible.
- **Policy AQ 2.4:** Consider planting trees that help to filter pollutants from the air, provide shade, and add oxygen to the atmosphere.
- **Policy AQ 3.1:** Encourage the use of building materials/methods and heating equipment that are efficient and reduce emissions.
- **Policy AQ 3.4:** Require every project to mitigate its anticipated emissions that exceed allowable levels as established by the SCAQMD, the EPA, and ARB to the greatest extent possible.
- **Policy AQ 3.5:** Apply measures contained in the County's Fugitive Dust Reduction to the entire project.
- **Policy AQ 3.6:** Suspend all grading when wind speeds exceed 25 miles per hour.

GREENHOUSE GAS REGULATORY SETTING

This section describes regulations related to GHGs at the federal, State, and local level.

Federal Regulations

The United States has historically had a voluntary approach to reducing GHG emissions. However, on April 2, 2007, the United States Supreme Court ruled that the USEPA has the authority to regulate CO_2 emissions under the federal CAA. While there currently are no adopted federal regulations for the control or reduction of GHG emissions, the USEPA commenced several actions in 2009 to implement a regulatory approach to global climate change.

This includes the 2009 USEPA final rule for mandatory reporting of GHGs from large GHG emission sources in the United States. Additionally, the USEPA Administrator signed an endangerment finding action in 2009 under the Clean Air Act, finding that six GHGs (CO_2, CH_4, N_2O, HFCs, PFCs, SF_6) constitute a threat to public health and welfare, and that the combined emissions from motor vehicles cause and contribute to global climate change, leading to national GHG emission standards.

In October 2012, the USEPA and the NHTSA, on behalf of the U.S. Department of Transportation, issued final rules to further reduce GHG emissions and improve Corporate Average Fuel Economy (CAFE) standards for light-duty vehicles for model years 2017 and beyond (77 *Federal Register* 62624). The NHTSA's CAFE standards have been enacted under the Energy Policy and Conservation Act since 1978. This national program requires automobile manufacturers to build a single light-duty national fleet that meets all requirements under both federal programs and the standards of California and other states. This program would increase fuel economy to the equivalent of 54.5 miles per gallon, limiting vehicle emissions to 163 grams of CO_2 per mile for the fleet of cars and light-duty trucks by model year 2025 (77 *Federal Register* 62630).

On March 31, 2022, the National Highway Traffic Safety Administration (NHTSA) finalized the CAFE standards for Model Years 2024–2026 Passenger Cars and Light Trucks. The amended CAFE standards would require an industry wide fleet average of approximately 49 mpg for passenger cars and light trucks in model year 2026, by increasing fuel efficiency by 8 percent annually for model years 2024–2025, and 10 percent annually for model year 2026. The final standards are estimated to save about 234 billion gallons of gas between model years 2030 to 2050.

State Regulations

The CARB is the lead agency for implementing climate change regulations in the State. Since its formation, the CARB has worked with the public, the business sector, and local governments to find solutions to California's air pollution problems. Key efforts by the State are described below.

Assembly Bill 1493 (2002)

In a response to the transportation sector's significant contribution to California's CO_2 emissions, AB 1493 was enacted on July 22, 2002. AB 1493 requires the CARB to set GHG emission standards for passenger vehicles and light duty trucks (and other vehicles whose primary use is noncommercial personal transportation in the State) manufactured in 2009 and all subsequent model years. These standards (starting in model years 2009 to 2016) were approved by the CARB in 2004, but the needed waiver of CCAA Preemption was not granted by the USEPA until June 30, 2009. The CARB responded by amending its original regulation, now referred to as Low Emission Vehicle III, to take effect for model years starting in 2017 to 2025. The Trump administration revoked California's waiver in 2019, but the Biden administration restored California's waiver in 2021.

Executive Order S-3-05 (2005)

Governor Arnold Schwarzenegger signed Executive Order (EO) S-3-05 on June 1, 2005, which proclaimed that California is vulnerable to the impacts of climate change. To combat those concerns, the executive order established California's GHG emissions reduction targets, which established the following goals:

- GHG emissions should be reduced to 2000 levels by 2010;
- GHG emissions should be reduced to 1990 levels by 2020; and
- GHG emissions should be reduced to 80 percent below 1990 levels by 2050.

The Secretary of the California Environmental Protection Agency (CalEPA) is required to coordinate efforts of various State agencies in order to collectively and efficiently reduce GHGs. A biannual progress report must be submitted to the Governor and State Legislature disclosing the progress made toward GHG emission reduction targets. In addition, another biannual report must be submitted illustrating the impacts of global warming on California's water supply, public health, agriculture, the coastline, and forestry, and report possible mitigation and adaptation plans to address these impacts.

The Secretary of CalEPA leads this CAT made up of representatives from State agencies as well as numerous other boards and departments. The CAT members work to coordinate statewide efforts to implement global warming emission reduction programs and the State's Climate Adaptation

Strategy. The CAT is also responsible for reporting on the progress made toward meeting the statewide GHG targets that were established in the executive order and further defined under AB 32, the "Global Warming Solutions Act of 2006." The first CAT Report to the Governor and the Legislature was released in March 2006, which it laid out 46 specific emission reduction strategies for reducing GHG emissions and reaching the targets established in the executive order. The most recent report was released in December 2020.

Assembly Bill 32 (2006), California Global Warming Solutions Act

California's major initiative for reducing GHG emissions is AB 32, passed by the State legislature on August 31, 2006. This effort aims at reducing GHG emissions to 1990 levels by 2020. The CARB has established the level of GHG emissions in 1990 at 427 million metric tons (MMT) of CO_2e. The emissions target of 427 MMT requires the reduction of 169 MMT from the State's projected business-as-usual 2020 emissions of 596 MMT. AB 32 requires the CARB to prepare a Scoping Plan that outlines the main State strategies for meeting the 2020 deadline and to reduce GHGs that contribute to global climate change. The Scoping Plan was approved by the CARB on December 11, 2008, and contains the main strategies California will implement to achieve the reduction of approximately 169 MMT CO_2e, or approximately 30 percent, from the State's projected 2020 emissions level of 596 MMT CO_2e under a business-as-usual scenario (this is a reduction of 42 MMT CO_2e, or almost 10 percent from 2002–2004 average emissions). The Scoping Plan also includes CARB-recommended GHG reductions for each emissions sector of the State's GHG inventory. The Scoping Plan calls for the largest reductions in GHG emissions to be achieved by implementing the following measures and standards:

- Improved emissions standards for light-duty vehicles (estimated reductions of 31.7 MMT CO_2e);
- The Low-Carbon Fuel Standard (15.0 MMT CO_2e);
- Energy efficiency measures in buildings and appliances and the widespread development of combined heat and power systems (26.3 MMT CO_2e); and
- A renewable portfolio standard for electricity production (21.3 MMT CO_2e).

The Scoping Plan identifies 18 emission reduction measures that address cap-and-trade programs, vehicle gas standards, energy efficiency, low carbon fuel standards, renewable energy, regional transportation-related GHG targets, vehicle efficiency measures, goods movement, solar roof programs, industrial emissions, high speed rail, green building strategies, recycling, sustainable forests, water, and air. The measures would result in a total reduction of 174 MMT CO_2e by 2020.

On August 24, 2011, the CARB unanimously approved both the new supplemental assessment and reapproved its Scoping Plan, which provides the overall roadmap and rule measures to carry out AB 32. The CARB also approved a more robust CEQA equivalent document supporting the supplemental analysis of the cap-and-trade program. The cap-and-trade took effect on January 1, 2012, with an enforceable compliance obligation that began January 1, 2013.

CARB has not yet determined what amount of GHG reductions it recommends from local government operations and local land use decisions; however, the Scoping Plan states that land use planning and urban growth decisions will play an important role in the State's GHG reductions because local governments have primary authority to plan, zone, approve, and permit how land is developed to accommodate population growth and the changing needs of their jurisdictions (meanwhile, CARB is also developing an additional protocol for community emissions). CARB further acknowledges that decisions on how land is used will have large impacts on the GHG emissions that will result from the transportation, housing, industry, forestry, water, agriculture, electricity, and natural gas emission sectors. The Scoping Plan states that the ultimate GHG reduction assignment to local government operations is to be determined. With regard to land use planning, the Scoping Plan expects an approximately 5.0 MMT CO_2e reduction due to implementation of SB 375.

In addition to reducing GHG emissions to 1990 levels by 2020, AB 32 directed the CARB and the CAT to identify a list of "discrete early action GHG reduction measures" that could be adopted and made enforceable by January 1, 2010. On January 18, 2007, Governor Schwarzenegger signed EO S-1-07, further solidifying California's dedication to reducing GHGs by setting a new Low Carbon Fuel Standard (LCFS). This executive order sets a target to reduce the carbon intensity of California transportation fuels by at least 10 percent by 2020 and directs the CARB to consider the LCFS as a discrete early action measure. In 2011, U.S. District Court Judge Lawrence O'Neil issued an injunction preventing implementation of the LCFS, ruling that it is unconstitutional. In 2012, the Ninth Circuit Court of Appeal stayed the District Court's injunction, allowing implementation of the LCFS. The Ninth Circuit decided to uphold the LCFS.

In June 2007, the CARB approved a list of 37 early action measures, including three discrete early action measures (LCFS, Restrictions on GWP Refrigerants, and Landfill CH_4 Capture).[1] Discrete early action measures are measures that were required to be adopted as regulations and made effective no later than January 1, 2010, the date established by Health and Safety Code Section 38560.5. The CARB adopted additional early action measures in October 2007 that tripled the number of discrete early action measures. These measures relate to truck efficiency, port electrification, reduction of PFCs from the semiconductor industry, reduction of propellants in consumer products, proper tire inflation, and SF_6 reductions from the non-electricity sector. The combination of early action measures is estimated to reduce statewide GHG emissions by nearly 16 MMT.[2]

The CARB approved the First Update to the Climate Change Scoping Plan on May 22, 2014. The First Update identifies opportunities to leverage existing and new funds to further drive GHG emission reductions through strategic planning and targeted low carbon investments. The First Update defines CARB climate change priorities until 2020, and also sets the groundwork to reach long-term goals set forth in EOs S-3-05 and B-16-2012. The Update highlights California's progress toward meeting the "near-term" 2020 GHG emission reduction goals as defined in the initial Scoping Plan. It also evaluates how to align the State's "longer-term" GHG reduction strategies with other State policy priorities for water, waste, natural resources, clean energy, transportation, and land use.

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1 CARB. 2007b. *Expanded List of Early Action Measures to Reduce Greenhouse Gas Emissions in California Recommended for Board Consideration*. October.

2 CARB. 2007a. "ARB approves tripling of early action measures required under AB 32" News Release 07-46. October 25.

CARB released a second update to the Scoping Plan, the 2017 Scoping Plan,[1] to reflect the 2030 target set by EO B-30-15 and codified by SB 32.

The 2022 Scoping Plan[2] was approved in December 2022 and assesses progress towards achieving the SB 32 2030 target and lay out a path to achieve carbon neutrality no later than 2045. The 2022 Scoping Plan focuses on outcomes needed to achieve carbon neutrality by assessing paths for clean technology, energy deployment, natural and working lands, and others, and is designed to meet the State's long-term climate objectives and support a range of economic, environmental, energy security, environmental justice, and public health priorities.

Senate Bill 97 (2007)

SB 97, signed by the Governor in August 2007 (Chapter 185, Statutes of 2007; Public Resources Code [PRC], Sections 21083.05 and 21097), acknowledges climate change is a prominent environmental issue that requires analysis under CEQA. This bill directed the Governor's Office of Planning and Research (OPR) to prepare, develop, and transmit to the California Resources Agency guidelines for mitigating GHG emissions or the effects of GHG emissions, as required by CEQA.

The California Natural Resources Agency adopted the amendments to the *State CEQA Guidelines* in November 2018, which went into effect in December 2018. The amendments do not identify a threshold of significance for GHG emissions, nor do they prescribe assessment methodologies or specific mitigation measures. The amendments encourage lead agencies to consider many factors in performing a CEQA analysis, but preserve the discretion granted by CEQA to lead agencies in making their own determinations based on substantial evidence. The amendments also encourage public agencies to make use of programmatic mitigation plans and programs when they perform individual project analyses.

Senate Bill 375 (2008)

SB 375, the Sustainable Communities and Climate Protection Act, which establishes mechanisms for the development of regional targets for reducing passenger vehicle GHG emissions, was adopted by the State on September 30, 2008. On September 23, 2010, the CARB adopted the vehicular GHG emissions reduction targets that had been developed in consultation with the Metropolitan Planning Organization (MPOs); the targets require a 6 to 15 percent reduction by 2020 and between 13 to 19 percent reduction by 2035 for each MPO. SB 375 recognizes the importance of achieving significant GHG reductions by working with cities and counties to change land use patterns and improve transportation alternatives. Through the SB 375 process, MPOs such as the Fresno Council of Governments will work with local jurisdictions in the development of Sustainable Communities Strategy (SCS) designed to integrate development patterns and the transportation network in a way that reduces GHG emissions while meeting housing needs and other regional planning objectives.

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1 CARB. 2017a. *California's 2017 Climate Change Scoping Plan*. November.

2 CARB. 2021a. *2022 Scoping Plan Update*. May 10. Website: https://ww2.arb.ca.gov/sites/default/files/2022-12/2022-sp.pdf (accessed March 2023).

Pursuant to SB 375, the Los Angeles/Southern California reduction targets for per capita vehicular emissions were 8 percent by 2020 and are 19 percent by 2035 as shown in Table D.

Table D: Senate Bill 375 Regional Greenhouse Gas Emissions Reduction Targets

Metropolitan Planning Organization	By 2020 (percent)	By 2035 (percent)
San Francisco Bay Area	10	19
San Diego	15	19
Sacramento	7	19
Central Valley/San Joaquin	6-13	13-16
Los Angeles/Southern California	8	19

Source: California Air Resources Board (2018).

Executive Order B-30-15 (2015)

Governor Jerry Brown signed EO B-30-15 on April 29, 2015, which added the immediate target of:

- GHG emissions should be reduced to 40 percent below 1990 levels by 2030.

All State agencies with jurisdiction over sources of GHG emissions were directed to implement measures to achieve reductions of GHG emissions to meet the 2030 and 2050 targets. CARB was directed to update the AB 32 Scoping Plan to reflect the 2030 target, and therefore, is moving forward with the update process. The mid-term target is critical to help frame the suite of policy measures, regulations, planning efforts, and investments in clean technologies and infrastructure needed to continue reducing emissions.

Senate Bill 350 (2015) Clean Energy and Pollution Reduction Act

SB 350, signed by Governor Jerry Brown on October 7, 2015, updates and enhances AB 32 by introducing the following set of objectives in clean energy, clean air, and pollution reduction for 2030:

- Raise California's renewable portfolio standard from 33 percent to 50 percent; and
- Increasing energy efficiency in buildings by 50 percent by the year 2030.

The 50 percent renewable energy standard will be implemented by the CPUC for the private utilities and by the CEC for municipal utilities. Each utility must submit a procurement plan showing it will purchase clean energy to displace other non-renewable resources. The 50 percent increase in energy efficiency in buildings must be achieved through the use of existing energy efficiency retrofit funding and regulatory tools already available to state energy agencies under existing law. The addition made by this legislation requires state energy agencies to plan for, and implement those programs in a manner that achieves the energy efficiency target.

Senate Bill 32, California Global Warming Solutions Act of 2016, and Assembly Bill 197

In summer 2016 the Legislature passed, and the Governor signed, SB 32, and AB 197. SB 32 affirms the importance of addressing climate change by codifying into statute the GHG emissions reductions target of at least 40 percent below 1990 levels by 2030 contained in Governor Brown's April 2015 EO B-30-15. SB 32 builds on AB 32 and keeps us on the path toward achieving the State's 2050 objective of reducing emissions to 80 percent below 1990 levels, consistent with an IPCC analysis of the emissions trajectory that would stabilize atmospheric GHG concentrations at 450 parts per million CO_2e and reduce the likelihood of catastrophic impacts from climate change.

The companion bill to SB 32, AB 197, provides additional direction to CARB related to the adoption of strategies to reduce GHG emissions. Additional direction in AB 197 meant to provide easier public access to air emissions data that are collected by CARB was posted in December 2016.

Senate Bill 100

On September 10, 2018, Governor Brown signed SB 100, which raises California's Renewables Portfolio Standard (RPS) requirements to 60 percent by 2030, with interim targets, and 100 percent by 2045. The bill also establishes a state policy that eligible renewable energy resources and zero-carbon resources supply 100 percent of all retail sales of electricity to California end-use customers and 100 percent of electricity procured to serve all State agencies by December 31, 2045. Under the bill, the State cannot increase carbon emissions elsewhere in the western grid or allow resource shuffling to achieve the 100 percent carbon-free electricity target.

Executive Order B-55-18

EO B-55-18, signed September 10, 2018, sets a goal "to achieve carbon neutrality as soon as possible, and no later than 2045, and achieve and maintain net negative emissions thereafter." EO B-55-18 directs CARB to work with relevant state agencies to ensure future Scoping Plans identify and recommend measures to achieve the carbon neutrality goal. The goal of carbon neutrality by 2045 is in addition to other statewide goals, meaning not only should emissions be reduced to 80 percent below 1990 levels by 2050, but that, by no later than 2045, the remaining emissions be offset by equivalent net removals of CO_2e from the atmosphere, including through sequestration in forests, soils, and other natural landscapes.

Title 24, Part 11, Building Standards Code and CALGreen Code

In November 2008, the California Building Standards Commission established the California Green Building Standards Code (CALGreen Code), which sets performance standards for residential and non-residential development to reduce environmental impacts and encourage sustainable construction practices. The CALGreen Code addresses energy efficiency, water conservation, material conservation, planning and design, and overall environmental quality. The CALGreen Code is updated every 3 years and was most recently updated in 2019 to include new mandatory measures for residential as well as non-residential uses; the new measures took effect on January 1, 2020. The next set of standards were adopted in 2022 and will apply to projects seeking building permits on or after January 1, 2023.

California Building Efficiency Standards (Title 24, Part 6)

The California Building Standards Code, or Title 24 of the California Code of Regulations (CCR) contains the regulations that govern the construction of buildings in California. Within the Building Standards Code, two parts pertain to the incorporation of both energy efficient and green building elements into land use development. Part 6 is California's Energy Efficiency Standards for Residential and Non-Residential Buildings. These standards were first adopted in 1978 in response to a legislative mandate to reduce California's energy consumption and are updated on an approximately 3-year cycle to allow consideration and possible incorporation of new energy efficient technologies and methods. All buildings for which an application for a building permit is submitted on or after January 1, 2020, must follow the 2019 standards. The next set of standards were adopted in 2022 and will apply to projects seeking building permits on or after January 1, 2023. Energy efficient buildings require less electricity; therefore, increased energy efficiency reduces fossil fuel consumption and decreases GHG emissions.

Cap and Trade

The development of a cap-and-trade program was included as a key reduction measure of the CARB AB 32 Climate Change Scoping Plan. The cap-and-trade program will help put California on the path to meet its goal of reducing GHG emissions to 1990 levels by 2020 and ultimately achieving an 80 percent reduction from 1990 levels by 2050. The cap-and-trade emissions trading program developed by the CARB took effect on January 1, 2012, with enforceable compliance obligations beginning January 1, 2013. The cap-and-trade program aims to regulate GHG emissions from the largest producers in the State by setting a statewide firm limit, or cap, on allowable annual GHG emissions. The cap was set in 2013 at approximately 2 percent below the emissions forecast for 2020. In 2014, the cap declined approximately 2 percent. Beginning in 2015 and continuing through 2020, the cap has been declining approximately 3 percent annually. The CARB administered the first auction on November 14, 2012, with many of the qualified bidders representing corporations or organizations that produce large amounts of GHG emissions, including energy companies, agriculture and food industries, steel mills, cement companies, and universities. On January 1, 2015, compliance obligation began for distributors of transportation fuels, natural gas, and other fuels. The cap-and-trade program was initially slated to sunset in 2020 but the passage of SB 398 in 2017 extended the program through 2030.

Executive Order N-79-20

EO N-79-20, which was signed by the Governor on September 23, 2020, sets the following goals for the State: 100 percent of in-state sales of new passenger cars and trucks shall be zero-emission by 2035; 100 percent of medium- and heavy-duty vehicles in the State shall be zero-emission by 2045 for all operations where feasible and by 2035 for drayage trucks; and 100 percent of off-road vehicles and equipment in the State shall be zero-emission by 2035, where feasible.

California Integrated Waste Management Act

To minimize the amount of solid waste that must be disposed of in landfills, the State Legislature passed the California Integrated Waste Management Act of 1989 (AB 939), effective January 1990. According to AB 939, all cities and counties were required to divert 25 percent of all solid waste from landfill facilities by January 1, 1995, and 50 percent by January 1, 2000. Through other statutes and regulations, this 50 percent diversion rate also applies to State agencies. In order of priority, waste reduction efforts must promote source reduction, recycling and composting, and environmentally safe transformation and land disposal. In 2011, AB 341 modified the California Integrated Waste Management Act and directed the California Department of Resources Recycling and Recovery (CalRecycle) to develop and adopt regulations for mandatory commercial recycling. The resulting 2012 Mandatory Commercial Recycling Regulation requires that on and after July 1, 2012, certain businesses that generate four cubic yards or more of commercial solid waste per week shall arrange recycling services. To comply with this requirement, businesses may either separate recyclables and self-haul them or subscribe to a recycling service that includes mixed waste processing. AB 341 also established a statewide recycling goal of 75 percent; the 50 percent disposal reduction mandate still applies for cities and counties under AB 939, the Integrated Waste Management Act. In April 2016, AB 1826 further modified the California Integrated Waste Management Act, requiring businesses that generate a specified amount of organic waste per week to arrange for recycling services for that organic waste in a specified manner. If CalRecycle determines that statewide disposal of organic waste has not been reduced by 50 percent below 2014 levels by 2020, businesses generating more than two cubic yards of organic waste per week would be subject to these waste collection requirements. CalRecycle plans to make this assessment in the fall of 2020. Diverting organic waste from landfills reduces emissions of CH_4. This is equivalent to reducing anaerobic decomposition of organic waste that would have otherwise occurred in landfills where organic waste is often buried with other inorganic waste.

Low Carbon Fuel Standard

In January 2007, EO S-01-07 established an LCFS. This executive order calls for a statewide goal to be established to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020, and that an LCFS for transportation fuels be established for California. The LCFS applies to all refiners, blenders, producers, or importers ("Providers") of transportation fuels in California, including fuels used by off-road construction equipment. In June 2007, CARB adopted the LCFS under AB 32 pursuant to Health and Safety Code Section 38560.5, and, in April 2009, CARB approved the new rules and carbon intensity reference values with new regulatory requirements taking effect in January 2011. The standards require providers of transportation fuels to report on the mix of fuels they provide and demonstrate they meet the LCFS intensity standards annually. This is accomplished by ensuring that the number of "credits" earned by providing fuels with a lower carbon intensity than the established baseline (or obtained from another party) is equal to or greater than the "deficits" earned from selling higher intensity fuels. In response to certain court rulings, CARB re-adopted the LCFS regulation in September 2015, and the LCFS went into effect on January 1, 2016. In 2018, CARB approved amendments to the regulation to readjust carbon intensity benchmarks to meet California's 2030 GHG reductions targets under SB 32. These amendments include opportunities to promote zero-emission vehicle (ZEV) adoption, carbon capture and sequestration, and advanced technologies for decarbonization of the transportation sector.

Advanced Clean Cars Program

In January 2012, CARB approved the Advanced Clean Cars program, which combines the control of GHG emissions and criteria air pollutants, as well as requirements for greater numbers of ZEVs, into a single package of regulatory standards for vehicle model years 2017 through 2025. The new regulations strengthen the GHG standard for 2017 models and beyond. This will be achieved through existing technologies, the use of stronger and lighter materials, and more efficient drivetrains and engines. The program's ZEVs regulation requires battery, fuel cell, and/or plug-in hybrid electric vehicles to account for up to 15 percent of California's new vehicle sales by 2025. The program also includes a clean fuels outlet regulation designed to support the commercialization of zero-emission hydrogen fuel cell vehicles planned by vehicle manufacturers by 2015 by requiring increased numbers of hydrogen fueling stations throughout the State. The number of stations will grow as vehicle manufacturers sell more fuel cell vehicles. By 2025, when the rules will be fully implemented, the statewide fleet of new cars and light trucks will emit 40 percent fewer GHGs and 75 percent fewer smog-forming emissions than 2012 model year vehicles.

Executive Order B-48-18

In January 2018, Governor Brown signed EO B-48-18 requiring all State entities to work with the private sector to have at least 5 million ZEVs on the road by 2030, as well as install 200 hydrogen fueling stations and 250,000 electric vehicle charging stations by 2025. It specifies that 10,000 of the electric vehicle charging stations should be direct current fast chargers. This order also requires all State entities to continue to partner with local and regional governments to streamline the installation of ZEV infrastructure. The Governor's Office of Business and Economic Development is required to publish a Plug-in Charging Station Design Guidebook and update the 2015 Hydrogen Station Permitting Guidebook to aid in these efforts. All State entities are required to participate in updating the 2016 Zero-Emissions Vehicle Action Plan to help expand private investment in ZEV infrastructure with a focus on serving low-income and disadvantaged communities. Additionally, all State entities are to support and recommend policies and actions to expand ZEV infrastructure at residential land uses, through the LCFS Program, and recommend how to ensure affordability and accessibility for all drivers.

Regional Regulations

South Coast Air Quality Management District

In 2008, the SCAQMD formed a Working Group to identify GHG emissions thresholds for land use projects that could be used by local lead agencies in the Basin. The Working Group developed several different options that are contained in the SCAQMD 2008 draft guidance document titled Interim CEQA GHG Significance Threshold for Stationary Sources, Rules and Plans[1] that could be applied by lead agencies. On September 28, 2010, SCAQMD Working Group Meeting No. 15 provided further guidance, including a tiered approach for evaluating GHG emissions for development projects where the SCAQMD is not the lead agency. The SCAQMD has not presented a finalized version of these thresholds to the governing board.

The SCAQMD identifies the emissions level for which a project would not be expected to substantially conflict with any State legislation adopted to reduce statewide GHG emissions. As such, the utilization of a service population represents the rates of emissions needed to achieve a fair share of the State's mandated emissions reductions. Overall, the SCAQMD identifies a GHG

1 SCAQMD. 2008b. Interim CEQA GHG Significance Threshold for Stationary Sources, Rules and Plans.

efficiency level that, when applied statewide or to a defined geographic area, would meet the year 2020 and post-2020 emissions targets as required by AB 32 and SB 32. If projects are able to achieve targeted rates of emissions per the service population, the State will be able to accommodate expected population growth and achieve economic development objectives, while also abiding by AB 32's emissions target and future post-2020 targets.

Southern California Association of Governments

On September 3, 2020, SCAG adopted Connect SoCal–The 2020–2045 Regional Transportation Plan/Sustainable Communities Strategy (2020–2045 RTP/SCS).[1] In general, the SCS outlines a development pattern for the region, which, when integrated with the transportation network and other transportation measures and policies, would reduce vehicle miles traveled (VMT) from automobiles and light-duty trucks and thereby reduce GHG emissions from these sources. For the SCAG region, CARB has set GHG reduction targets at 8 percent below 2005 per capita emissions levels by 2020, and 19 percent below 2005 per capita emissions levels by 2035. The RTP/SCS lays out a strategy for the region to meet these targets. Overall, the SCS is meant to provide growth strategies that will achieve the regional GHG emissions reduction targets. Land use strategies to achieve the region's targets include planning for new growth around high-quality transit areas and livable corridors, and creating neighborhood mobility areas to integrate land use and transportation and plan for more active lifestyles.[2] However, the SCS does not require that local General Plans, Specific Plans, or zoning be consistent with the SCS; SCAG is required to consider local land use controls when drafting the SCS.

Local Regulations

The City of Jurupa Valley is participating in the Western Riverside County Organization of Governments (WRCOG) Subregional Climate Action Plan (CAP). The specific goals and actions included in the WRCOG Subregional CAP that are applicable to the proposed project include those pertaining to energy and water use reduction, promotion of green building measures, waste reduction, and reduction in vehicle miles traveled. The proposed project would also be required to include all mandatory green building measures for new nonresidential developments under the CALGreen Code, which would require that new building reduce water consumption, employ building commissioning to increase building system efficiencies, divert construction waste from landfills, and install low pollutant emitting finish materials.

Twelve cities in the subregion (including the City of Jurupa Valley) have joined efforts to develop the Subregional CAP, which sets 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 (AB 32).

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1 Southern California Association of Governments (SCAG). 2020. Connect SoCal: The 2020–2045 Regional Transportation Plan/Sustainable Communities Strategy of the Southern California Association of Governments. Website: https://scag.ca.gov/sites/main/files/file-attachments/0903fconnectsocal-plan_0.pdf?1606001176 (accessed March 2023).

2 Ibid.

The Air Quality Element of the Jurupa Valley General Plan is intended to ensure that the City, in collaboration with regional agencies, is able to decrease GHG emissions to the greatest extent possible. The following policies are applicable to the proposed project:

- **AQ 9.1: State and Regional Plans and Programs.** Monitor federal, State, and regional plans and programs to stay abreast on emerging information, practices, and strategies to address climate change.
- **AQ 9.2: Critical Infrastructure.** Locate critical infrastructure in areas not subject to severe climate change impacts, such as flooding.
- **AQ 9.3: Climate Action Plan.** Work with WRCOG to periodically monitor and update the Subregional CAP.
- **AQ 9.4: Vulnerability.** Develop strategies to reduce the City's vulnerability to climate change impacts.
- **AQ 9.5: GHG Thresholds.** Utilize the SCAQMD Draft GHG thresholds to evaluate development proposals until the City adopts a CAP.
- **AQ 9.11: Climate Action Plan.** Within two years of General Plan adoption, prepare and adopt a CAP for the City, including a 2030 and 2035 reduction target and local emissions inventory. The CAP will be consistent with the WRCOG Subregional CAP but will identify specific additional measures for the reduction of future GHG emissions. The CAP shall demonstrate how the City will reduce its GHG emissions to 50 percent below 1990 levels by 2030 and 80 percent below 1990 levels by 2050, consistent with State law and current guidance on GHG reduction planning. Specific actions that may be included in the City CAP to help keep citywide emissions below the SCAQMD service population significance threshold include, but are not limited to, requiring the installation of electric and conduit improvements to support the installation of future roof-mounted photovoltaic solar systems and electric vehicle charging stations for individual homes and businesses.

SETTING

This section provides the current SCAQMD attainment status, climate and air quality, ambient air quality monitoring results, and GHG emissions inventory.

ATTAINMENT STATUS

The CARB is required to designate areas of the state as attainment, nonattainment, or unclassified for all State standards. An *attainment* designation for an area signifies that pollutant concentrations did not violate the standard for that pollutant in that area. A *nonattainment* designation indicates that a pollutant concentration violated the standard at least once, excluding those occasions when a violation was caused by an exceptional event, as defined in the criteria. An *unclassified* designation signifies that data do not support either an attainment or nonattainment status. The CCAA divides districts into moderate, serious, and severe air pollution categories, with increasingly stringent control requirements mandated for each category.

The USEPA designates areas for O_3, CO, and NO_2 as either does not meet the primary standards, or cannot be classified, or better than national standards. For SO_2, areas are designated as does not meet the primary standards, does not meet the secondary standards, cannot be classified, or better than national standards.

Table E provides a summary of the attainment status for the Basin with respect to NAAQS and CAAQS.

Table E: Attainment Status of Criteria Pollutants in the South Coast Air Basin

Pollutant	State	Federal
O_3 1 hour	Nonattainment	Extreme Nonattainment
O_3 8 hour	Nonattainment	Extreme Nonattainment
PM_{10}	Nonattainment	Attainment/Maintenance
$PM_{2.5}$	Nonattainment	Serious Nonattainment
CO	Attainment	Attainment/Maintenance
NO_2	Attainment	Attainment/Maintenance
SO_2	N/A	Attainment/Unclassified
Lead	Attainment	Attainment[1]
All others	Attainment/Unclassified	Attainment/Unclassified

Source: South Coast Air Quality Management District (2018).
Notes:
[1] Except in Los Angeles County.
CO = carbon monoxide
N/A = not applicable
NO_2 = nitrogen dioxide
O_3 = ozone
PM_{10} = particulate matter less than 10 microns in size
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
SO_2 = sulfur dioxide

EXISTING CLIMATE AND AIR QUALITY

Air quality in the planning area is not only affected by various emission sources (e.g., mobile and industry), but also by atmospheric conditions (e.g., wind speed, wind direction, temperature, and rainfall). The combination of topography, low mixing height, abundant sunshine, and emissions from the second-largest urban area in the United States gives the South Coast Air Basin some of the worst air pollution in the nation.

The annual average temperature varies little throughout the Basin, ranging from the low to middle 60s°F. With a more pronounced oceanic influence, coastal areas show less variability in annual minimum and maximum temperatures than inland areas. The climatological station closest to the site is the Riverside Fire Station 3.[1] The monthly average maximum temperature recorded at this station ranged from 66.8°F in January to 94.4°F in August, with an annual average maximum of 79.5°F. The monthly average minimum temperature recorded at this station ranged from 39.1°F in January to 59.6°F in September, with an annual average minimum of 48.6°F. These levels are representative of the project area.

The majority of annual rainfall in the Basin occurs between November and March. Summer rainfall is minimal and is generally limited to scattered thundershowers in coastal regions and slightly heavier showers in the eastern portion of the Basin and along the coastal side of the mountains. Average monthly rainfall at the Riverside Fire station varied from 0.04 inch in July to 2.20 inches in February, with an annual total of 10.21 inches. Patterns in monthly and yearly rainfall totals are unpredictable due to fluctuations in the weather.

The Basin experiences a persistent temperature inversion (increasing temperature with increasing altitude) as a result of the Pacific high. This inversion limits the vertical dispersion of air contaminants, holding them relatively near the ground. As the sun warms the ground and the lower air layer, the temperature of the lower air layer approaches the temperature of the base of the inversion (upper) layer until the inversion layer finally breaks, allowing vertical mixing with the lower layer. This phenomenon is observed in mid-afternoon to late afternoon on hot summer days when the air appears to clear up suddenly. Winter inversions frequently break by midmorning.

Winds in the project area blow predominantly from the south-southwest, with relatively low velocities. Wind speeds in the project area average about 5 miles per hour (mph). Summer wind speeds average slightly higher than winter wind speeds. Low average wind speeds, together with a persistent temperature inversion, limit the vertical dispersion of air pollutants throughout the Basin. Strong, dry, north or northeasterly winds, known as Santa Ana winds, occur during the fall and winter months, dispersing air contaminants. The Santa Ana conditions tend to last for several days at a time.

The combination of stagnant wind conditions and low inversions produces the greatest pollutant concentrations. On days of no inversion or high wind speeds, ambient air pollutant concentrations are the lowest. During periods of low inversions and low wind speeds, air pollutants generated in

1 Western Regional Climate Center. Recent Climate in the West. Website: http://www.wrcc.dri.edu, (accessed March 2023).

urbanized areas are transported predominantly on shore into Riverside and San Bernardino Counties. In the winter, the greatest pollution problems are CO and NO_X because of extremely low inversions and air stagnation during the night and early morning hours. In the summer, the longer daylight hours and brighter sunshine combine to cause a reaction between hydrocarbons and NO_x to form photochemical smog. Smog is a general term that is naturally occurring fog that has become mixed with smoke or pollution. In this context it is better described as a form of air pollution produced by the photochemical reaction of sunlight with pollutants that have been released into the atmosphere, especially by automotive emissions.

Air Quality Monitoring Results

The SCAQMD, together with the ARB, maintains ambient air quality monitoring stations in the Basin. The air quality monitoring station closest to the site is the Rubidoux-Riverside Station, which monitors criteria air pollutant data. The air quality trends from this station are used to represent the ambient air quality in the project area. The pollutants monitored are CO, O_3, PM_{10}, $PM_{2.5}$, NO_2, and SO_2. The ambient air quality data in Table F show that NO_2, SO_2, and CO levels are below the applicable State and federal standards.

The State 1-hour O_3 standard was exceeded 24 times in 2019, 46 times in 2020, and 20 times in 2021. The federal 8-hour O_3 standard was exceeded 59 times in 2019, 82 times in 2020, and 55 times in 2021. The State 8-hour O_3 standard was exceeded 63 times in 2019, 86 times in 2020, and 57 times in 2021. The State 24-hour PM_{10} standard was exceeded 110 times in 2019, 115 times in 2020, and 75 times in 2021. The federal 24-hour PM_{10} standard was not exceeded in the three-year period. The federal 24-hour $PM_{2.5}$ standard was exceeded 5 times in 2019, 12 times in 2020, and 11 times in 2021. The NO_2, SO_2, and CO standard levels were not exceeded in the three-year period.

GREENHOUSE GAS EMISSIONS INVENTORIES

An emissions inventory that identifies and quantifies the primary human-generated sources and sinks of GHGs is a well-recognized and useful tool for addressing climate change. This section summarizes the latest information on global, United States, California, and local GHG emission inventories.

Global Emissions

Worldwide emissions of GHGs in 2020 totaled 22.9 billion MT of CO_2e (United Nations Framework Convention on Climate Change [UNFCCC] 2015). Global estimates are based on country inventories developed as part of the programs of the UNFCCC.

United States Emissions

In 2020, the year for which the most recent data are available, the United States emitted about 5,222 million metric tons of CO_2e (MMT CO_2e). Overall, emissions in 2020 decreased by 11 percent since 2019 and were 21 percent lower than 2005 levels. The primary driver for the decrease was an 11 percent decrease in CO_2 emissions from fossil fuel combustion. This decrease was primarily due to a 13 percent decrease in transportation emissions driven by decreased demand due to the ongoing COVID-19 pandemic. Electric power sector emissions also decreased 10 percent, reflecting

Table F: Ambient Air Quality Monitored at the Rubidoux – Riverside Station

Pollutant	Standard		2019	2020	2021
Carbon Monoxide (CO)					
Maximum 1-hour concentration (ppm)			1.5	1.8	2.1
Number of days exceeded:	State:	> 20 ppm	0	0	0
	Federal:	> 35 ppm	0	0	0
Maximum 8-hour concentration (ppm)			1.2	1.5	1.8
Number of days exceeded:	State:	≥ 9.0 ppm	0	0	0
	Federal:	≥ 9 ppm	0	0	0
Ozone (O_3)					
Maximum 1-hour concentration (ppm)			0.123	0.143	0.117
Number of days exceeded:	State:	> 0.09 ppm	24	46	20
Maximum 8-hour concentration (ppm)			0.096	0.115	0.097
Number of days exceeded:	State:	> 0.07 ppm	63	86	57
	Federal:	> 0.070 ppm	59	82	55
Coarse Particulates (PM_{10})					
Maximum 24-hour concentration (µg/m^3)			182.4	137.7	114.3
Number of days exceeded:	State:	> 50 µg/m^3	110	115	75
	Federal:	> 150 µg/m^3	0	0	0
Annual arithmetic average concentration (µg/m^3)			40.9	ND	33.2
Exceeded for the year:	State:	> 20 µg/m^3	Yes	ND	Yes
Fine Particulates ($PM_{2.5}$)					
Maximum 24-hour concentration (µg/m^3)			57.6	61.9	82.1
Number of days exceeded:	Federal:	> 35 µg/m^3	5	12	11
Annual arithmetic average concentration (µg/m^3)			11.2	14.1	13.2
Exceeded for the year:	State:	> 12 µg/m^3	No	Yes	Yes
	Federal:	> 15 µg/m^3	No	No	No
Nitrogen Dioxide (NO_2)					
Maximum 1-hour concentration (ppm)			0.056	0.066	0.052
Number of days exceeded:	State:	> 0.18 ppm	0	0	0
Annual arithmetic average concentration (ppm)			0.014	0.014	0.014
Exceeded for the year:	State:	> 0.030 ppm	No	No	No
	Federal:	> 0.053 ppm	No	No	No
Sulfur Dioxide (SO_2)					
Maximum 24-hour concentration (ppm)			0.0009	0.001	0.0011
Number of days exceeded:	State:	> 0.04 ppm	0	0	0
	Federal:	> 0.14 ppm	0	0	0
Annual arithmetic average concentration (ppm)			0.00042	0.00034	0.00051
Exceeded for the year:	Federal:	> 0.030 ppm	No	No	No

Source: United States Environmental Protection Agency. 2019–2021 Air Quality Data. Website: https://www.epa.gov/outdoor-air-quality-data, accessed March 2023. California Air Resources Board (ARB). iADAM: Air Quality Data Statistics. Website: http://www.arb.ca.gov/adam/welcome.html, accessed March 2023.

µg/m^3 = micrograms per cubic meter
ND = no data available
O_3 = ozone
PM_{10} = particulate matter less than 10 microns in size
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
ppm = parts per million

both a slight decrease in demand from the COVID-19 pandemic and a continued shift from coal to less carbon intensive natural gas and renewables. Of the five major sectors – residential and commercial, agricultural, industry, transportation, and electricity generation – transportation accounted for the highest amount of GHG emissions in 2020 (approximately 27 percent), with electricity generation second at 27 percent and emissions from industry third at 24 percent. [1]

State of California Emissions

The State emitted approximately 369.2 MMT CO_2e emissions in 2020, 35.3 MMT CO_2e lower than 2019 levels and 61.8 MMT CO_2e below the 2020 GHG limit of 431 MMT CO_2e.[2] The California Air Resources Board (CARB) estimates that transportation was the source of approximately 37 percent of the State's GHG emissions in 2020, which is a smaller share than recent years, as the transportation sector saw a significant decrease of 26.6 MMT CO_2e in 2020, likely due in large part to the impact of the COVID-19 pandemic. The next largest sources included industrial sources at approximately 20 percent and electricity generation at 16 percent. The remaining sources of GHG emissions were commercial and residential activities at 10 percent, agriculture at 9 percent, high GWP at 6 percent, and waste at 2 percent.[3]

Jurupa Valley Emissions

In 2010, Jurupa Valley generated approximately 500,000 MT CO_2e from all emissions sources. Like most communities in California, on-road transportation accounted for the largest share of emissions, representing 77 percent of emissions, while building energy was the second-largest sector for emissions at 15 percent. Off-road equipment, water conveyance, and solid waste disposal represented smaller, but still notable, portions of the emissions profile, representing 4 percent, 3 percent, and less than 1 percent, respectively. The smallest sectors, wastewater treatment and agriculture, each represented less than 1 percent of total emissions in Jurupa Valley in 2010 (City 2017).

1 USEPA. 2021. Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2019. Website: https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks-1990-2019 (accessed March 2023).

2 CARB. 2022a. *California Greenhouse Gas Emissions for 2000 to 2020, Trends of Emissions and Other Indicators Report*. Website: https://ww2.arb.ca.gov/sites/default/files/classic/cc/inventory/2000-2020_ghg_inventory_trends.pdf (accessed March 2023).

3 Ibid.

METHODOLOGY

The methodology used to estimate air quality, health risk, GHG, and energy impacts is described below.

CONSTRUCTION EMISSIONS

Construction activities can generate a substantial amount of air pollution. Construction activities are considered temporary; however, short-term impacts can contribute to exceedances of air quality standards. Construction activities include site preparation, earthmoving, and general construction. The emissions generated from these common construction activities include fugitive dust from soil disturbance, fuel combustion from mobile heavy-duty diesel and gasoline powered equipment, portable auxiliary equipment, and worker commute trips.

The California Emissions Estimator Model version 2022.1 (CalEEMod) computer program was used to calculate emissions from on-site construction equipment and emissions from worker and vehicle trips to the site. As discussed previously in the Project Location and Description section of this analysis, construction is anticipated to occur over a 13 month period, which was included in CalEEMod. The proposed project would require the net export of 2,062 cubic yards of soil, which was also included in CalEEMod. This analysis assumes the use of Tier 2 construction equipment and that the project would comply with SCAQMD Rule 403 measures. All other construction details are not yet known; therefore, default assumptions (e.g., construction worker and truck trips and fleet activities) from CalEEMod were used.

OPERATIONAL EMISSIONS

The air quality analysis includes estimating emissions associated with long-term operation of the proposed project. Consistent with the SCAQMD guidance for estimating emissions associated with land use development projects, the CalEEMod computer program was used to calculate the long-term operational emissions associated with the project. As discussed in the Project Location and Description section, the proposed project would construct a 30,616 sq ft building with equipment rental/sales lots and associated improvements. The proposed project analysis was conducted using land use codes *General Light Industry*, *General Office Building,* and *Parking Lot*. Trip generation rates used in CalEEMod for the project were based on the project's *Traffic Assessment Memorandum*[1], which identifies that the proposed project would generate approximately 834 average daily trips.

[1] Urban Crossroads. 2023. *Industrial Outdoor Ventures Focused Traffic Assessment.* March 2.

GREENHOUSE GAS ANALYSIS

Recognizing that the field of global climate change analysis is rapidly evolving, the approaches advocated most recently indicate that for determining a project's contribution to GHG emissions, lead agencies should calculate, or estimate, emissions from vehicular traffic, energy consumption, water conveyance and treatment, waste generation, construction activities, and any other significant source of emissions within the project area. The CalEEMod results were used to quantify GHG emissions generated by the project.

THRESHOLDS OF SIGNIFICANCE

The *State CEQA Guidelines* indicate that a project would normally have a significant adverse air quality impact if project-generated pollutant emissions would:

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

The *State CEQA Guidelines* indicate that a project would normally have a significant adverse greenhouse gas emission impact if the project would:

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

Certain air districts (e.g., SCAQMD) have created guidelines and requirements to conduct air quality analysis. The SCAQMD's current guidelines, the *CEQA Air Quality Handbook* with associated updates, were followed in this assessment of air quality and GHG impacts for the proposed project.

CRITERIA POLLUTANT THRESHOLDS

The SCAQMD has established daily emissions thresholds for construction and operation of a proposed project in the Basin. The emissions thresholds were established based on the attainment status of the Basin with regard to air quality standards for specific criteria pollutants. Because the concentration standards were set at a level that protects public health with an adequate margin of safety (EPA), these emissions thresholds are regarded as conservative and would overstate an individual project's contribution to health risks.

Table G lists the CEQA significance thresholds for construction and operational emissions established for the Basin. Projects in the Basin with construction- or operation-related emissions that exceed any of their respective emission thresholds would be considered significant under SCAQMD guidelines. These thresholds, which SCAQMD developed and that apply throughout the Basin, apply as both project and cumulative thresholds. If a project exceeds these standards, it is considered to have a project-specific and cumulative impact.

Table G: Regional Thresholds for Construction and Operational Emissions

Emissions Source	Pollutant Emissions Threshold (lbs/day)					
	VOCs	NO_x	CO	PM_{10}	$PM_{2.5}$	SO_x
Construction	75	100	550	150	55	150
Operations	55	55	550	150	55	150

Source: SCAQMD. Air Quality Significance Thresholds. Website: http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf (accessed March 2023).

CO = carbon monoxide
lbs/day = pounds per day
NO_x = nitrogen oxides
PM_{10} = particulate matter less than 10 microns in size
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
SCAQMD = South Coast Air Quality Management District
SO_X = sulfur oxides
VOCs = volatile organic compounds

LOCALIZED IMPACTS ANALYSIS

The SCAQMD published its *Final Localized Significance Threshold Methodology* in July 2008, recommending that all air quality analyses include an assessment of both construction and operational impacts on the air quality of nearby sensitive receptors. This guidance was used to analyze potential localized air quality impacts associated with construction of the proposed project. Localized significance thresholds (LST) are developed based on the size or total area of the emission source, the ambient air quality in the source receptor area, and the distance to the project. Sensitive receptors include residences, schools, hospitals, and similar uses that are sensitive to adverse air quality.

LSTs are based on the ambient concentrations of that pollutant within the project Source Receptor Area (SRA) and the distance to the nearest sensitive receptor. For the proposed project, the appropriate SRA for the LST is the nearby Metropolitan Riverside Area (SRA 23). SCAQMD provides LST screening tables for 25-, 50-, 100-, 200-, and 500-meter source-receptor distances. As identified above, there are no sensitive receptors located within 1,000 feet from the project site. The closest sensitive receptors are single-family residences located to the west and southwest of the project site at approximately 5,400 feet (1,646 meters) away from the project boundary line. Therefore, this analysis would utilize the 500-meter source receptor distance derived from interpolation. Based on the anticipated construction equipment, it is assumed that the maximum daily disturbed acreage for the proposed project would be 5 acres.[1] Table H lists the emissions thresholds that apply during project construction and operation.

1 SCAQMD. n.d. *Fact Sheet for Applying CalEEMod to Localized Significance Thresholds*. Website: http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/caleemod-guidance.pdf (accessed March 2023).

Table H: South Coast Air Quality Management District Localized Significance Thresholds

Emissions Source	Pollutant Emissions Threshold (lbs/day)			
	NO_x	CO	PM_{10}	$PM_{2.5}$
Construction	780.0	22,530.0	207.0	105.0
Operations	780.0	22,530.0	50.0	26.0

Source: South Coast Air Quality Management District (2008).
CO = carbon monoxide
lbs/day = pounds per day
NO_x = nitrogen oxides
PM_{10} = particulate matter less than 10 microns in size
$PM_{2.5}$ = particulate matter less than 2.5 microns in size

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. Because ambient CO levels are below the standards throughout the Basin, a project would be considered to have a significant CO impact if project emissions result in an exceedance of one or more of the 1-hour or 8-hour standards. The following are applicable local emission concentration standards for CO:

- California State 1-hour CO standard of 20 parts per million (ppm); and
- California State 8-hour CO standard of 9 ppm.

GREENHOUSE GAS EMISSIONS

To provide guidance to local lead agencies on determining significance for GHG emissions in their CEQA documents, SCAQMD convened a GHG CEQA Significance Threshold Working Group (Working Group). Based on the last Working Group meeting held in September 2010 (Meeting No. 15), SCAQMD proposed to adopt a tiered approach for evaluating GHG emissions for development projects where SCAQMD is not the lead agency:

- **Tier 1. Exemptions:** If a project is exempt from CEQA, project-level and cumulative GHG emissions are less than significant.

- **Tier 2. Consistency with a locally adopted GHG Reduction Plan:** If the project complies with a GHG emissions reduction plan or mitigation program that avoids or substantially reduces GHG emissions in the project's geographic area (i.e., city or county), project-level and cumulative GHG emissions are less than significant.

- **Tier 3. Numerical Screening Threshold:** If GHG emissions are less than the numerical screening-level threshold, project-level and cumulative GHG emissions are less than significant.

  For projects that are not exempt or where no qualifying GHG reduction plans are directly applicable, SCAQMD requires an assessment of GHG emissions. The 10,000 MT of CO_2e per year (MT CO_2e/yr) threshold for industrial uses would be recommended for use by all lead agencies. Under Option 1, separate screening thresholds are proposed for residential projects (3,500 MT CO_2e/yr), commercial projects (1,400 MT CO_2e/yr), and mixed-use projects (3,000 MT CO_2e/yr).

Under Option 2, a single numerical screening-level threshold of 3,000 MT CO_2e/yr would be used for all non-industrial projects.

- **Tier 4. Performance Standards:** If emissions exceed the numerical screening threshold, a more detailed review of the project's GHG emissions is warranted. SCAQMD has proposed an efficiency target for projects that exceed the bright-line threshold. The current recommended approach is per capita efficiency targets. SCAQMD is not recommending use of a percent emissions reduction target. Instead, SCAQMD proposes a 2020 efficiency target of 4.8 MT CO_2e/yr per service population (for project-level analyses and 6.6 MT CO_2e/yr per service population for plan-level projects (e.g., program-level projects such as general plans). The GHG efficiency metric divides annualized GHG emissions by the service population, which is the sum of residents and employees, per the following equation:

Rate of Emission: GHG Emissions (MT CO_2e/yr) ÷ Service Population

The efficiency evaluation consists of comparing the project's efficiency metric to efficiency targets. Efficiency targets represent the maximum quantity of emissions each resident and employee in the State of California could emit in various years based on emissions levels necessary to achieve the statewide GHG emissions reduction goals. A project that results in a lower rate of emissions would be more efficient than a project with a higher rate of emissions, based on the same service population. The metric considers GHG reduction measures integrated into a project's design and operation (or through mitigation). The per capita efficiency targets are based on the AB 32 GHG reduction target and 2020 GHG emissions inventory prepared for the CARB's 2008 Scoping Plan.

For the purpose of this analysis, the proposed project would be compared against the Tier 3 threshold of 3,000 MT CO_2e/year.

IMPACTS ANALYSIS

This section identifies the air quality and GHG emissions impacts associated with the implementation of the proposed project.

AIR QUALITY IMPACTS

Air pollutant emissions associated with the project would occur over the short term from construction activities and over the long term from operational activities associated with the proposed land uses.

Consistency with Applicable Air Quality Plans

A consistency determination plays an essential role in local agency project review by linking local planning and unique individual projects to the air quality plans. A consistency determination fulfills the CEQA goal of fully informing local agency decision-makers of the environmental costs of the project under consideration at a stage early enough to ensure that air quality concerns are addressed. Only new or amended General Plan elements, Specific Plans, and significantly unique projects need to undergo a consistency review due to the air quality plan strategy being based on projections from local General Plans.

The AQMP is based on regional growth projections developed by SCAG. The proposed project would include a 30,616-square foot building with equipment rental/sales lots. The proposed project would not house more than 1,000 persons, occupy more than 40 acres of land, or encompass more than 650,000 sq ft of floor area. Thus, the proposed project would not be defined as a regionally significant project under CEQA; therefore, it does not meet SCAG's Intergovernmental Review criteria.

The County's General Plan is consistent with the SCAG Regional Comprehensive Plan Guidelines and the SCAQMD AQMP. Pursuant to the methodology provided in the SCAQMD's *CEQA Air Quality Handbook*, consistency with the Basin 2022 AQMP is affirmed when a project (1) would not increase the frequency or severity of an air quality standards violation or cause a new violation, and (2) is consistent with the growth assumptions in the AQMP. Consistency review is presented as follows:

1. The project would result in short-term construction and long-term operational pollutant emissions that are all less than the CEQA significance emissions thresholds established by SCAQMD, as demonstrated below; therefore, the project would not result in an increase in the frequency or severity of an air quality standards violation or cause a new air quality standards violation.

2. The *CEQA Air Quality Handbook* indicates that consistency with AQMP growth assumptions must be analyzed for new or amended General Plan elements, Specific Plans, and significant projects. Significant projects include airports, electrical generating facilities, petroleum and gas refineries, designation of oil drilling districts, water ports, solid waste disposal sites, and offshore drilling facilities; therefore, the proposed project is not defined as significant. In addition, the proposed

project would not require a change to the General Plan land use designation or the current zoning, and would be consistent with the County's General Plan and Zoning Ordinance.

Based on the consistency analysis presented above, the proposed project would be consistent with the regional AQMP.

Criteria Pollutant Analysis

The Basin is designated as non-attainment for O_3 and $PM_{2.5}$ for federal standards and non-attainment for O_3, PM_{10}, and $PM_{2.5}$ for State standards. The SCAQMD's nonattainment status is attributed to the region's development history. Past, present, and future development projects contribute to the region's adverse air quality impacts on a cumulative basis. By its very nature, air pollution is largely a cumulative impact. No single project is sufficient in size to, by itself, result in nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. If a project's contribution to the cumulative impact is considerable, then the project's impact on air quality would be considered significant.

In developing thresholds of significance for air pollutants, the SCAQMD considered the emission levels for which a project's individual emissions would be cumulatively considerable. If a project exceeds the identified significance thresholds, its emissions would be cumulatively considerable, resulting in significant adverse air quality impacts to the region's existing air quality conditions. Therefore, additional analysis to assess cumulative impacts is unnecessary. The following analysis assesses the potential project-level construction- and operation-related air quality impacts.

Construction Emissions

During construction, short-term degradation of air quality may occur due to the release of particulate emissions generated by demolition, grading, paving, building, and other activities. Emissions from construction equipment are also anticipated and would include CO, NO_x, ROGs, directly-emitted particulate matter ($PM_{2.5}$ and PM_{10}), and TACs such as diesel exhaust particulate matter.

Project construction activities would include grading, site preparation, building, paving, and architectural coating activities. Construction-related effects on air quality from the proposed project would be greatest during the site preparation phase due to the disturbance of soils. If not properly controlled, these activities would temporarily generate particulate emissions. Sources of fugitive dust would include disturbed soils at the construction site. Unless properly controlled, vehicles leaving the site would deposit dirt and mud on local streets, which could be an additional source of airborne dust after it dries. PM_{10} emissions would vary from day to day, depending on the nature and magnitude of construction activity and local weather conditions. PM_{10} emissions would depend on soil moisture, silt content of soil, wind speed, and the amount of operating equipment. Larger dust particles would settle near the source, while fine particles would be dispersed over greater distances from the construction site.

Water or other soil stabilizers can be used to control dust, resulting in emission reductions of 50 percent or more. The SCAQMD has established Rule 403: Fugitive Dust, which would require the applicant to implement measures that would reduce the amount of particulate matter generated during the construction period.

In addition to dust-related PM_{10} emissions, heavy trucks and construction equipment powered by gasoline and diesel engines would generate CO, SO_2, NO_x, VOCs and some soot particulate ($PM_{2.5}$ and PM_{10}) in exhaust emissions. If construction activities were to increase traffic congestion in the area, CO and other emissions from traffic would increase slightly while those vehicles idle in traffic. These emissions would be temporary in nature and limited to the immediate area surrounding the construction site.

Construction emissions were estimated for the project using CalEEMod. Table I lists the tentative project construction schedule based on a 13-month construction duration. Table J lists the potential construction equipment to be used during project construction under each phase of construction. Construction-related emissions are presented in Table K. CalEEMod output sheets are included in Appendix A.

Table I: Tentative Project Construction Schedule

Phase No.	Phase Name	Phase Start Date	Phase End Date	Number of Days/ Week	Number of Days
1	Site Preparation	6/5/2023	6/30/2023	5	20
2	Grading	7/3/2023	7/21/2023	5	15
3	Building Construction	7/24/2023	6/7/2024	5	230
4	Paving	6/10/2024	6/28/2024	5	15
5	Architectural Coating	1/29/2024	7/5/2024	5	115

Source: Compiled by LSA, assuming construction would start in 2023 and occur for approximately 13 months. Architectural coating phase was extended to overlap with building construction phase (March 2023).)

Table J: Diesel Construction Equipment Utilized by Construction Phase

Construction Phase	Off-Road Equipment Type	Off-Road Equipment Unit Amount	Hours Used per Day	Horsepower	Load Factor
Site Preparation	Rubber Tired Dozers	3	8	367	0.40
	Tractors/Loaders/ Backhoes	4	8	84	0.37
Grading	Excavators	1	8	36	0.38
	Graders	1	8	148	0.41
	Rubber Tired Dozers	1	8	367	0.40
	Tractors/Loaders/ Backhoes	3	8	84	0.37
Building Construction	Cranes	1	7	367	0.29
	Forklifts	3	8	82	0.20
	Generator Sets	1	8	14	0.74
	Tractors/Loaders/ Backhoes	3	7	84	0.37
	Welders	1	8	46	0.45
Paving	Pavers	2	8	81	0.42
	Paving Equipment	2	8	89	0.36
	Rollers	2	8	36	0.38
Architectural Coating	Air Compressors	1	6	37	0.48

Source: Compiled by LSA using CalEEMod defaults (March 2023).
CalEEMod = California Emissions Estimator Model

Table K: Construction Air Pollutant Emissions

Construction Phase	Total Regional Pollutant Emissions[1] (lbs/day)							
	VOC	NOx	CO	SOx	Fugitive PM_{10}	Exhaust PM_{10}	Fugitive $PM_{2.5}$	Exhaust $PM_{2.5}$
Site Preparation	1.2	39.9	29.9	<0.1	8.0	1.1	4.0	1.0
Grading	0.8	24.7	19.5	<0.1	3.3	0.8	1.5	0.7
Building Construction	0.7	19.1	15.5	<0.1	0.2	0.7	<0.1	0.6
Paving	0.7	13.4	11.9	<0.1	0.2	0.6	<0.1	0.5
Architectural Coatings	2.6	1.1	1.2	<0.1	<0.1	0.1	<0.1	<0.1
Peak Daily	**3.3**	**39.9**	**29.9**	**<0.1**	**9.1**		**5.0**	
SCAQMD Thresholds	**75**	**100**	**550**	**150**	**150**		**55**	
Significant Emissions?	No	No	No	No	No		No	

Source: Compiled by LSA (March 2023).
[1] All on-site and off-site emissions are presented as unmitigated construction emissions in the CalEEMod output files.

CO = carbon monoxide
lbs/day = pounds per day
NOx = nitrogen oxides
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size
SCAQMD = South Coast Air Quality Management District
SOx = sulfur oxides
VOC = volatile organic compounds

As shown in Table K, construction emissions associated with the project would not exceed the SCAQMD thresholds for VOCs, NO_X, CO, sulfur oxides (SO_X), $PM_{2.5}$, or PM_{10} emissions. Therefore, construction of the proposed project would not result in emissions that would result in a cumulatively considerable net increase of any criteria pollutant for which the project is in nonattainment under an applicable federal or State ambient air quality standard.

Operational Air Quality Impacts

Long-term air pollutant emission impacts are those typically associated with mobile sources (e.g., vehicle and truck trips), energy sources (e.g., natural gas), and area sources (e.g., architectural coatings and the use of landscape maintenance equipment).

PM_{10} emissions result from running exhaust, tire and brake wear, and the entrainment of dust into the atmosphere from vehicles traveling on paved roadways. Entrainment of PM_{10} occurs when vehicle tires pulverize small rocks and pavement and the vehicle wakes generate airborne dust. The contribution of tire and brake wear is small compared to the other PM emission processes. Gasoline-powered engines have small rates of PM emissions compared with diesel-powered vehicles.

Energy source emissions result from activities in buildings for which natural gas is used. The quantity of emissions is the product of usage intensity (i.e., the amount of natural gas) and the emission factor of the fuel source. Greater building or appliance efficiency reduces the amount of energy for a given activity and thus lowers the resultant emissions. The emission factor is determined by the fuel source, with cleaner energy sources, like renewable energy, producing fewer emissions than conventional sources.

Typically, area source emissions consist of direct sources of air emissions located at the project site, including architectural coatings and the use of landscape maintenance equipment.

Long-term operation emissions associated with the proposed project were calculated using CalEEMod. Model results are shown in Table L below. CalEEMod output sheets are included in Appendix A.

Table L: Operational Air Pollutant Emissions

Source	Pollutant Emissions, lbs/day					
	VOC	NOx	CO	SOx	PM_{10}	$PM_{2.5}$
Mobile Sources	4.5	6.5	55.7	0.1	4.7	0.9
Area Sources	1.0	<0.1	1.3	<0.1	<0.1	<0.1
Energy Sources	<0.1	0.3	0.3	<0.1	<0.1	<0.1
Total Project Emissions	**5.5**	**6.8**	**57.3**	**0.1**	**4.7**	**0.9**
SCAQMD Thresholds	**55**	**55**	**550**	**150**	**150**	**55**
Significant?	**No**	**No**	**No**	**No**	**No**	**No**

Source: Compiled by LSA (March 2023).

CO = carbon monoxide
lbs/day = pounds per day
NOx = nitrogen oxides
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size
SCAQMD = South Coast Air Quality Management District
SOx = sulfur oxides
VOC = volatile organic compounds

The results shown in Table L indicate the project would not exceed the significance criteria for VOC, NO_x, CO, SO_x, PM_{10}, or $PM_{2.5}$ emissions; thus, the proposed project would not have a significant effect on regional air quality. Therefore, operation of the project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project is nonattainment under an applicable federal or State AAQS.

Long Term Microscale (CO Hot Spot Analysis)

Vehicular trips associated with the proposed project would contribute to congestion at intersections and along roadway segments in the project vicinity. Localized air quality impacts would occur when emissions from vehicular traffic increase as a result of the proposed project. The primary mobile-source pollutant of local concern is CO, a direct function of vehicle idling time and, thus, of traffic flow conditions. CO transport is extremely limited; under normal meteorological conditions, CO disperses rapidly with distance from the source. However, under certain extreme meteorological conditions, CO concentrations near a congested roadway or intersection may reach unhealthful levels, affecting local sensitive receptors (e.g., residents, schoolchildren, the elderly, and hospital patients). Typically, high CO concentrations are associated with roadways or intersections operating at unacceptable levels of service or with extremely high traffic volumes. In areas with high ambient background CO concentrations, modeling is recommended to determine a project's effect on local CO levels.

An assessment of project-related impacts on localized ambient air quality requires that future ambient air quality levels be projected. Existing CO concentrations in the immediate project vicinity are not available. Ambient CO levels monitored at Rubidoux-Riverside Station, the closest station to the project site, showed a highest recorded 1-hour concentration of 2.1 ppm (the State standard is 20 ppm) and a highest 8-hour concentration of 1.8 ppm (the State standard is 9 ppm) during the past 3 years (Table G). The highest CO concentrations would normally occur during peak traffic hours; hence, CO impacts calculated under peak traffic conditions represent a worst-case analysis.

As described in the *Traffic Assessment Memorandum*[1], the proposed project would result in 74 AM peak hour trips and 100 PM peak-hour trips from the existing conditions. As the proposed project would not generate more than 100 AM or PM peak hour trips, the proposed project did not meet the criteria for an evaluation of study area intersection or roadway segment level of service (LOS). Therefore, it is assumed that the addition of the proposed project traffic would not create any significant adverse impacts to nearby intersections.

Therefore, given the extremely low level of CO concentrations in the project area, and lack of traffic impacts at any intersections, project-related vehicles are not expected to contribute significantly to result in the CO concentrations exceeding the State or federal CO standards.

Localized Significance Thresholds Impacts Analysis

Project construction and operation emissions were compared to the LST screening tables in SRA 34, based on a 500-meter source-receptor distance and a disturbed acreage of 5.0 acres. The results of the LST analysis, summarized in Tables M and N, indicate that the project would not result in an exceedance of the SCAQMD LSTs during project construction or operation.

Table M: Construction Localized Impacts Analysis

Emissions Sources	NOx	CO	PM_{10}	$PM_{2.5}$
On-Site Emissions	39.9	29.9	9.1	5.0
Localized Significance Threshold	**780.0**	**22,530.0**	**207.0**	**105.0**
Significant Emissions?	**No**	**No**	**No**	**No**

Source: Compiled by LSA (March 2023)

Note: Source Receptor Area 23 – Metropolitan Riverside County, 5 acre, receptors at 500 meters.

CO = carbon monoxide
NOx = nitrogen oxides
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size

[1] Urban Crossroads. 2023. op. cit.

Table N: Operational Localized Impacts Analysis

Emissions Sources	NOx	CO	PM_{10}	$PM_{2.5}$
On-site emissions (lbs/day)	0.3	4.1	0.2	<0.1
Localized Significance Threshold	**780.0**	**22,530.0**	**50.0**	**26.0**
Significant Emissions?	**No**	**No**	**No**	**No**

Source: Compiled by LSA (March 2023).

Source Receptor Area 23: Metropolitan Riverside County, 5 acre, receptors at 500-meter distance

CO = carbon monoxide
NOx = nitrogen oxides
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size

By design, the localized impacts analysis only includes on-site sources; however, the CalEEMod outputs do not separate on-site and off-site emissions for mobile sources. For a worst-case scenario assessment, the emissions detailed in Table N assume all area and stationary source emissions would occur on site, all of the energy source emissions would occur off site at the utility power stations, and 5 percent of the project-related new mobile sources, which is an estimate of the amount of project-related on-site vehicle and truck travel, would occur on site. Considering the total trip length included in CalEEMod, the 5 percent assumption is conservative. Table N indicates the localized operational emissions would not exceed the LSTs at nearby residences. Therefore, the proposed operational activity would not result in a locally significant air quality impact.

Odors

Construction of proposed project would result in the emission of diesel fumes and other odors typically associated with construction activities. These compounds would be emitted in varying amounts on the project site, depending on where construction activities were occurring. Sensitive receptors located in the vicinity of the construction site may be affected.

SCAQMD rules restrict the VOC content (the source of odor-causing compounds) in paints. Construction of the proposed project would use typical construction techniques in compliance with SCAQMD rules. Odors are highest near the source and would quickly dissipate off site. Any odors associated with construction activities would be temporary and would cease upon completion of construction.

Land uses and industrial operations that typically are associated with odor complaints include agricultural uses, wastewater treatment plants, food-processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. The proposed project would not include any of these heavy commercial industrial land uses and instead would develop the commercial equipment rental/sales, which are not a land use typically associated with odor complaints. Furthermore, the proposed project would comply with SCAQMD Rule 402, Nuisance, which reduces potential odorous emissions from the project site.

SCAQMD Rule 402 regarding nuisances states: "A person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property." The proposed uses are not anticipated to emit any objectionable odors. Therefore, it is not anticipated that any operational sources under the project would result in objectionable odors and any odor impacts resulting from the proposed project would be less than significant.

GREENHOUSE GAS IMPACTS

This section describes the potential GHG impacts associated with implementation the proposed project.

Generation of Greenhouse Gas Emissions

This section describes the proposed project's construction- and operational-related GHG emissions and contribution to global climate change. The SCAQMD has not addressed emission thresholds for construction in its *CEQA Air Quality Handbook*; however, the SCAQMD requires quantification and disclosure. Thus, an evaluation of the project's impacts related to the release of GHG emissions for both construction and operational phases of the project is described below.

Short-Term Greenhouse Gas Emissions

Construction activities associated with the proposed project would produce combustion emissions from various sources. During construction, GHGs would be emitted through the operation of construction equipment and from worker and builder supply vendor vehicles, each of which typically use fossil-based fuels to operate. The combustion of fossil-based fuels creates GHGs such as CO_2, CH_4, and N_2O. Furthermore, CH_4 is emitted during the fueling of heavy equipment. Exhaust emissions from on-site construction activities would vary daily as construction activity levels change.

As indicated above, the SCAQMD does not have an adopted threshold of significance for construction-related GHG emissions. However, lead agencies are required to quantify and disclose GHG emissions that would occur during construction. The SCAQMD then requires the construction GHG emissions to be amortized over the life of the project, defined by the SCAQMD as 30 years[1], added to the operational emissions, and compared to the applicable interim GHG significance threshold tier.

Using CalEEMod version 2022.1, it is estimated that the project would generate approximately 385.0 MT CO_2e during construction of the project. When annualized over the 30-year life of the project, annual emissions would be 12.8 MT CO_2e. Table O lists the annual GHG emissions for each construction year (details are provided in the CalEEMod output in Appendix A).

1 The SCAQMD has identified the average operational lifespan of buildings to be 30 years. Website: http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-(ghg)-ceqa-significance-thresholds/ghgattachmente.pdf (accessed March 2023).

Table O: Construction Greenhouse Gas Emissions

Construction Year	Total Annual Emissions (MT/yr)			Total Emissions (MT/CO_2e)
	CO_2	CH_4	N_2O	CO_2e
2023	222.0	<0.1	<0.1	224.0
2024	160.0	<0.1	<0.1	161.0
Total Construction Emissions	**382.0**	**<0.1**	**<0.1**	**385.0**
Total Construction Emissions Amortized over 30 years				**12.8**

Source: Compiled by LSA (March 2023).

CH_4 = methane
CO_2 = carbon dioxide
CO_2e = carbon dioxide equivalent
MT/CO_2e = metric tons of carbon dioxide equivalent
MT/yr = metric tons per year
N_2O = nitrous oxide

Long-Term Greenhouse Gas Emissions

Long-term GHG emissions are typically generated from mobile emissions (e.g., vehicle and truck trips), area sources (e.g., maintenance activities and landscaping), indirect emissions from sources associated with energy consumption, waste sources (land filling and waste disposal), and water sources (water supply and conveyance, treatment, and distribution). Mobile-source GHG emissions would include project-generated vehicle trips to and from the project. Area-source emissions would be associated with activities such as landscaping and maintenance on the project site. Energy source emissions would be generated by the use of natural gas associated with the project. Waste source emissions generated by the proposed project include energy generated by land filling and other methods of disposal related to transporting and managing project-generated waste. In addition, water source emissions associated with the proposed project are generated by water supply and conveyance, water treatment, water distribution, and wastewater treatment.

Following guidance from the SCAQMD, GHG emissions were estimated for the operational year of 2024 using CalEEMod. Table P shows the calculated emissions for the proposed project.

As discussed above, a project would have less than significant GHG emissions if it would result in operational-related GHG emissions of less than 3,000 MT CO_2e/yr. As shown in Table P, the proposed project would generate 2,448.3 MT CO_2e per year. Therefore, operation of the proposed project would not generate significant GHG emissions that would have a significant effect on the environment. The proposed project's operational GHG emissions would be a less than significant impact. Mitigation measures are not required.

Consistency with Greenhouse Gas Emissions Reduction Plans

An evaluation of the proposed project's consistency with the City's General Plan and the Western Riverside Council of Government's Subregional Climate Action Plan is provided below.

Table P: Operational Greenhouse Gas Emissions

Emissions Source	Pollutant Emissions (MT/yr)			
	CO_2	**CH_4**	**N_2O**	**Total CO_2e**
Construction Emissions Amortized over 30 Years				12.8
Mobile Sources	2,210.0	0.1	0.1	2,247.0
Area Sources	0.6	<0.1	<0.1	0.6
Energy Sources	155.0	<0.1	<0.1	155.0
Water Sources	14.3	0.2	<0.1	21.5
Waste Sources	3.3	0.3	0.0	11.4
Total Project Emissions				**2,435.5**
Total Annual Emissions				**2,448.3**
SCAQMD Tier 3 Threshold				**3,000**
Exceed?				**No**

Source: Compiled by LSA (March 2023).

Bio-CO_2 = biologically generated CO_2
CO_2e = carbon dioxide equivalent
NBio-CO_2 = non-biologically generated CO_2
CH_4 = methane
MT/yr = metric tons per year
CO_2 = carbon dioxide
N_2O = nitrous oxide

City of Jurupa Valley General Plan

The City's Air Quality Element contains policies directed at managing the GHG emissions from projects in the City. Because the City has not yet adopted a CAP, Policy AQ 9.5 requires the City to utilize the SCAQMD Draft GHG thresholds to evaluate the proposed project's emissions. As shown above, the proposed project would not generate GHG emissions that would exceed the SCAQMD thresholds. Therefore, impacts relating to the proposed project's potential to conflict with an applicable Plan, Policy, or Regulation would be less than significant.

Western Riverside Council of Government's Subregional Climate Action Plan

The WRCOG CAP covers 12 cities in the subregion to set a subregional GHG emissions reduction target, emissions reduction measures, and action steps to assist each community to demonstrate consistency with AB 32. The GHG emissions reduction potential of each measure included in the WRCOG CAP was estimated for jurisdictions participating at various voluntary levels that could be realistically achieved by 2020. Implementation of the WRCOG CAP will result in a 15 percent reduction from the subregion's baseline (2010) emissions, consistent with State-recommended goals for local jurisdictions. As a result, the 2020 reduction goal is achieved through implementation of the measures in the WRCOG CAP. The WRCOG CAP also looks beyond 2020 and demonstrates an ongoing commitment to reducing GHG emissions aligned with State-established goals included in SB 375 and Executive Order S-3-05. Continued implementation of the WRCOG CAP beyond 2020 will place the subregion on a trajectory to reduce GHG emissions 49 percent below baseline emissions by 2035[1].

Additionally, the proposed project would be consistent with the WRCOG CAP through implementation of the GHG reduction measures in the WRCOG CAP and would not impede the various levels of participation to which the City of Jurupa Valley has committed. For example, with regard to WRCOG CAP measure E-3: Shade Trees, the City has committed to require shade trees for all new development or redevelopment and the proposed project would provide shade trees in the region. The proposed project would also reduce GHG emissions associated with solid waste generation because the proposed project would be required to comply with the 75 percent waste diversion consistent with AB 341. The proposed project would be required to use efficient building practices pursuant to the latest version of Title 24, that require new buildings to reduce water consumption, employ building commissioning to increase building system efficiencies, divert construction waste from landfills, and install low-pollutant-emitting finish materials. The implementation of these stricter building and appliance standards would result in water, energy, and construction waste reductions for the proposed project. Compliance with CalGreen Building Code would ensure the use of energy efficient appliances in the proposed project's commercial buildings and would require water efficient landscaping be incorporated into the proposed project. Other measures in the WRCOG CAP would be implemented by other local jurisdictions and on a State and regional level, such as measure SR-1 from the WRCOG CAP, which would implement the statewide renewable energy portfolio standard of 33 percent by 2020. As such, the proposed project would be consistent with the applicable GHG reduction measures in the WRCOG CAP that the City has committed to.

Furthermore, the proposed project would require commercial building to meet or exceed 2019 Title 24 standards and meet the Green Building Code standards, reduce indoor water demand by using low-flow fixtures and implementing water-efficient landscaping, require ENERGY STAR compliant appliances where appliances are required on site, and require recycling programs to reduce waste to landfills by a minimum of 50 percent and up to 75 percent by 2020 per AB 341. As a result, the proposed project would be considered consistent with the WRCOG CAP. Therefore, the proposed project's impact would be less than significant.

2022 Scoping Plan

The following discussion evaluates the proposed project according to the goals of the 2022 Scoping Plan, EO B-30-15, SB 32, and AB 197.

EO B-30-15 added the immediate target of reducing GHG emissions to 40 percent below 1990 levels by 2030. CARB released a second update to the Scoping Plan, the 2017 Scoping Plan,[2] to reflect the 2030 target set by EO B-30-15 and codified by SB 32. SB 32 affirms the importance of addressing climate change by codifying into statute the GHG emissions reductions target of at least 40 percent

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1 Western Riverside Council of Governments (WRCOG). 2014. *Subregional Climate Action Plan*. September 2014.

2 CARB. 2017a. *California's 2017 Climate Change Scoping Plan*. November.

below 1990 levels by 2030 contained in EO B-30-15. SB 32 builds on AB 32 and keeps us on the path toward achieving the State's 2050 objective of reducing emissions to 80 percent below 1990 levels. The companion bill to SB 32, AB 197, provides additional direction to the CARB related to the adoption of strategies to reduce GHG emissions. Additional direction in AB 197 intended to provide easier public access to air emissions data that are collected by CARB was posted in December 2016.

In addition, the 2022 Scoping Plan assesses progress toward the statutory 2030 target, while laying out a path to achieving carbon neutrality no later than 2045. The 2022 Scoping Plan focuses on outcomes needed to achieve carbon neutrality by assessing paths for clean technology, energy deployment, natural and working lands, and others, and is designed to meet the State's long-term climate objectives and support a range of economic, environmental, energy security, environmental justice, and public health priorities.

The 2022 Scoping Plan focuses on building clean energy production and distribution infrastructure for a carbon-neutral future, including transitioning existing energy production and transmission infrastructure to produce zero-carbon electricity and hydrogen, and utilizing biogas resulting from wildfire management or landfill and dairy operations, among other substitutes. The 2022 Scoping Plan states that in almost all sectors, electrification will play an important role. The 2022 Scoping Plan evaluates clean energy and technology options and the transition away from fossil fuels, including adding four times the solar and wind capacity by 2045 and about 1,700 times the amount of current hydrogen supply. As discussed in the 2022 Scoping Plan, EO N-79-20 requires that all new passenger vehicles sold in California will be zero-emission by 2035, and all other fleets will have transitioned to zero-emission as fully possible by 2045, which will reduce the percentage of fossil fuel combustion vehicles.

Energy efficient measures are intended to maximize energy efficiency building and appliance standards, pursue additional efficiency efforts including new technologies and new policy and implementation mechanisms, and pursue comparable investment in energy efficiency from all retail providers of electricity in California. In addition, these measures are designed to expand the use of green building practices to reduce the carbon footprint of California's new and existing inventory of buildings. As discussed above, the proposed project would comply with CALGreen, regarding energy conservation and green building standards. Therefore, the proposed project would comply with applicable energy measures.

Water conservation and efficiency measures are intended to continue efficiency programs and use cleaner energy sources to move and treat water. Increasing the efficiency of water transport and reducing water use would reduce GHG emissions. As noted above, the project would comply with the CALGreen Code, which includes a variety of different measures, including reduction of wastewater and water use. In addition, the proposed project would be required to comply with the California Model Water Efficient Landscape Ordinance. Therefore, the proposed project would not conflict with any of the water conservation and efficiency measures.

The goal of transportation and motor vehicle measures is to develop regional GHG emissions reduction targets for passenger vehicles. Specific regional emission targets for transportation emissions would not directly apply to the proposed project. The second phase of Pavley standards will reduce GHG emissions from new cars by 34 percent from 2016 levels by 2025, resulting in a

3 percent decrease in average vehicle emissions for all vehicles by 2020. Vehicles traveling to the project site would comply with the Pavley II (LEV III) Advanced Clean Cars Program. Therefore, the proposed project would not conflict with the identified transportation and motor vehicle measures.

CONCLUSIONS

Based on the analysis presented above, the proposed project would not conflict with or obstruct implementation of SCAQMD air quality plans. In addition, construction and operation of the proposed project would not result in the generation of criteria air pollutants that would exceed SCAQMD thresholds of significance. The proposed project is not expected to produce significant emissions that would affect nearby sensitive receptors. The project would also not result in objectionable odors affecting a substantial number of people. With regards to GHGs, the project would not result in substantial emissions during construction or operation. Additionally, the proposed project would not conflict with the objectives embodied in the 2022 Scoping Plan would be consistent with the WRCOG CAP measures. Therefore, the proposed project's incremental contribution to cumulative GHG emissions would not be cumulatively considerable.

APPENDIX A

CALEEMOD PRINTOUTS

Industrial Outdoor Venture Project Custom Report

Table of Contents

8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Industrial Outdoor Venture Project
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.80
Precipitation (days)	20.8
Location	34.01945026499652, -117.54570382312433
County	Riverside-South Coast
City	Jurupa Valley
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	5438
EDFZ	11
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas

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
General Light Industry	25.0	1000sqft	5.70	25,000	44,988	—	—	—
General Office Building	6.00	1000sqft	0.30	5,616	0.00	—	—	—

Parking Lot	105	Space	0.88	0.00	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-11	Limit Vehicle Speeds on Unpaved Roads

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	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.36	39.9	29.9	0.05	1.12	7.89	9.01	1.02	3.99	5.01	5,553	0.23	0.23	5,575
Mit.	3.36	39.9	29.9	0.05	1.12	7.89	9.01	1.02	3.99	5.01	5,553	0.23	0.23	5,575
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.31	20.2	16.3	0.03	0.76	0.24	0.99	0.70	0.06	0.76	2,882	0.12	0.05	2,900
Mit.	3.31	20.2	16.3	0.03	0.76	0.24	0.99	0.70	0.06	0.76	2,882	0.12	0.05	2,900
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.07	9.24	7.21	0.01	0.31	0.63	0.94	0.29	0.29	0.58	1,341	0.05	0.03	1,351
Mit.	1.07	9.24	7.21	0.01	0.31	0.63	0.94	0.29	0.29	0.58	1,341	0.05	0.03	1,351
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.20	1.69	1.32	< 0.005	0.06	0.11	0.17	0.05	0.05	0.11	222	0.01	< 0.005	224
Mit.	0.20	1.69	1.32	< 0.005	0.06	0.11	0.17	0.05	0.05	0.11	222	0.01	< 0.005	224
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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	CO2T	CH4	N2O	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	1.17	39.9	29.9	0.05	1.12	7.89	9.01	1.02	3.99	5.01	5,553	0.23	0.23	5,575
2024	3.36	20.2	16.6	0.03	0.76	0.24	0.99	0.70	0.06	0.76	2,899	0.11	0.05	2,919
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.69	19.1	15.2	0.02	0.69	0.20	0.89	0.64	0.05	0.69	2,721	0.11	0.05	2,738
2024	3.31	20.2	16.3	0.03	0.76	0.24	0.99	0.70	0.06	0.76	2,882	0.12	0.05	2,900
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.31	9.24	7.21	0.01	0.31	0.63	0.94	0.29	0.29	0.58	1,341	0.05	0.03	1,351
2024	1.07	6.85	5.55	0.01	0.26	0.08	0.34	0.24	0.02	0.26	969	0.04	0.02	975
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.06	1.69	1.32	< 0.005	0.06	0.11	0.17	0.05	0.05	0.11	222	0.01	< 0.005	224
2024	0.20	1.25	1.01	< 0.005	0.05	0.01	0.06	0.04	< 0.005	0.05	160	0.01	< 0.005	161

2.3. Construction Emissions by Year, Mitigated

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	CO2T	CH4	N2O	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	1.17	39.9	29.9	0.05	1.12	7.89	9.01	1.02	3.99	5.01	5,553	0.23	0.23	5,575
2024	3.36	20.2	16.6	0.03	0.76	0.24	0.99	0.70	0.06	0.76	2,899	0.11	0.05	2,919
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.69	19.1	15.2	0.02	0.69	0.20	0.89	0.64	0.05	0.69	2,721	0.11	0.05	2,738
2024	3.31	20.2	16.3	0.03	0.76	0.24	0.99	0.70	0.06	0.76	2,882	0.12	0.05	2,900
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.31	9.24	7.21	0.01	0.31	0.63	0.94	0.29	0.29	0.58	1,341	0.05	0.03	1,351
2024	1.07	6.85	5.55	0.01	0.26	0.08	0.34	0.24	0.02	0.26	969	0.04	0.02	975
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.06	1.69	1.32	< 0.005	0.06	0.11	0.17	0.05	0.05	0.11	222	0.01	< 0.005	224
2024	0.20	1.25	1.01	< 0.005	0.05	0.01	0.06	0.04	< 0.005	0.05	160	0.01	< 0.005	161

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	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	5.45	6.38	57.3	0.14	0.13	4.55	4.68	0.12	0.81	0.93	15,142	3.87	0.62	15,487
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.95	6.82	45.6	0.13	0.13	4.55	4.68	0.12	0.81	0.93	14,265	3.88	0.64	14,561

Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	5.07	6.96	48.4	0.13	0.13	4.55	4.68	0.12	0.81	0.93	14,395	3.88	0.65	14,716
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.93	1.27	8.83	0.02	0.02	0.83	0.85	0.02	0.15	0.17	2,383	0.64	0.11	2,436

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	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	4.47	6.04	55.7	0.14	0.10	4.55	4.65	0.10	0.81	0.91	14,096	0.48	0.58	14,339
Area	0.96	0.01	1.33	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	5.48	< 0.005	< 0.005	5.50
Energy	0.02	0.33	0.28	< 0.005	0.03	—	0.03	0.03	—	0.03	934	0.07	< 0.005	937
Water	—	—	—	—	—	—	—	—	—	—	86.6	1.35	0.03	130
Waste	—	—	—	—	—	—	—	—	—	—	19.7	1.97	0.00	69.0
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	6.52
Total	5.45	6.38	57.3	0.14	0.13	4.55	4.68	0.12	0.81	0.93	15,142	3.87	0.62	15,487
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	4.19	6.49	45.4	0.13	0.10	4.55	4.65	0.10	0.81	0.91	13,225	0.49	0.60	13,418
Area	0.74	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.02	0.33	0.28	< 0.005	0.03	—	0.03	0.03	—	0.03	934	0.07	< 0.005	937
Water	—	—	—	—	—	—	—	—	—	—	86.6	1.35	0.03	130
Waste	—	—	—	—	—	—	—	—	—	—	19.7	1.97	0.00	69.0
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	6.52

Total	4.95	6.82	45.6	0.13	0.13	4.55	4.68	0.12	0.81	0.93	14,265	3.88	0.64	14,561
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	4.17	6.63	47.2	0.13	0.10	4.55	4.65	0.10	0.81	0.91	13,351	0.49	0.61	13,570
Area	0.89	0.01	0.91	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	3.75	< 0.005	< 0.005	3.76
Energy	0.02	0.33	0.28	< 0.005	0.03	—	0.03	0.03	—	0.03	934	0.07	< 0.005	937
Water	—	—	—	—	—	—	—	—	—	—	86.6	1.35	0.03	130
Waste	—	—	—	—	—	—	—	—	—	—	19.7	1.97	0.00	69.0
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	6.52
Total	5.07	6.96	48.4	0.13	0.13	4.55	4.68	0.12	0.81	0.93	14,395	3.88	0.65	14,716
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.76	1.21	8.61	0.02	0.02	0.83	0.85	0.02	0.15	0.17	2,210	0.08	0.10	2,247
Area	0.16	< 0.005	0.17	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.62	< 0.005	< 0.005	0.62
Energy	< 0.005	0.06	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	155	0.01	< 0.005	155
Water	—	—	—	—	—	—	—	—	—	—	14.3	0.22	0.01	21.5
Waste	—	—	—	—	—	—	—	—	—	—	3.26	0.33	0.00	11.4
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	1.08
Total	0.93	1.27	8.83	0.02	0.02	0.83	0.85	0.02	0.15	0.17	2,383	0.64	0.11	2,436

2.6. Operations Emissions by Sector, Mitigated

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	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	4.47	6.04	55.7	0.14	0.10	4.55	4.65	0.10	0.81	0.91	14,096	0.48	0.58	14,339
Area	0.96	0.01	1.33	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	5.48	< 0.005	< 0.005	5.50
Energy	0.02	0.33	0.28	< 0.005	0.03	—	0.03	0.03	—	0.03	934	0.07	< 0.005	937

Water	—	—	—	—	—	—	—	—	—	—	86.6	1.35	0.03	130
Waste	—	—	—	—	—	—	—	—	—	—	19.7	1.97	0.00	69.0
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	6.52
Total	5.45	6.38	57.3	0.14	0.13	4.55	4.68	0.12	0.81	0.93	15,142	3.87	0.62	15,487
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	4.19	6.49	45.4	0.13	0.10	4.55	4.65	0.10	0.81	0.91	13,225	0.49	0.60	13,418
Area	0.74	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.02	0.33	0.28	< 0.005	0.03	—	0.03	0.03	—	0.03	934	0.07	< 0.005	937
Water	—	—	—	—	—	—	—	—	—	—	86.6	1.35	0.03	130
Waste	—	—	—	—	—	—	—	—	—	—	19.7	1.97	0.00	69.0
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	6.52
Total	4.95	6.82	45.6	0.13	0.13	4.55	4.68	0.12	0.81	0.93	14,265	3.88	0.64	14,561
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	4.17	6.63	47.2	0.13	0.10	4.55	4.65	0.10	0.81	0.91	13,351	0.49	0.61	13,570
Area	0.89	0.01	0.91	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	3.75	< 0.005	< 0.005	3.76
Energy	0.02	0.33	0.28	< 0.005	0.03	—	0.03	0.03	—	0.03	934	0.07	< 0.005	937
Water	—	—	—	—	—	—	—	—	—	—	86.6	1.35	0.03	130
Waste	—	—	—	—	—	—	—	—	—	—	19.7	1.97	0.00	69.0
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	6.52
Total	5.07	6.96	48.4	0.13	0.13	4.55	4.68	0.12	0.81	0.93	14,395	3.88	0.65	14,716
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.76	1.21	8.61	0.02	0.02	0.83	0.85	0.02	0.15	0.17	2,210	0.08	0.10	2,247
Area	0.16	< 0.005	0.17	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.62	< 0.005	< 0.005	0.62
Energy	< 0.005	0.06	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	155	0.01	< 0.005	155
Water	—	—	—	—	—	—	—	—	—	—	14.3	0.22	0.01	21.5
Waste	—	—	—	—	—	—	—	—	—	—	3.26	0.33	0.00	11.4

Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	1.08
Total	0.93	1.27	8.83	0.02	0.02	0.83	0.85	0.02	0.15	0.17	2,383	0.64	0.11	2,436

3. Construction Emissions Details

3.1. Site Preparation (2023) - 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	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.07	39.9	28.3	0.05	1.12	—	1.12	1.02	—	1.02	5,295	0.21	0.04	5,314
Dust From Material Movement	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	2.18	1.55	< 0.005	0.06	—	0.06	0.06	—	0.06	290	0.01	< 0.005	291
Dust From Material Movement	—	—	—	—	—	0.42	0.42	—	0.22	0.22	—	—	—	—
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.40	0.28	< 0.005	0.01	—	0.01	0.01	—	0.01	48.0	< 0.005	< 0.005	48.2

Dust From Material Movement	—	—	—	—	—	0.08	0.08	—	0.04	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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.09	1.59	0.00	0.00	0.23	0.23	0.00	0.05	0.05	257	0.01	0.01	261
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
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	0.01	0.07	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	13.1	< 0.005	< 0.005	13.3
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
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	2.17	< 0.005	< 0.005	2.20
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
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

3.2. Site Preparation (2023) - Mitigated

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	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.07	39.9	28.3	0.05	1.12	—	1.12	1.02	—	1.02	5,295	0.21	0.04	5,314
Dust From Material Movement	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	2.18	1.55	< 0.005	0.06	—	0.06	0.06	—	0.06	290	0.01	< 0.005	291
Dust From Material Movement	—	—	—	—	—	0.42	0.42	—	0.22	0.22	—	—	—	—
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.40	0.28	< 0.005	0.01	—	0.01	0.01	—	0.01	48.0	< 0.005	< 0.005	48.2
Dust From Material Movement	—	—	—	—	—	0.08	0.08	—	0.04	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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.09	1.59	0.00	0.00	0.23	0.23	0.00	0.05	0.05	257	0.01	0.01	261
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

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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	0.01	0.07	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	13.1	< 0.005	< 0.005	13.3
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
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	2.17	< 0.005	< 0.005	2.20
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
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

3.3. Grading (2023) - 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	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.73	23.2	17.8	0.03	0.75	—	0.75	0.69	—	0.69	2,958	0.12	0.02	2,968
Dust From Material Movement	—	—	—	—	—	2.77	2.77	—	1.34	1.34	—	—	—	—
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.95	0.73	< 0.005	0.03	—	0.03	0.03	—	0.03	122	< 0.005	< 0.005	122
Dust From Material Movement	—	—	—	—	—	0.11	0.11	—	0.05	0.05	—	—	—	—
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.17	0.13	< 0.005	0.01	—	0.01	0.01	—	0.01	20.1	< 0.005	< 0.005	20.2
Dust From Material Movement	—	—	—	—	—	0.02	0.02	—	0.01	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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.08	1.36	0.00	0.00	0.20	0.20	0.00	0.05	0.05	220	0.01	0.01	224
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
Hauling	0.02	1.40	0.34	0.01	0.02	0.31	0.33	0.02	0.09	0.11	1,221	0.02	0.19	1,282
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	8.43	< 0.005	< 0.005	8.55
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
Hauling	< 0.005	0.06	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	50.2	< 0.005	0.01	52.6
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	1.40	< 0.005	< 0.005	1.41

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
Hauling	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	8.31	< 0.005	< 0.005	8.72

3.4. Grading (2023) - Mitigated

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	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.73	23.2	17.8	0.03	0.75	—	0.75	0.69	—	0.69	2,958	0.12	0.02	2,968
Dust From Material Movement	—	—	—	—	—	2.77	2.77	—	1.34	1.34	—	—	—	—
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.95	0.73	< 0.005	0.03	—	0.03	0.03	—	0.03	122	< 0.005	< 0.005	122
Dust From Material Movement	—	—	—	—	—	0.11	0.11	—	0.05	0.05	—	—	—	—
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.17	0.13	< 0.005	0.01	—	0.01	0.01	—	0.01	20.1	< 0.005	< 0.005	20.2

Dust From Material Movement	—	—	—	—	—	0.02	0.02	—	0.01	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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.08	1.36	0.00	0.00	0.20	0.20	0.00	0.05	0.05	220	0.01	0.01	224
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
Hauling	0.02	1.40	0.34	0.01	0.02	0.31	0.33	0.02	0.09	0.11	1,221	0.02	0.19	1,282
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	8.43	< 0.005	< 0.005	8.55
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
Hauling	< 0.005	0.06	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	50.2	< 0.005	0.01	52.6
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	1.40	< 0.005	< 0.005	1.41
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
Hauling	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	8.31	< 0.005	< 0.005	8.72

3.5. Building Construction (2023) - 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	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.62	18.9	14.3	0.02	0.69	—	0.69	0.64	—	0.64	2,397	0.10	0.02	2,406
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.62	18.9	14.3	0.02	0.69	—	0.69	0.64	—	0.64	2,397	0.10	0.02	2,406
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.20	5.95	4.51	0.01	0.22	—	0.22	0.20	—	0.20	755	0.03	0.01	758
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	1.09	0.82	< 0.005	0.04	—	0.04	0.04	—	0.04	125	0.01	< 0.005	125
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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	1.11	0.00	0.00	0.16	0.16	0.00	0.04	0.04	181	0.01	0.01	183
Vendor	< 0.005	0.18	0.06	< 0.005	< 0.005	0.04	0.05	< 0.005	0.01	0.01	158	< 0.005	0.02	165
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.08	0.85	0.00	0.00	0.16	0.16	0.00	0.04	0.04	166	0.01	0.01	168

Vendor	< 0.005	0.19	0.06	< 0.005	< 0.005	0.04	0.05	< 0.005	0.01	0.01	158	< 0.005	0.02	165
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.28	0.00	0.00	0.05	0.05	0.00	0.01	0.01	53.0	< 0.005	< 0.005	53.7
Vendor	< 0.005	0.06	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	49.7	< 0.005	0.01	52.0
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	8.77	< 0.005	< 0.005	8.89
Vendor	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	8.22	< 0.005	< 0.005	8.60
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

3.6. Building Construction (2023) - Mitigated

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	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.62	18.9	14.3	0.02	0.69	—	0.69	0.64	—	0.64	2,397	0.10	0.02	2,406
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.62	18.9	14.3	0.02	0.69	—	0.69	0.64	—	0.64	2,397	0.10	0.02	2,406
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.20	5.95	4.51	0.01	0.22	—	0.22	0.20	—	0.20	755	0.03	0.01	758
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	1.09	0.82	< 0.005	0.04	—	0.04	0.04	—	0.04	125	0.01	< 0.005	125
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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	1.11	0.00	0.00	0.16	0.16	0.00	0.04	0.04	181	0.01	0.01	183
Vendor	< 0.005	0.18	0.06	< 0.005	< 0.005	0.04	0.05	< 0.005	0.01	0.01	158	< 0.005	0.02	165
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.08	0.85	0.00	0.00	0.16	0.16	0.00	0.04	0.04	166	0.01	0.01	168
Vendor	< 0.005	0.19	0.06	< 0.005	< 0.005	0.04	0.05	< 0.005	0.01	0.01	158	< 0.005	0.02	165
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.28	0.00	0.00	0.05	0.05	0.00	0.01	0.01	53.0	< 0.005	< 0.005	53.7
Vendor	< 0.005	0.06	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	49.7	< 0.005	0.01	52.0
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	8.77	< 0.005	< 0.005	8.89
Vendor	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	8.22	< 0.005	< 0.005	8.60
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

3.7. Building Construction (2024) - 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	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.62	18.9	14.3	0.02	0.69	—	0.69	0.64	—	0.64	2,398	0.10	0.02	2,406
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.62	18.9	14.3	0.02	0.69	—	0.69	0.64	—	0.64	2,398	0.10	0.02	2,406
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.19	5.87	4.45	0.01	0.21	—	0.21	0.20	—	0.20	746	0.03	0.01	749
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	1.07	0.81	< 0.005	0.04	—	0.04	0.04	—	0.04	124	0.01	< 0.005	124
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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	1.03	0.00	0.00	0.16	0.16	0.00	0.04	0.04	177	0.01	0.01	180
Vendor	< 0.005	0.18	0.05	< 0.005	< 0.005	0.04	0.05	< 0.005	0.01	0.01	156	< 0.005	0.02	163

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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.07	0.78	0.00	0.00	0.16	0.16	0.00	0.04	0.04	163	0.01	0.01	165
Vendor	< 0.005	0.18	0.06	< 0.005	< 0.005	0.04	0.05	< 0.005	0.01	0.01	156	< 0.005	0.02	163
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.25	0.00	0.00	0.05	0.05	0.00	0.01	0.01	51.3	< 0.005	< 0.005	52.0
Vendor	< 0.005	0.06	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	48.5	< 0.005	0.01	50.7
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	8.49	< 0.005	< 0.005	8.61
Vendor	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	8.03	< 0.005	< 0.005	8.40
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

3.8. Building Construction (2024) - Mitigated

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	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.62	18.9	14.3	0.02	0.69	—	0.69	0.64	—	0.64	2,398	0.10	0.02	2,406
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.62	18.9	14.3	0.02	0.69	—	0.69	0.64	—	0.64	2,398	0.10	0.02	2,406
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.19	5.87	4.45	0.01	0.21	—	0.21	0.20	—	0.20	746	0.03	0.01	749
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	1.07	0.81	< 0.005	0.04	—	0.04	0.04	—	0.04	124	0.01	< 0.005	124
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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	1.03	0.00	0.00	0.16	0.16	0.00	0.04	0.04	177	0.01	0.01	180
Vendor	< 0.005	0.18	0.05	< 0.005	< 0.005	0.04	0.05	< 0.005	0.01	0.01	156	< 0.005	0.02	163
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.07	0.78	0.00	0.00	0.16	0.16	0.00	0.04	0.04	163	0.01	0.01	165
Vendor	< 0.005	0.18	0.06	< 0.005	< 0.005	0.04	0.05	< 0.005	0.01	0.01	156	< 0.005	0.02	163
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.25	0.00	0.00	0.05	0.05	0.00	0.01	0.01	51.3	< 0.005	< 0.005	52.0
Vendor	< 0.005	0.06	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	48.5	< 0.005	0.01	50.7
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	8.49	< 0.005	< 0.005	8.61
Vendor	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	8.03	< 0.005	< 0.005	8.40
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

3.9. Paving (2024) - 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	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.50	13.3	10.6	0.01	0.58	—	0.58	0.54	—	0.54	1,512	0.06	0.01	1,517
Paving	0.15	—	—	—	—	—	—	—	—	—	—	—	—	—
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.55	0.44	< 0.005	0.02	—	0.02	0.02	—	0.02	62.1	< 0.005	< 0.005	62.3
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.10	0.08	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	10.3	< 0.005	< 0.005	10.3
Paving	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—
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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	1.25	0.00	0.00	0.20	0.20	0.00	0.05	0.05	216	0.01	0.01	219
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
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
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	8.26	< 0.005	< 0.005	8.37
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
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	1.37	< 0.005	< 0.005	1.39
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
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

3.10. Paving (2024) - Mitigated

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	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.50	13.3	10.6	0.01	0.58	—	0.58	0.54	—	0.54	1,512	0.06	0.01	1,517
Paving	0.15	—	—	—	—	—	—	—	—	—	—	—	—	—
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

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.55	0.44	< 0.005	0.02	—	0.02	0.02	—	0.02	62.1	< 0.005	< 0.005	62.3
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.10	0.08	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	10.3	< 0.005	< 0.005	10.3
Paving	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—
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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	1.25	0.00	0.00	0.20	0.20	0.00	0.05	0.05	216	0.01	0.01	219
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
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
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	8.26	< 0.005	< 0.005	8.37
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
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	1.37	< 0.005	< 0.005	1.39

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
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

3.11. Architectural Coating (2024) - 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	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	1.09	0.96	< 0.005	0.07	—	0.07	0.06	—	0.06	134	0.01	< 0.005	134
Architectural Coatings	2.56	—	—	—	—	—	—	—	—	—	—	—	—	—
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	1.09	0.96	< 0.005	0.07	—	0.07	0.06	—	0.06	134	0.01	< 0.005	134
Architectural Coatings	2.56	—	—	—	—	—	—	—	—	—	—	—	—	—
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.34	0.30	< 0.005	0.02	—	0.02	0.02	—	0.02	42.1	< 0.005	< 0.005	42.2
Architectural Coatings	0.81	—	—	—	—	—	—	—	—	—	—	—	—	—

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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.06	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	6.96	< 0.005	< 0.005	6.99
Architectura l Coatings	0.15	—	—	—	—	—	—	—	—	—	—	—	—	—
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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.21	0.00	0.00	0.03	0.03	0.00	0.01	0.01	35.4	< 0.005	< 0.005	35.9
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
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.16	0.00	0.00	0.03	0.03	0.00	0.01	0.01	32.5	< 0.005	< 0.005	32.9
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
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	10.4	< 0.005	< 0.005	10.5
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
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	1.72	< 0.005	< 0.005	1.74
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
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

3.12. Architectural Coating (2024) - Mitigated

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	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	1.09	0.96	< 0.005	0.07	—	0.07	0.06	—	0.06	134	0.01	< 0.005	134
Architectura l Coatings	2.56	—	—	—	—	—	—	—	—	—	—	—	—	—
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	1.09	0.96	< 0.005	0.07	—	0.07	0.06	—	0.06	134	0.01	< 0.005	134
Architectura l Coatings	2.56	—	—	—	—	—	—	—	—	—	—	—	—	—
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.34	0.30	< 0.005	0.02	—	0.02	0.02	—	0.02	42.1	< 0.005	< 0.005	42.2
Architectura l Coatings	0.81	—	—	—	—	—	—	—	—	—	—	—	—	—
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	< 0.005	0.06	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	6.96	< 0.005	< 0.005	6.99
Architectura l Coatings	0.15	—	—	—	—	—	—	—	—	—	—	—	—	—
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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.21	0.00	0.00	0.03	0.03	0.00	0.01	0.01	35.4	< 0.005	< 0.005	35.9
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
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.16	0.00	0.00	0.03	0.03	0.00	0.01	0.01	32.5	< 0.005	< 0.005	32.9
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
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	10.4	< 0.005	< 0.005	10.5
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
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	1.72	< 0.005	< 0.005	1.74
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
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

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. 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	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	1.96	2.65	24.5	0.06	0.05	2.00	2.04	0.04	0.35	0.40	6,186	0.21	0.26	6,292
General Office Building	2.51	3.39	31.3	0.08	0.06	2.55	2.61	0.05	0.45	0.51	7,910	0.27	0.33	8,046
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	0.00
Total	4.47	6.04	55.7	0.14	0.10	4.55	4.65	0.10	0.81	0.91	14,096	0.48	0.58	14,339
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	1.84	2.85	19.9	0.06	0.05	2.00	2.04	0.04	0.35	0.40	5,804	0.22	0.26	5,889
General Office Building	2.35	3.64	25.5	0.07	0.06	2.55	2.61	0.05	0.45	0.51	7,421	0.28	0.34	7,530
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	0.00
Total	4.19	6.49	45.4	0.13	0.10	4.55	4.65	0.10	0.81	0.91	13,225	0.49	0.60	13,418
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	0.33	0.53	3.78	0.01	0.01	0.36	0.37	0.01	0.06	0.07	970	0.04	0.04	986

General Office Building	0.43	0.68	4.83	0.01	0.01	0.47	0.48	0.01	0.08	0.09	1,240	0.05	0.06	1,261
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	0.00
Total	0.76	1.21	8.61	0.02	0.02	0.83	0.85	0.02	0.15	0.17	2,210	0.08	0.10	2,247

4.1.2. Mitigated

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	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	1.96	2.65	24.5	0.06	0.05	2.00	2.04	0.04	0.35	0.40	6,186	0.21	0.26	6,292
General Office Building	2.51	3.39	31.3	0.08	0.06	2.55	2.61	0.05	0.45	0.51	7,910	0.27	0.33	8,046
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	0.00
Total	4.47	6.04	55.7	0.14	0.10	4.55	4.65	0.10	0.81	0.91	14,096	0.48	0.58	14,339
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	1.84	2.85	19.9	0.06	0.05	2.00	2.04	0.04	0.35	0.40	5,804	0.22	0.26	5,889
General Office Building	2.35	3.64	25.5	0.07	0.06	2.55	2.61	0.05	0.45	0.51	7,421	0.28	0.34	7,530
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	0.00
Total	4.19	6.49	45.4	0.13	0.10	4.55	4.65	0.10	0.81	0.91	13,225	0.49	0.60	13,418
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—

General Light Industry	0.33	0.53	3.78	0.01	0.01	0.36	0.37	0.01	0.06	0.07	970	0.04	0.04	986
General Office Building	0.43	0.68	4.83	0.01	0.01	0.47	0.48	0.01	0.08	0.09	1,240	0.05	0.06	1,261
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	0.00
Total	0.76	1.21	8.61	0.02	0.02	0.83	0.85	0.02	0.15	0.17	2,210	0.08	0.10	2,247

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	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	349	0.02	< 0.005	350
General Office Building	—	—	—	—	—	—	—	—	—	—	143	0.01	< 0.005	143
Parking Lot	—	—	—	—	—	—	—	—	—	—	48.9	< 0.005	< 0.005	49.1
Total	—	—	—	—	—	—	—	—	—	—	540	0.03	< 0.005	542
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	349	0.02	< 0.005	350

General Office Building	—	—	—	—	—	—	—	—	—	—	143	0.01	< 0.005	143
Parking Lot	—	—	—	—	—	—	—	—	—	—	48.9	< 0.005	< 0.005	49.1
Total	—	—	—	—	—	—	—	—	—	—	540	0.03	< 0.005	542
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	57.7	< 0.005	< 0.005	57.9
General Office Building	—	—	—	—	—	—	—	—	—	—	23.6	< 0.005	< 0.005	23.7
Parking Lot	—	—	—	—	—	—	—	—	—	—	8.10	< 0.005	< 0.005	8.13
Total	—	—	—	—	—	—	—	—	—	—	89.5	0.01	< 0.005	89.8

4.2.2. Electricity Emissions By Land Use - Mitigated

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	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	349	0.02	< 0.005	350
General Office Building	—	—	—	—	—	—	—	—	—	—	143	0.01	< 0.005	143
Parking Lot	—	—	—	—	—	—	—	—	—	—	48.9	< 0.005	< 0.005	49.1
Total	—	—	—	—	—	—	—	—	—	—	540	0.03	< 0.005	542
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—

General Light Industry	—	—	—	—	—	—	—	—	—	—	349	0.02	< 0.005	350
General Office Building	—	—	—	—	—	—	—	—	—	—	143	0.01	< 0.005	143
Parking Lot	—	—	—	—	—	—	—	—	—	—	48.9	< 0.005	< 0.005	49.1
Total	—	—	—	—	—	—	—	—	—	—	540	0.03	< 0.005	542
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	57.7	< 0.005	< 0.005	57.9
General Office Building	—	—	—	—	—	—	—	—	—	—	23.6	< 0.005	< 0.005	23.7
Parking Lot	—	—	—	—	—	—	—	—	—	—	8.10	< 0.005	< 0.005	8.13
Total	—	—	—	—	—	—	—	—	—	—	89.5	0.01	< 0.005	89.8

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	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	0.02	0.29	0.24	< 0.005	0.02	—	0.02	0.02	—	0.02	344	0.03	< 0.005	345
General Office Building	< 0.005	0.04	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	49.7	< 0.005	< 0.005	49.8
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
Total	0.02	0.33	0.28	< 0.005	0.03	—	0.03	0.03	—	0.03	394	0.03	< 0.005	395

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	0.02	0.29	0.24	< 0.005	0.02	—	0.02	0.02	—	0.02	344	0.03	< 0.005	345
General Office Building	< 0.005	0.04	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	49.7	< 0.005	< 0.005	49.8
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
Total	0.02	0.33	0.28	< 0.005	0.03	—	0.03	0.03	—	0.03	394	0.03	< 0.005	395
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	< 0.005	0.05	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	57.0	0.01	< 0.005	57.1
General Office Building	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	8.22	< 0.005	< 0.005	8.24
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
Total	< 0.005	0.06	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	65.2	0.01	< 0.005	65.4

4.2.4. Natural Gas Emissions By Land Use - Mitigated

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	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	0.02	0.29	0.24	< 0.005	0.02	—	0.02	0.02	—	0.02	344	0.03	< 0.005	345
General Office Building	< 0.005	0.04	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	49.7	< 0.005	< 0.005	49.8

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
Total	0.02	0.33	0.28	< 0.005	0.03	—	0.03	0.03	—	0.03	394	0.03	< 0.005	395
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	0.02	0.29	0.24	< 0.005	0.02	—	0.02	0.02	—	0.02	344	0.03	< 0.005	345
General Office Building	< 0.005	0.04	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	49.7	< 0.005	< 0.005	49.8
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
Total	0.02	0.33	0.28	< 0.005	0.03	—	0.03	0.03	—	0.03	394	0.03	< 0.005	395
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	< 0.005	0.05	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	57.0	0.01	< 0.005	57.1
General Office Building	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	8.22	< 0.005	< 0.005	8.24
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
Total	< 0.005	0.06	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	65.2	0.01	< 0.005	65.4

4.3. Area Emissions by Source

4.3.2. 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	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Consumer Products	0.66	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.08	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.22	0.01	1.33	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	5.48	< 0.005	< 0.005	5.50
Total	0.96	0.01	1.33	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	5.48	< 0.005	< 0.005	5.50
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.66	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.08	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.74	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.12	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.03	< 0.005	0.17	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.62	< 0.005	< 0.005	0.62
Total	0.16	< 0.005	0.17	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.62	< 0.005	< 0.005	0.62

4.3.1. Mitigated

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	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Consumer Products	0.66	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.08	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.22	0.01	1.33	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	5.48	< 0.005	< 0.005	5.50
Total	0.96	0.01	1.33	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	5.48	< 0.005	< 0.005	5.50
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.66	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.08	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.74	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.12	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.03	< 0.005	0.17	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.62	< 0.005	< 0.005	0.62
Total	0.16	< 0.005	0.17	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.62	< 0.005	< 0.005	0.62

4.4. Water Emissions by Land Use

4.4.2. 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	CO2T	CH4	N2O	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	74.0	1.14	0.03	111
General Office Building	—	—	—	—	—	—	—	—	—	—	12.6	0.21	0.01	19.4
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	86.6	1.35	0.03	130
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	74.0	1.14	0.03	111
General Office Building	—	—	—	—	—	—	—	—	—	—	12.6	0.21	0.01	19.4
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	86.6	1.35	0.03	130
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	12.2	0.19	< 0.005	18.3
General Office Building	—	—	—	—	—	—	—	—	—	—	2.09	0.03	< 0.005	3.21
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	14.3	0.22	0.01	21.5

4.4.1. Mitigated

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	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	74.0	1.14	0.03	111
General Office Building	—	—	—	—	—	—	—	—	—	—	12.6	0.21	0.01	19.4
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	86.6	1.35	0.03	130
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	74.0	1.14	0.03	111
General Office Building	—	—	—	—	—	—	—	—	—	—	12.6	0.21	0.01	19.4
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	86.6	1.35	0.03	130
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	12.2	0.19	< 0.005	18.3
General Office Building	—	—	—	—	—	—	—	—	—	—	2.09	0.03	< 0.005	3.21
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	14.3	0.22	0.01	21.5

4.5. Waste Emissions by Land Use

4.5.2. 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	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	16.7	1.67	0.00	58.5
General Office Building	—	—	—	—	—	—	—	—	—	—	3.01	0.30	0.00	10.5
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	19.7	1.97	0.00	69.0
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	16.7	1.67	0.00	58.5
General Office Building	—	—	—	—	—	—	—	—	—	—	3.01	0.30	0.00	10.5
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	19.7	1.97	0.00	69.0
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	2.77	0.28	0.00	9.68

General Office Building	—	—	—	—	—	—	—	—	—	—	0.50	0.05	0.00	1.74
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	3.26	0.33	0.00	11.4

4.5.1. Mitigated

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	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	16.7	1.67	0.00	58.5
General Office Building	—	—	—	—	—	—	—	—	—	—	3.01	0.30	0.00	10.5
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	19.7	1.97	0.00	69.0
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	16.7	1.67	0.00	58.5
General Office Building	—	—	—	—	—	—	—	—	—	—	3.01	0.30	0.00	10.5
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	19.7	1.97	0.00	69.0
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—

General Light Industry	—	—	—	—	—	—	—	—	—	—	2.77	0.28	0.00	9.68
General Office Building	—	—	—	—	—	—	—	—	—	—	0.50	0.05	0.00	1.74
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	3.26	0.33	0.00	11.4

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	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	—	6.51
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	6.52
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	—	6.51
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	6.52
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	—	1.08
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	1.08

4.6.2. Mitigated

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	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	—	6.51
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	6.52
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	—	6.51
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	6.52

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	—	1.08
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	1.08

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	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.7.2. Mitigated

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	CO2T	CH4	N2O	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	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8.2. Mitigated

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	CO2T	CH4	N2O	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	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9.2. Mitigated

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	CO2T	CH4	N2O	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	CO2T	CH4	N2O	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	CO2T	CH4	N2O	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	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

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	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

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	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

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	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	6/5/2023	6/30/2023	5.00	20.0	—
Grading	Grading	7/3/2023	7/21/2023	5.00	15.0	—
Building Construction	Building Construction	7/24/2023	6/7/2024	5.00	230	—

Paving	Paving	6/10/2024	6/28/2024	5.00	15.0	—
Architectural Coating	Architectural Coating	1/29/2024	7/5/2024	5.00	115	—

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	Tier 2	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Tier 2	4.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Tier 2	1.00	8.00	36.0	0.38
Grading	Graders	Diesel	Tier 2	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Tier 2	1.00	8.00	367	0.40
Grading	Tractors/Loaders/Backhoes	Diesel	Tier 2	3.00	8.00	84.0	0.37
Building Construction	Cranes	Diesel	Tier 2	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Tier 2	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Tier 2	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Tier 2	3.00	7.00	84.0	0.37
Building Construction	Welders	Diesel	Tier 2	1.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Tier 2	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Tier 2	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Tier 2	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Tier 2	1.00	6.00	37.0	0.48

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

Site Preparation	Rubber Tired Dozers	Diesel	Tier 2	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Tier 2	4.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Tier 2	1.00	8.00	36.0	0.38
Grading	Graders	Diesel	Tier 2	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Tier 2	1.00	8.00	367	0.40
Grading	Tractors/Loaders/Backhoes	Diesel	Tier 2	3.00	8.00	84.0	0.37
Building Construction	Cranes	Diesel	Tier 2	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Tier 2	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Tier 2	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Tier 2	3.00	7.00	84.0	0.37
Building Construction	Welders	Diesel	Tier 2	1.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Tier 2	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Tier 2	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Tier 2	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Tier 2	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	17.5	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	15.0	18.5	LDA,LDT1,LDT2
Grading	Vendor	—	10.2	HHDT,MHDT
Grading	Hauling	17.2	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	12.3	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	5.02	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	—	10.2	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	2.46	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

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	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	15.0	18.5	LDA,LDT1,LDT2
Grading	Vendor	—	10.2	HHDT,MHDT
Grading	Hauling	17.2	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	12.3	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	5.02	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	—	10.2	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	2.46	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	0.00	0.00	45,924	15,308	2,300

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Site Preparation	0.00	0.00	30.0	0.00	—
Grading	0.00	2,062	15.0	0.00	—
Paving	0.00	0.00	0.00	0.00	0.88

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
General Light Industry	0.00	0%
General Office Building	0.00	0%
Parking Lot	0.88	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2023	0.00	532	0.03	< 0.005

2024	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
General Light Industry	366	366	366	133,590	7,176	7,176	7,176	2,619,144
General Office Building	468	468	468	170,820	9,176	9,176	9,176	3,349,069
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.9.2. Mitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
General Light Industry	366	366	366	133,590	7,176	7,176	7,176	2,619,144
General Office Building	468	468	468	170,820	9,176	9,176	9,176	3,349,069
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.1.2. Mitigated

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)
0	0.00	45,924	15,308	2,300

5.10.3. Landscape Equipment

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

5.10.4. Landscape Equipment - Mitigated

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)
General Light Industry	239,227	532	0.0330	0.0040	1,073,758
General Office Building	97,961	532	0.0330	0.0040	154,927
Parking Lot	33,580	532	0.0330	0.0040	0.00

5.11.2. Mitigated

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)
General Light Industry	239,227	532	0.0330	0.0040	1,073,758

General Office Building	97,961	532	0.0330	0.0040	154,927
Parking Lot	33,580	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)
General Light Industry	5,781,250	713,317
General Office Building	1,066,402	0.00
Parking Lot	0.00	0.00

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
General Light Industry	5,781,250	713,317
General Office Building	1,066,402	0.00
Parking Lot	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
General Light Industry	31.0	0.00
General Office Building	5.58	0.00
Parking Lot	0.00	0.00

5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
General Light Industry	31.0	0.00
General Office Building	5.58	0.00
Parking Lot	0.00	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
General Light Industry	Other commercial A/C and heat pumps	R-410A	2,088	0.30	4.00	4.00	18.0
General Office Building	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
General Office Building	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0

5.14.2. Mitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
General Light Industry	Other commercial A/C and heat pumps	R-410A	2,088	0.30	4.00	4.00	18.0
General Office Building	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
General Office Building	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0

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

5.15.2. Mitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

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

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

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

5.18.1.2. Mitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

5.18.2.2. Mitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

8. User Changes to Default Data

Screen	Justification
Land Use	The project site is 6.88 acres and would include a 25,000 sf general light industry building and a 5,616 sf office building
Construction: Construction Phases	Project site is currently vacant, no demolition required. Construction schedule based on a 13 month construction duration. Overlap between building construction and architectural coating.
Construction: Off-Road Equipment	Default construction equipment with Tier 2 engine
Operations: Vehicle Data	Based on 366 average daily trips for the general industry building and 468 average daily trips for the office building for a total of 834 average daily trips