

7849 Stockton Boulevard Project

Air Quality and Greenhouse Gas Emissions Technical Report

September 2023 | 04938.00002.001

Prepared for:

King's Express Tire & Lube, Inc.

7849 Stockton Boulevard
Sacramento, CA 95823

Prepared by:

HELIX Environmental Planning, Inc.

1180 Iron Point Road, Suite 130
Folsom, CA 95630

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Acronyms and Abbreviations

AAM	Annual Arithmetic Mean
AAQS	Ambient Air Quality Standards
AB	Assembly Bill
ADMRT	Air Dispersion Modeling and Risk Tool
ADT	average daily trips
AERMAP	AERMOD terrain preprocessor
AERMOD	USEPA gaussian air dispersion model
APN	Assessor's Parcel Number
APS	alternative planning strategy
AR2	IPCC Second Assessment Report
AR4	IPCC Fourth Assessment Report
AR5	IPCC Fifth Assessment Report
BCECP	Basic Construction Emissions Control Practice
BMPs	Best Management Practices
C ₂ F ₆	hexafluoroethane
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
CAP	Climate Action Plan Strategy and Framework
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CBSC	California Building Standards Commission
CCR	California Code of Regulations
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CF ₄	tetrafluoromethane
CFC	chlorofluorocarbon
CFR	Code of Federal Regulations
CH ₄	methane
CMU	concrete masonry unit
CO	carbon monoxide
CO ₂	carbon dioxide
CO ₂ e	carbon dioxide equivalent
COA	Conditions of Approval
County	Sacramento County
CY	cubic yard
DPM	diesel particulate matter

Acronyms and Abbreviations (cont.)

EO	Executive Order
°F	degrees Fahrenheit
GHG	greenhouse gas
g/L	gram per liter
GWP	global warming potential
HARP	Hotspots Analysis and Reporting Program
HFC	hydrofluorocarbon
HI	Hazard Index
HRA	health risk assessment
IEM	Iowa Environmental Mesonet
IPCC	Intergovernmental Panel on Climate Change
km	kilometer
LCFS	Low Carbon Fuel Standard
MEIR	Maximally Exposed Individual Resident
MEIW	Maximally Exposed Individual Worker
MERV	Maximum Efficiency Reporting Value
mg/m ³	milligrams per cubic meter
MMT	million metric tons
mph	mile per hour
MPO	Metropolitan Planning Organization
MT	metric tons
MTP/SCS	Metropolitan Transportation Plan/Sustainable Communities Strategy
N ₂ O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NASA	National Aeronautics and Space Administration
NED	National Elevation Dataset
NHTSA	National Highway Traffic Safety Administration
NO ₂	nitrogen dioxide
NOAA	National Oceanic and Atmospheric Administration
NO _x	nitrogen oxides
O ₃	ozone
OEHHA	Office of Environmental Health Hazard Assessment

Acronyms and Abbreviations (cont.)

Pb	lead
PFC	perfluorocarbon
PM	particulate matter
PM ₁₀	particulate matter 10 microns or less in diameter
PM _{2.5}	particulate matter 2.5 microns or less in diameter
Ppb	part per billion
ppm	parts per million
REL	Reference Exposure Limits
ROG	reactive organic gas
RTP	Regional Transportation Plan
SACOG	Sacramento Area Council of Governments
SB	Senate Bill
SCS	Sustainable Communities Strategy
SF	square feet
SF ₆	sulfur hexafluoride
SIP	State Implementation Plan
SLCP	short-lived climate pollutants
SMAQMD	Sacramento Metropolitan Air Quality Management District
SO ₂	sulfur dioxide
SO _x	sulfur oxides
SR 99	State Route 99
SVAB	Sacramento Valley Air Basin
TAC	toxic air contaminant
TRU	transport refrigeration unit
UNFCCC	United Nations Framework Convention on Climate Change
USEPA	U.S. Environmental Protection Agency
USGS	U.S. Geological Survey
UTM	Universal Transverse Mercator
VMT	vehicle miles traveled
VOC	volatile organic compound
WRCC	Western Regional Climate Center
µg/m ³	micrograms per cubic meter

EXECUTIVE SUMMARY

This report presents an assessment of potential air quality and greenhouse gas (GHG) emissions impacts during construction and operation of the proposed 7849 Stockton Boulevard Project (project), located on an approximately 3.54-acre site in an unincorporated area in Sacramento County (County). The existing truck tire business/building on the project site would remain and is independent of the project. The project would construct a truck parking facility on the remaining portion of the site.

The project's construction-period emissions of nitrogen oxides (NO_x), coarse particulate matter (PM₁₀), and fine particulate matter (PM_{2.5}) and operational-period emissions of reactive organic gases (ROG) and NO_x would not exceed the Sacramento Metropolitan Air Quality Management District's (SMAQMD's) thresholds. The SMAQMD considers land use development projects that do not exceed the mass emissions thresholds to not conflict with or obstruct implementation of the SMAQMD's air quality planning efforts. Therefore, the project would not conflict with or obstruct implementation of SMAQMD's Regional Ozone Plan.

The SMAQMD recommends a set of Basic Construction Emissions Control Practices (BCECPs), allowing the use of the non-zero particulate matter significance thresholds. Without implementation of the BCECPs, construction emissions of PM₁₀ and PM_{2.5} would be potentially significant. Mitigation measure AQ-1 would require implementation of the SMAQMD's recommended BCECPs. With mitigation measure AQ-1 implemented, the project would not result in a cumulatively considerable net increase of any criteria pollutant for which the Sacramento Region is in non-attainment.

Construction and operation of the project would not result in exposure of sensitive receptors to significant quantities of localized criteria pollutant and precursor concentrations. Due to the small size of the project and short duration of construction activities, construction of the project would not expose sensitive receptors to substantial concentrations of diesel particulate matter (DPM). A health risk assessment (HRA) consisting of dispersion modeling and risk calculation was completed to determine potential community health risks resulting from emissions of DPM during operation of the proposed truck parking lot. The results of the HRA show that project operational DPM emissions would not result in increased cancer risks or non-cancer chronic health effects exceeding the SMAQMD's thresholds. Impacts related to exposure of sensitive receptors to substantial pollutant concentration would be less than significant.

Long-term operation of the project would not include land uses considered to be sources of objectionable odors. Impacts related to other emissions such as odors, would be less than significant.

The project-related construction GHG emissions would not exceed the SMAQMD's thresholds for land use development project construction activities. Because the project does not include new buildings, the SMAQMD's land use development operational Tier 1 GHG reduction best management practices (BMPs) would not be applicable. The project operational GHG emissions for the first full year of operation (anticipated to be 2025) would not exceed the SMAQMD's screening level for land use development project operational activities and the SMAQMD's land use development operational Tier 2 GHG reduction BMPs would not be applicable.

The project would be consistent with the project site land use designation, and the project would not conflict with or obstruct implementation of applicable GHG reduction plans, policies, or regulations, including the Sacramento Council of Government's (SACOG's) 2020 Metropolitan Transportation Plan and Sustainable Communities Strategy or the California Air Resource Board's (CARB's) 2022 Climate Change Scoping Plan. Impacts related to GHG emissions would be less than significant.

1.0 INTRODUCTION

This report presents an assessment of potential air quality and greenhouse gas (GHG) emissions impacts during construction and operation of the proposed 7849 Stockton Boulevard Project (project). This report has been prepared to support environmental review in accordance with the California Environmental Quality Act (CEQA; California Public Resources Code [PRC] §21000 et seq.); State CEQA Guidelines (California Code of Regulations [CCR], Title 14, §15000 et seq.).

1.1 PROJECT LOCATION

The project site is located at the north corner of the Stockton Boulevard and Victory Avenue intersection in the unincorporated South Sacramento community of Sacramento County (County), approximately 600 feet east of State Route 99 (SR 99). See Figure 1, *Vicinity Map*, and Figure 2, *Aerial Map*. The project site is located within the Victory Avenue Neighborhood Preservation Area (NPA). The approximately 3.54-acre project site consists of two parcels, Assessor's Parcel Numbers (APNs) 115-0061-031 and 115-0061-032.

1.2 PROJECT DESCRIPTION

The project would develop a truck parking lot to be used for parking and short-term storage of trucks and trailers. The established truck tire business/building and related parking located on the project site would remain and is independent of the project. The project does not propose improvements or modifications to the existing building, parking for the exiting business, or landscaping around the existing business. The project truck parking lot would not be used for storage of cargo which would require the operation of transport refrigeration units (TRUs) on the project site. The project would provide 70 parking spaces ranging from 40 feet to 75 feet long. Trucks would enter the site via a driveway on Stockton Boulevard. Trucks would exit the project site via driveways on Stockton Boulevard and Victory Avenue. Other project improvements would include an eight-foot-high concrete masonry unit (CMU) wall along the parking lot's northern property line, security fencing and gates, landscaping along the project perimeter, security lighting, and sidewalk/landscape improvements in the right of way along the project frontage of Stockton Boulevard and Victory Lane. See Figure 3, *Site Plan*.

1.3 CONSTRUCTION ACTIVITIES AND PHASING

Construction of the project is anticipated to begin as early as January 2024 and last approximately two months. Project construction activities would consist of limited demolition (removal of some old concrete, asphalt, and fencing; no structures to be demolished), site preparation, grading, construction of truck parking lot improvements, paving, and painting of parking lot lines. Detailed construction activity and equipment assumptions are discussed in Section 4.1, *Methodology*, and provided in Appendix A, *CalEEMod Output*.

2.0 REGULATORY SETTING

2.1 AIR QUALITY

The project site is located within the Sacramento County portion of the Sacramento Valley Air Basin (SVAB). Air quality in the Sacramento County portion of the SVAB is regulated by the U.S. Environmental

Protection Agency (USEPA) at the federal level, by the California Air Resources Board (CARB) at the state level, and by the Sacramento Metropolitan Air Quality Management District (SMAQMD) at the regional level.

2.1.1 Air Pollutants of Concern

2.1.1.1 Criteria Pollutants

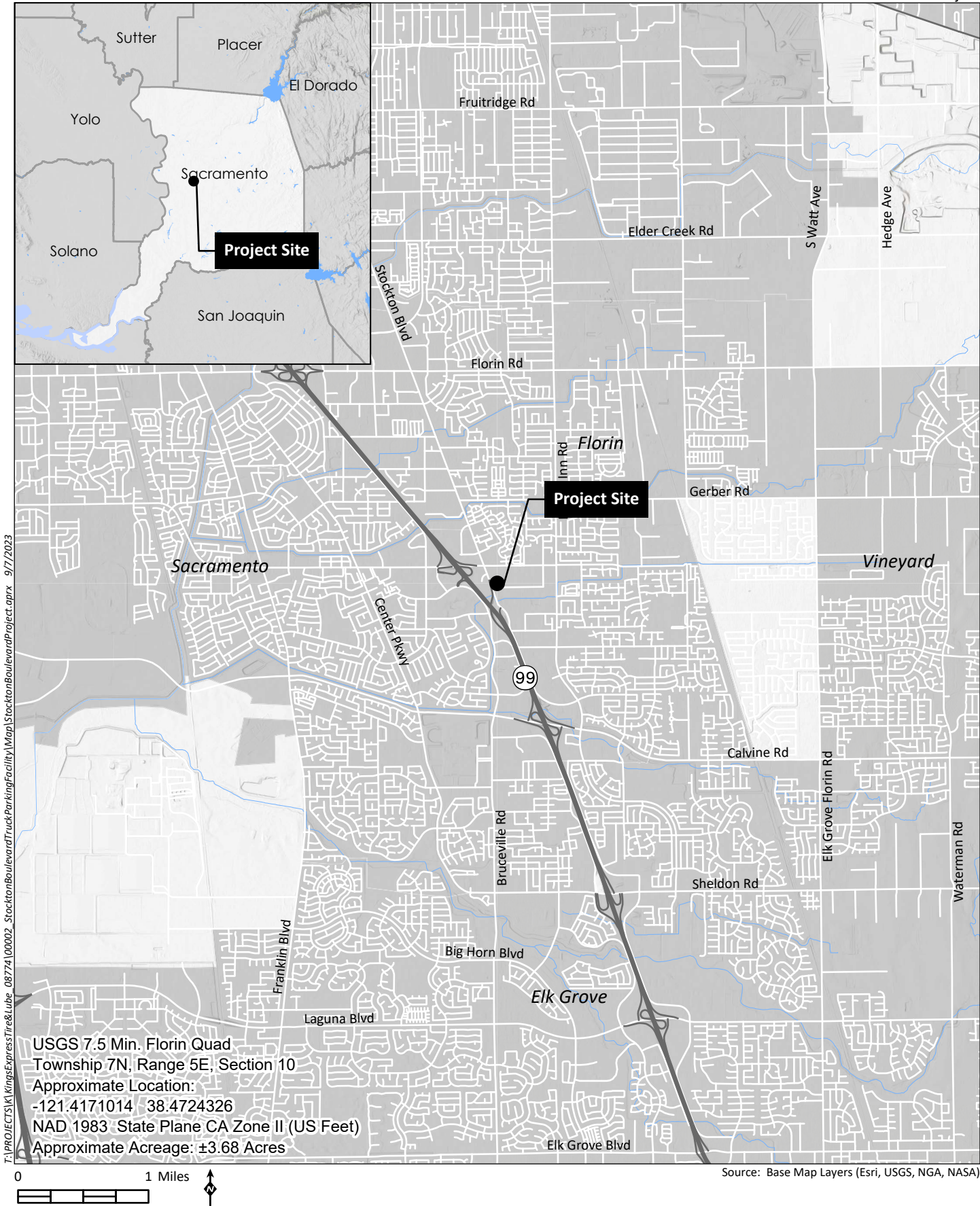
Criteria pollutants are defined by state and federal law as a risk to the health and welfare of the public. In general, criteria air pollutants include the following compounds:

- Ozone (O₃)
- Carbon monoxide (CO)
- Nitrogen dioxide (NO₂)
- Particulate matter (PM), which is further subdivided:
 - Coarse PM, 10 micrometers or less in diameter (PM₁₀)
 - Fine PM, 2.5 micrometers or less in diameter (PM_{2.5})
- Sulfur dioxide (SO₂)
- Lead (Pb)

Criteria pollutants can be emitted directly from sources (primary pollutants; e.g., CO, SO₂, PM₁₀, PM_{2.5}, and lead), or they may be formed through chemical and photochemical reactions of precursor pollutants in the atmosphere (secondary pollutants; e.g., ozone, NO₂, PM₁₀, and PM_{2.5}). PM₁₀ and PM_{2.5} can be both primary and secondary pollutants. The principal precursor pollutants of concern are reactive organic gases ([ROGs] also known as volatile organic compounds [VOCs])¹ and nitrogen oxides (NO_x).

The descriptions of sources and general health effects for each of the criteria air pollutants are shown in Table 1, *Summary of Common Sources and Human Health Effects of Criteria Air Pollutants*. Specific adverse health effects on individuals or population groups induced by criteria pollutant emissions are highly dependent on a multitude of interconnected variables such as cumulative concentrations, local meteorology and atmospheric conditions, and the number and characteristics of exposed individuals (e.g., age, gender). Criteria pollutant precursors (ROG and NO_x) affect air quality on a regional scale, typically after significant delay and distance from the pollutant source emissions. Health effects related to ozone and NO₂ are, therefore, the product of emissions generated by numerous sources throughout a region. Emissions of criteria pollutants from vehicles traveling to or from the project site (mobile emissions) are distributed nonuniformly in location and time throughout the region, wherever the vehicles may travel. As such, specific health effects from these criteria pollutant emissions cannot be meaningfully correlated to the incremental contribution from the project.

¹ CARB defines and uses the term ROGs while the USEPA defines and uses the term VOCs. The compounds included in the lists of ROGs and VOCs and the methods of calculation are slightly different. However, for the purposes of estimating criteria pollutant precursor emissions, the two terms are often used interchangeably.

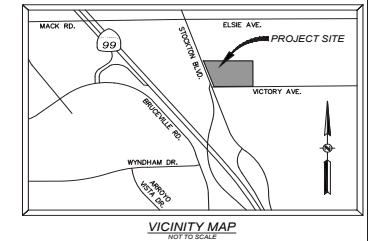






PRELIMINARY IMPROVEMENT PLANS FOR 7849 STOCKTON BLVD

SACRAMENTO, CA 95823
APN: 115-0061-031 & 032



SHEET INDEX:

- C1 PRELIMINARY SITE PLAN
- C2 EXISTING CONDITIONS
- C3 DEMOLITION PLAN
- C4 PRELIMINARY GRADING & DRAINAGE PLAN

BENCHMARK:

THE BENCHMARK USED FOR THIS SURVEY WAS THE COUNTY OF SACRAMENTO BENCHMARK NO. 25-26, WHICH IS A 7/8" METAL DISC STAMPED "CO BM 25-26", LOCATED IN THE TOP OF A VERTICAL CURB IN A CHISELED SQUARE ABOVE A DI AT THE CENTER OF THE CURB. RETURN AT THE NORTHEAST CORNER OF GERRIER ROAD AND THE STREET TO THE "OLYMPIA MOBILELODGE, 0.3 MILES EAST OF STOCKTON BLVD. ELEVATION = 30.70 (NAVD 88)

BASIS OF BEARINGS:

THE BASIS OF BEARINGS FOR THIS SURVEY IS THE CENTERLINE OF VICTORY AVENUE AS SHOWN ON THE RECORD OF SURVEY MAP FILED IN BOOK 52 OF SURVEYS, AT PAGE 2. THE BEARING OF WHICH IS NORTH 85° 31' 00" EAST AND WAS ESTABLISHED FROM RECORD MONUMENTATION THEREFROM.

TOPOGRAPHIC SURVEY:

CWE (FORMERLY RFE ENGINEERING, INC.)
FIELD SURVEY DATED: 12/20/2022

FLOOD PLAIN:

THE SOUTHERLY PORTION OF THIS PROPERTY IS IN ZONE "AE", WHICH IS A SPECIAL FLOOD HAZARD AREA PER FEMA FLOOD INSURANCE RATE MAP 06067C0306H, DATED 08/16/2012. HOWEVER, SAG MAP SHOWS THE 100 YEAR FLOOD ELEVATION TO BE FROM 29.5' TO 29.7' ACROSS THIS SITE.

PROPERTY OWNER / DEVELOPER:

HARJOT GROUP INVESTMENT, LLC
7849 STOCKTON BLVD.
SACRAMENTO, CA 95823
CONTACT: JI SINGH
PH: (209) 648-9952

ZONING:

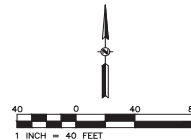
GC (NP) - GENERAL COMMERCIAL (NEIGHBORHOOD PRESERVATION AREA COMBINING ZONING DISTRICT)
-NO CHANGE IN ZONING

JURISDICTION:

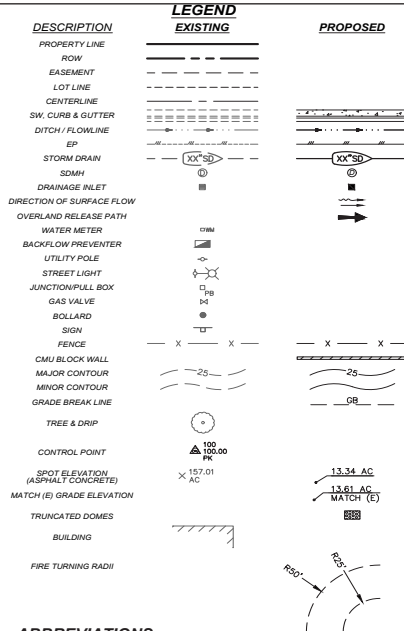
SACRAMENTO COUNTY

PARKING TABLE:

NEW PARKING SPACE DIMENSION	NUMBER OF SPACES PROVIDED
12x49'	14
12x19'	26
12x47'	1
12x43'	2
12x40'	27
TOTAL:	70

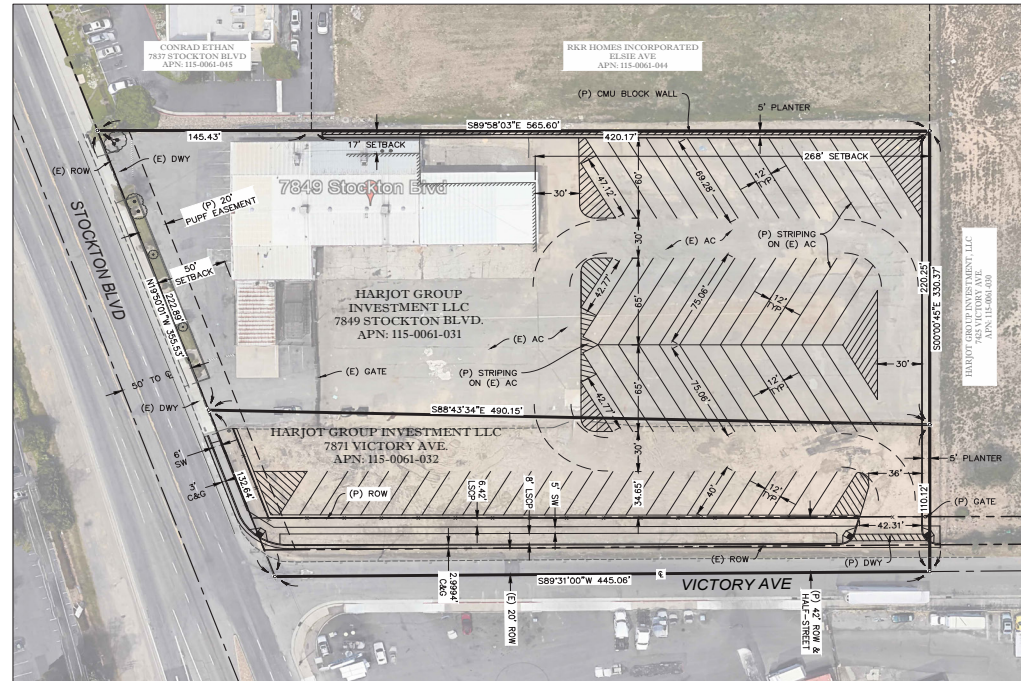


Source: CWECorp, 2023



ABBREVIATIONS:

AC ASPHALT CONCRETE
AP ANGLE POINT
BSG BESIRING
BFP BACKFLOW PREVENTER
BLR BOLLARD
C&G CURB & GUTTER
CL/C CENTERLINE
CMP CORRUGATED METAL PIPE
CONC CONCRETE
DWC DRIVEWAY
DWY DRIVEWAY
(E) EXISTING
EM ELECTRIC METER
EP EDGE OF PAVEMENT
EPB ELECTRIC PULL BOX
FL FLOWLINE
FNC FENCE
GM GAS METER
GR GRATE
GP GATE POST
GV GAS VALVE
INV INVERT
IPB IRRIGATION PULL BOX
JCP JOINT POLE
LSCP LANDSCAPE
(P) PROPOSED
PERP PERPENDICULAR
PC PROPERTY CORNER
PCC PORTLAND CEMENT CONCRETE
PL/P PROPERTY LINE
PUPF PUBLIC UTILITIES & PUBLIC FACILITIES
RC ROLLED CURB
ROW RIGHT-OF-WAY
SDOI STORM DRAIN INLET
SDMH STORM DRAIN MANHOLE
SL STREET LIGHT
SW SIDEWALK
VC VERTICAL CURB
VC&G VERTICAL CURB & GUTTER
WM WATER METER



DEVELOPMENT STANDARDS

EXISTING GENERAL PLAN: SACRAMENTO COUNTY GENERAL PLAN OF 2005-2020

ZONE: GC (NP)

ITEM	REQUIREMENTS	PROVIDED
MINIMUM FRONT SETBACK	50'	50'
MINIMUM SIDE SETBACK	50'	286'
MINIMUM REAR SETBACK	15'	17'
PROPERTY AREA: 3.88 AC GROSS 3.85 AC NET		

REFERENCE IS MADE TO THE SACRAMENTO COUNTY ZONING CODE.

UTILITY NOTE:

THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. CWE MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. CWE FURTHER DOES NOT GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. CWE HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES.

TOTAL DISTURBED AREA: 1.10 AC

RAW EARTHWORK SUMMARY

CUT:	595 CY
FILL:	505 CY
NET:	90 CY CUT (EXPORT)

NOTE: EARTHWORK QUANTITIES ARE ESTIMATED TO SUBGRADE AND DO NOT TAKE INTO ACCOUNT SHRINKAGE EXCESS MATERIALS FROM TRENCHING AND MISC. UNKNOWN STRUCTURAL SECTIONS. CONTRACTOR SHOULD VERIFY EARTHWORK QUANTITIES.

UTILITY CONTACT INFORMATION

UTILITY	UTILITY CO.	REPRESENTATIVE	PHONE
GAS	PG&E	DEMETRIUS WILLIAMS	(916) 386-5013
ELECTRIC	PG&E	DEMETRIUS WILLIAMS	(916) 386-5013
FIRE	SAC METRO	DIANA SCHMIDT	(916) 859-4323
WATER	CAL AMERICAN WATER	SPENCER PHILLIPS	(916) 968-4210
SEWER	S&SD	RAY VASSELLI	(916) 876-6140
DRAINAGE	SACRAMENTO COUNTY	LEO ALBA	(916) 874-8846
U.S.A.	UNDERGROUND SERVICE ALERT		1-800-642-2444

Table 1
SUMMARY OF COMMON SOURCES AND HUMAN HEALTH EFFECTS OF CRITERIA AIR POLLUTANTS

Pollutant	Major Man-Made Sources	Human Health Effects
Carbon Monoxide (CO)	An odorless, colorless gas formed when carbon in fuel is not burned completely; a component of motor vehicle exhaust.	Reduces the ability of blood to deliver oxygen to vital tissues, affecting the cardiovascular and nervous system. Impairs vision, causes dizziness, and can lead to unconsciousness or death.
Nitrogen Dioxide (NO ₂)	A reddish-brown gas formed during fuel combustion for motor vehicles and industrial sources. Sources include motor vehicles, electric utilities, and other sources that burn fuel.	Respiratory irritant; aggravates lung and heart problems. Precursor to ozone and acid rain. Contributes to climate change and nutrient overloading, which deteriorates water quality. Causes brown discoloration of the atmosphere.
Ozone (O ₃)	Formed by a chemical reaction between reactive organic gases (ROGs) and nitrogen oxides (NO _x) in the presence of sunlight. Common sources of these precursor pollutants include motor vehicle exhaust, industrial emissions, gasoline storage and transport, solvents, paints, and landfills.	Irritates and causes inflammation of the mucous membranes and lung airways; causes wheezing, coughing, and pain when inhaling deeply; decreases lung capacity; aggravates lung and heart problems. Damages plants; reduces crop yield. Damages rubber, some textiles, and dyes.
Particulate Matter (PM ₁₀ and PM _{2.5})	Produced by power plants, steel mills, chemical plants, unpaved roads and parking lots, wood-burning stoves and fireplaces, automobiles, and other sources.	Increased respiratory symptoms, such as irritation of the airways, coughing, or difficulty breathing; aggravated asthma; development of chronic bronchitis; irregular heartbeat; nonfatal heart attacks; and premature death in people with heart or lung disease. Impairs visibility (haze).
Sulfur Dioxide (SO ₂)	A colorless, nonflammable gas formed when fuel containing sulfur is burned, when gasoline is extracted from oil, or when metal is extracted from ore. Examples are petroleum refineries, cement manufacturing, metal processing facilities, locomotives, and ships.	Respiratory irritant. Aggravates lung and heart problems. In the presence of moisture and oxygen, sulfur dioxide converts to sulfuric acid, which can damage marble, iron, and steel. Damages crops and natural vegetation. Impairs visibility. Precursor to acid rain.
Lead	Metallic element emitted from metal refineries, smelters, battery manufacturers, iron and steel producers, use of leaded fuels by racing and aircraft industries.	Anemia, high blood pressure, brain and kidney damage, neurological disorders, cancer, lowered IQ. Affects animals, plants, and aquatic ecosystems.

Source: CARB 2023a; USEPA 2023a

2.1.1.2 Toxic Air Contaminants

The Health and Safety Code (§39655, subd. (a).) defines a toxic air contaminant (TAC) as “an air pollutant which may cause or contribute to an increase in mortality or in serious illness, or which may pose a present or potential hazard to human health.” A substance that is listed as a hazardous air pollutant pursuant to subsection (b) of Section 112 of the Federal Clean Air Act (CAA) (42 United States Code Section 7412[b]) is a TAC. Under State law, the California Environmental Protection Agency (CalEPA), acting through CARB, is authorized to identify a substance as a TAC if it determines the substance is

an air pollutant that may cause or contribute to an increase in mortality or an increase in serious illness, or that may pose a present or potential hazard to human health.

Diesel engines emit a complex mixture of air pollutants, including both gaseous and solid material. The solid material in diesel exhaust is referred to as diesel particulate matter (DPM). Almost all DPM is 10 microns or less in diameter, and 90 percent of DPM is less than 2.5 microns in diameter (CARB 2023b). Because of their extremely small size, these particles can be inhaled and eventually trapped in the bronchial and alveolar regions of the lung. In 1998, CARB identified DPM as a TAC based on published evidence of a relationship between diesel exhaust exposure and lung cancer and other adverse health effects. DPM has a notable effect on California’s population—it is estimated that about 70 percent of total known cancer risk related to air toxins in California is attributable to DPM (CARB 2023b).

2.1.2 Federal Air Quality Regulations

2.1.2.1 Federal Clean Air Act

Air quality is defined by ambient air concentrations of specific pollutants identified by the USEPA to be of concern with respect to health and welfare of the public. The USEPA is responsible for enforcing the CAA of 1970 and its 1977 and 1990 Amendments. The CAA required the USEPA to establish National Ambient Air Quality Standards (NAAQS), which identify concentrations of pollutants in the ambient air below which no adverse effects on the public health and welfare are anticipated. In response, the USEPA established both primary and secondary standards for several criteria pollutants. Table 2, *Ambient Air Quality Standards*, shows the federal and state ambient air quality standards for these pollutants.

Table 2
AMBIENT AIR QUALITY STANDARDS

Pollutant	Averaging Time	California Standards	Federal Standards Primary ¹	Federal Standards Secondary ²
O ₃	1 Hour	0.09 ppm (180 µg/m ³)	–	–
	8 Hour	0.070 ppm (137 µg/m ³)	0.070 ppm (137 µg/m ³)	Same as Primary
PM ₁₀	24 Hour	50 µg/m ³	150 µg/m ³	Same as Primary
	AAM	20 µg/m ³	–	Same as Primary
PM _{2.5}	24 Hour	–	35 µg/m ³	Same as Primary
	AAM	12 µg/m ³	12.0 µg/m ³	15.0 µg/m ³
CO	1 Hour	20 ppm (23 mg/m ³)	35 ppm (40 mg/m ³)	–
	8 Hour	9.0 ppm (10 mg/m ³)	9 ppm (10 mg/m ³)	–
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m ³)	–	–
NO ₂	1 Hour	0.18 ppm (339 µg/m ³)	0.100 ppm (188 µg/m ³)	–
	AAM	0.030 ppm (57 µg/m ³)	0.053 ppm (100 µg/m ³)	Same as Primary
SO ₂	1 Hour	0.25 ppm (655 µg/m ³)	0.075 ppm (196 µg/m ³)	–
	3 Hour	–	–	0.5 ppm (1,300 µg/m ³)
	24 Hour	0.04 ppm (105 µg/m ³)	–	–

Pollutant	Averaging Time	California Standards	Federal Standards Primary ¹	Federal Standards Secondary ²
Lead	30-day Avg.	1.5 µg/m ³	–	–
	Calendar Quarter	–	1.5 µg/m ³	Same as Primary
	Rolling 3-month Avg.	–	0.15 µg/m ³	Same as Primary
Visibility Reducing Particles	8 Hour	Extinction coefficient of 0.23 per km – visibility ≥ 10 miles (0.07 per km – ≥30 miles for Lake Tahoe)	No Federal Standards	No Federal Standards
Sulfates	24 Hour	25 µg/m ³	No Federal Standards	No Federal Standards
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m ³)	No Federal Standards	No Federal Standards
Vinyl Chloride	24 Hour	0.01 ppm (26 µg/m ³)	No Federal Standards	No Federal Standards

Source: CARB 2016

¹ National Primary Standards: The levels of air quality necessary, within an adequate margin of safety, to protect public health.

² National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

O₃ = ozone; ppm: parts per million; µg/m³ = micrograms per cubic meter; PM₁₀ = particulate matter 10 microns or less in diameter; AAM = Annual Arithmetic Mean; PM_{2.5} = fine particulate matter microns or less in diameter; CO = carbon monoxide; mg/m³ = milligrams per cubic meter; NO₂ = nitrogen dioxide; SO₂ = sulfur dioxide; km = kilometer; – = No Standard

The USEPA has classified air basins (or portions thereof) as being in “attainment,” “nonattainment,” “maintenance,” or “unclassified” for each criteria air pollutant, based on whether the NAAQS have been achieved. Upon attainment of a standard for which an area was previously designated nonattainment, the area will be classified as a maintenance area. If an area is designated unclassified, it is because inadequate air quality data were available as a basis for a nonattainment or attainment designation. The project site is located within the Sacramento County portion of the SVAB and, as such, is in an area designated as a nonattainment area for certain pollutants that are regulated under the CAA. Table 3, *Sacramento County Attainment Status*, lists the federal and state attainment status of Sacramento County for the criteria pollutants. Sacramento County is designated as nonattainment for the federal 8-hour ozone standard and PM_{2.5} standards. Sacramento County is designated as attainment or unclassified for all other criteria pollutant NAAQS.

Table 3
SACRAMENTO COUNTY ATTAINMENT STATUS

Pollutant	State of California Attainment Status	Federal Attainment Status
Ozone (1 hour)	Nonattainment	No Federal Standard
Ozone (8 hour)	Nonattainment	Nonattainment
Coarse Particulate Matter (PM ₁₀)	Nonattainment	Attainment
Fine Particulate Matter (PM _{2.5})	Attainment	Nonattainment
Carbon Monoxide (CO)	Attainment	Attainment/Unclassified
Nitrogen Dioxide (NO ₂)	Attainment	Attainment/Unclassified
Lead	Attainment	Attainment/Unclassified
Sulfur Dioxide (SO ₂)	Attainment	Attainment/Unclassified
Sulfates	Attainment	No Federal Standard
Hydrogen Sulfide	Unclassified	No Federal Standard
Visibility Reducing Particles	Unclassified	No Federal Standard

Source: SMAQMD 2020a

2.1.3 California Air Quality Regulations

2.1.3.1 California Clean Air Act

The federal CAA allows states to adopt ambient air quality standards and other regulations provided that they are at least as stringent as federal standards. CARB, a part of the CalEPA, is responsible for the coordination and administration of both federal and state air pollution control programs within California, including setting the California Ambient Air Quality Standards (CAAQS). CARB also conducts research, compiles emission inventories, develops suggested control measures, and provides oversight of local programs. CARB establishes emissions standards for motor vehicles sold in California, consumer products (such as hairspray, aerosol paints, and barbecue lighter fluid), and various types of commercial equipment. It also sets fuel specifications to further reduce vehicular emissions.

In addition to primary and secondary AAQS, the state has established a set of episode criteria for ozone, CO, NO₂, SO₂, and PM. These criteria refer to episode levels representing periods of short-term exposure to air pollutants that threaten public health. Table 3, above, lists the state attainment status of Sacramento County for the criteria pollutants. Under state designation, Sacramento County is currently in nonattainment for ozone (1-hour and 8-hour) and PM₁₀, and attainment or unclassified for all other criteria pollutant CAAQS.

2.1.3.2 State Implementation Plan

The CAA requires areas with unhealthy levels of ozone, inhalable particulate matter, carbon monoxide, nitrogen dioxide, and sulfur dioxide to develop plans, known as State Implementation Plans (SIPs). SIPs are comprehensive plans that describe how an area will attain the NAAQS. The 1990 amendments to the CAA set deadlines for attainment based on the severity of an area's air pollution problem.

SIPs are not single documents—they are a compilation of new and previously submitted plans, programs (e.g., monitoring, modeling, permitting), district rules, state regulations and federal controls. Many of California's SIPs rely on a core set of control strategies, including emission standards for cars and heavy trucks, fuel regulations and limits on emissions from consumer products. State law makes CARB the lead

agency for all purposes related to the SIP. Local air districts and other agencies prepare SIP elements and submit them to CARB for review and approval. CARB forwards the SIP revisions to the USEPA for approval and publication in the Federal Register. The Code of Federal Regulations (CFR) Title 40, Chapter I, Part 52, Subpart F, Section 52.220 lists all the items that are included in the California SIP (CARB 2023c). At any one time, several California submittals are pending USEPA approval.

2.1.3.3 California Energy Code

California Code of Regulations (CCR) Title 24 Part 6, California's Energy Efficiency Standards for Residential and Nonresidential Buildings, were first established in 1978 in response to a legislative mandate to reduce California's energy consumption. Energy-efficient buildings require less electricity, natural gas, and other fuels. Electricity production from fossil fuels and on-site fuel combustion (typically for space and water heating) results primarily in GHG emissions. The California Energy Code is discussed in further detail in Section 2.2.4, below.

2.1.4 Local Regulations

2.1.4.1 Sacramento Metropolitan Air Quality Management District

Air quality in Sacramento County is regulated by the SMAQMD. As a regional agency, the SMAQMD works directly with the Sacramento Area Council of Governments (SACOG), County transportation commissions, and local governments and cooperates actively with all federal and state government agencies. The SMAQMD develops rules and regulations; establishes permitting requirements for stationary sources; inspects emissions sources; and enforces such measures through educational programs or fines, when necessary.

Air Quality Plans

The current air quality plan applicable to the project, the *Sacramento Regional 2008 NAAQS 8-Hour Ozone Attainment and Reasonable Further Progress Plan* (Regional Ozone Plan), was developed by the SMAQMD and adjacent air districts to describe how the air districts in and near the Sacramento metropolitan area will continue the progress toward attaining state and national ozone air quality standards (SMAQMD 2017). In addition to not attaining the federal or state ozone standards, the region is classified as nonattainment for the federal PM_{2.5} standard and the state PM₁₀ standard. The SMAQMD and other Sacramento region air districts have submitted a PM_{2.5} Implementation/Maintenance Plan and Re-Designation Requests to fulfill CAA requirements to re-designate the region from nonattainment to attainment of the PM_{2.5} NAAQS (SMAQMD 2013).

Rules and Regulations

The following rules promulgated by the SMAQMD would be applicable to construction and/or operation of the project.

Rule 202 – New Source Review: Provides for the issuance of authorities to construct and permits to operate at new and modified stationary air pollution sources, including for the construction and operation of a retail gasoline dispensing facility (SMAQMD 2012).

Rule 402 – Nuisance: Prohibits the discharge of such quantities of air contaminants or other materials which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or the public (SMAQMD 1977a).

Rule 403 – Fugitive Dust: Requires actions to prevent, reduce or mitigate anthropogenic fugitive dust emissions, including emissions from construction activities. (SMAQMD 1977b).

Rule 442 – Architectural Coating: Establishes VOC limits for architectural coatings (e.g., paints, stains, preservatives). Building interior and exterior paint is limited to a maximum VOC content of 50 grams per liter for flat coatings and 100 grams per liter for non-flat coatings (SMAQMD 2015).

2.1.4.2 Sacramento County General Plan

The Sacramento County General Plan Air Quality Element contains the following policies relevant to the project (County 2020):

- AQ-1 New development shall be designed to promote pedestrian/bicycle access and circulation to encourage community residents to use alternative modes of transportation to conserve air quality and minimize direct and indirect emission of air contaminants.
- AQ-3 Buffers and/or other appropriate exposure reduction measures shall be established on a project-by-project basis and incorporated during review to provide for protection of sensitive receptors from sources of air pollution or odor. The California Air Resources Board’s “Strategies to Reduce Air Pollution Exposure Near High Volume Roadways” Technical Advisory and the SMAQMD’s “Mobile Sources Air Toxics Protocol” or County of Sacramento General Plan 2 Air Quality Element Amended December 16, 2020, applicable AQMD guidance shall be utilized when establishing these exposure reduction measures.
- AQ-4 Developments which meet or exceed thresholds of significance for ozone precursor pollutants, and/or GHG as adopted by the SMAQMD, shall be deemed to have a significant environmental impact. An Air Quality Mitigation Plan and/or a Greenhouse Gas Reduction Plan shall be submitted to the County of Sacramento prior to project approval, subject to review and recommendation as to technical adequacy by the Sacramento Metropolitan Air Quality Management District.
- AQ-16 Prohibit the idling of on-and off-road engines when the vehicle is not moving or when the off-road equipment is not performing work for a period of time greater than five minutes in any one-hour period.

2.2 GREENHOUSE GASES

2.2.1 Climate Change Overview

Global climate change refers to changes in average climatic conditions on Earth including temperature, wind patterns, precipitation, and storms. Global temperatures are moderated by atmospheric gases. These gases are commonly referred to as GHGs because they function like a greenhouse by letting sunlight in but preventing heat from escaping, thus warming the Earth’s atmosphere.

GHGs are emitted by natural processes and human (anthropogenic) activities. Anthropogenic GHG emissions are primarily associated with: (1) the burning of fossil fuels during motorized transport, electricity generation, natural gas consumption, industrial activity, manufacturing, and other activities; (2) deforestation; (3) agricultural activity; and (4) solid waste decomposition.

The temperature record shows a decades-long trend of warming, with 2016 and 2020 global surface temperatures tied for the warmest year on record since 1880 (National Aeronautics and Space Administration [NASA] 2023a). The newest release in long-term warming trends announced 2022 ranked as tied with 2015 for the sixth warmest year on record with an increase of 1.6 degrees Fahrenheit compared to the 1951-1980 average (NASA 2023b). GHG emissions from human activities are the most significant driver of observed climate change since the mid-20th century (United Nations Intergovernmental Panel on Climate Change [IPCC] 2013). The IPCC constructed several emission trajectories of GHGs needed to stabilize global temperatures and climate change impacts. The statistical models show a “high confidence” that temperature increase caused by anthropogenic GHG emissions could be kept to less than two degrees Celsius relative to pre-industrial levels if atmospheric concentrations are stabilized at about 450 parts per million (ppm) carbon dioxide equivalent (CO₂e) by the year 2100 (IPCC 2014).

2.2.2 Types of Greenhouse Gases

The GHGs defined under California’s Assembly Bill (AB) 32 include carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆).

Carbon Dioxide. CO₂ is the most important and common anthropogenic GHG. CO₂ is an odorless, colorless GHG. Natural sources include the decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungi; evaporation from oceans; and volcanic outgassing. Anthropogenic sources of CO₂ include burning fuels, such as coal, oil, natural gas, and wood. Data from ice cores indicate that CO₂ concentrations remained steady prior to the current period for approximately 10,000 years. The atmospheric CO₂ concentration in 2010 was 390 ppm, 39 percent above the concentration at the start of the Industrial Revolution (about 280 ppm in 1750). As of August 2023, the CO₂ concentration exceeded 419 ppm, a 51 percent increase since 1750 (National Oceanic and Atmospheric Administration [NOAA] 2023).

Methane. CH₄ is the main component of natural gas used in homes. A natural source of methane is from the decay of organic matter. Geological deposits known as natural gas fields contain methane, which is extracted for fuel. Other sources are from decay of organic material in landfills, fermentation of manure, and cattle digestion.

Nitrous Oxide. N₂O is produced by both natural and human-related sources. N₂O is emitted during agricultural and industrial activities, as well as during the combustion of fossil fuels and solid waste. Primary human-related sources of N₂O are agricultural soil management, animal manure management, sewage treatment, mobile and stationary combustion of fossil fuel, adipic (fatty) acid production, and nitric acid production.

Hydrofluorocarbons. Fluorocarbons are gases formed synthetically by replacing all hydrogen atoms in methane or ethane with chlorine and/or fluorine atoms. Chlorofluorocarbons (CFCs) are nontoxic, nonflammable, insoluble, and chemically nonreactive in the troposphere (the level of air at Earth’s surface). CFCs were first synthesized in 1928 for use as refrigerants, aerosol propellants, and cleaning

solvents. They destroy stratospheric ozone; therefore, their production was stopped as required by the 1989 Montreal Protocol.

Sulfur Hexafluoride. SF₆ is an inorganic, odorless, colorless, nontoxic, nonflammable gas. SF₆ is used for insulation in electric power transmission and distribution equipment, in the magnesium industry, in semi-conductor manufacturing, and as a tracer gas for leak detection.

GHGs have long atmospheric lifetimes that range from one year to several thousand years. Long atmospheric lifetimes allow for GHG emissions to disperse around the globe. Because GHG emissions vary widely in the power of their climatic effects, climate scientists have established a unit called global warming potential (GWP). The GWP of a gas is a measure of both potency and lifespan in the atmosphere as compared to CO₂. For example, a gas with a GWP of 10 is 10 times more potent than CO₂ over 100 years. CO₂e is a quantity that enables all GHG emissions to be considered as a group despite their varying GWP. The GWP of each GHG is multiplied by the prevalence of that gas to produce CO₂e.

Historically, GHG emission inventories have been calculated using the GWPs from the IPCC's Second Assessment Report (AR2). In 2007, IPCC updated the GWP values based on the latest science at the time in its Fourth Assessment Report (AR4). The updated GWPs in the IPCC AR4 have begun to be used in recent GHG emissions inventories. In 2013, IPCC again updated the GWP values based on the latest science in its Fifth Assessment Report (AR5) (IPCC 2013). However, the United Nations Framework Convention on Climate Change (UNFCCC) reporting guidelines for national inventories require the use of GWP values from the AR4. To comply with international reporting standards under the UNFCCC, official emission estimates for California and the U.S. are reported using AR4 GWP values, and statewide and national GHG inventories have not yet updated their GWP values to the AR5 values. GHG emissions in this analysis are reported using the AR4 GWP values.

By applying the GWP ratios, CO₂e emissions can be tabulated in metric tons (MT) per year. Typically, the GWP ratio corresponding to the warming potential of CO₂ over a 100-year period is used as a baseline. The atmospheric lifetime and GWP of selected GHGs are summarized in Table 4, *Global Warming Potentials and Atmospheric Lifetimes*.

Table 4
GLOBAL WARMING POTENTIALS AND ATMOSPHERIC LIFETIMES

Greenhouse Gas	Atmospheric Lifetime (years)	IPCC SAR GWP	IPCC AR4 GWP	IPCC AR5 GWP
Carbon Dioxide (CO ₂)	50-200	1	1	1
Methane (CH ₄)	12	21	25	28
Nitrous Oxide (N ₂ O)	114	310	298	265
HFC-134a	14	1,300	1,430	1,300
PFC: Tetrafluoromethane (CF ₄)	50,000	6,500	7,390	6,630
PFC: Hexafluoroethane (C ₂ F ₆)	10,000	9,200	12,200	11,100
Sulfur Hexafluoride (SF ₆)	3,200	23,900	22,800	23,500

Source: IPCC 2007

IPCC = Intergovernmental Panel on Climate Change; GWP = global warming potential; HFC = hydrofluorocarbon;

PFC = perfluorocarbon

2.2.3 Federal Greenhouse Gas Regulations

2.2.3.1 Federal Clean Air Act

The U.S. Supreme Court ruled on April 2, 2007, in *Massachusetts v. U.S. Environmental Protection Agency* that CO₂ is an air pollutant, as defined under the CAA, and that the USEPA has the authority to regulate emissions of GHGs. The USEPA announced that GHGs (including CO₂, CH₄, N₂O, HFC, PFC, and SF₆) threaten the public health and welfare of the American people (USEPA 2023b). This action was a prerequisite to finalizing the USEPA's GHG emissions standards for light-duty vehicles, which were jointly proposed by the USEPA and the United States Department of Transportation's National Highway Traffic Safety Administration (NHTSA).

On June 30, 2022, the U.S. Supreme Court decision published in *West Virginia v. U.S. Environmental Protection Agency* overturned the USEPA's Clean Power Plan rule, which cited Section 111(d) of the CAA for authority to set limits on CO₂ emissions from existing coal- and natural-gas-fired power plants. The June 30, 2022 decision does not overturn the April 2, 2007 decision; however, it may limit the USEPA's authority to develop rules limiting GHG emissions without clear congressional authorization.

2.2.3.2 Light-Duty Vehicle Greenhouse Gas Emissions Standards and Corporate Average Fuel Economy Standards

The USEPA and the NHTSA worked together on developing a national program of regulations to reduce GHG emissions and improve fuel economy of light-duty vehicles. The USEPA established the first-ever national GHG emissions standards under the CAA, and the NHTSA established Corporate Average Fuel Economy (CAFE) standards under the Energy Policy and Conservation Act. On April 1, 2010, the USEPA and NHTSA announced a joint Final Rulemaking that established standards for 2012 through 2016 model year vehicles. This was followed up on October 15, 2012, when the agencies issued a Final Rulemaking with standards for model years 2017 through 2025. In March 2022, the agencies finalized standards for model years 2024 through 2026 and established an industry-wide fleet average of approximately 49 miles per gallon for passenger cars and light trucks in model year 2026.

2.2.4 California Greenhouse Gas Regulations

2.2.4.1 California Building Energy Efficiency Standards

CCR Title 24 Part 6: California's Energy Efficiency Standards for Residential and Nonresidential Buildings were first established in 1978 in response to a legislative mandate to reduce California's energy consumption. Energy-efficient buildings require less electricity, natural gas, and other fuels. Electricity production from fossil fuels and on-site fuel combustion (typically for space or water heating) results in GHG emissions.

The Title 24 standards are updated approximately every three years to allow consideration and possible incorporation of new energy efficiency technologies and methods. The 2022 Title 24 standards became effective on January 1, 2023. The 2022 update to the Building Energy Efficiency Standards focuses on several key areas to improve the energy efficiency of newly constructed buildings and additions and alterations to existing buildings. New for the 2022 Title 24 standards are non-residential on-site photovoltaic (solar panels) electricity generation requirements (California Energy Commission [CEC] 2022).

The standards are divided into three basic sets. First, there is a basic set of mandatory requirements that apply to all buildings. Second, there is a set of performance standards—the energy budgets—that vary by climate zone (of which there are 16 in California) and building type; thus, the standards are tailored to local conditions. Finally, the third set constitutes an alternative to the performance standards, which is a set of prescriptive packages that are basically a recipe or a checklist compliance approach.

2.2.4.2 California Green Building Standards

The California Green Building Standards Code (CALGreen; CCR Title 24, Part 11) is a code with mandatory requirements for all nonresidential buildings (including industrial buildings) and residential buildings for which no other state agency has the authority to adopt green building standards. The 2022 Standards for new construction of, and additions and alterations to, residential and nonresidential buildings became effective on January 1, 2023 (California Building Standards Commission [CBSC] 2022).

The development of CALGreen is intended to (1) cause a reduction in GHG emissions from buildings; (2) promote environmentally responsible, cost-effective, healthier places to live and work; (3) reduce energy and water consumption; and (4) respond to the directives by the Governor. In short, the code is established to reduce construction waste; make buildings more efficient in the use of materials and energy; and reduce environmental impact during and after construction.

CALGreen contains requirements for storm water control during construction; construction waste reduction; indoor water use reduction; material selection; natural resource conservation; site irrigation conservation; and more. The code provides for design options allowing the designer to determine how best to achieve compliance for a given site or building condition. The code also requires building commissioning, which is a process for the verification that all building systems, like heating and cooling equipment and lighting systems, are functioning at their maximum efficiency. CALGreen contains two levels of voluntary measures (Tier 1 and Tier 2) which go beyond minimum State code requirements. Categories of Tier 1 and Tier 2 measures include: EV designated parking; EV charging infrastructure; cool roofs; efficient outdoor lighting; dock door seals; potable water use reductions; recycled building material content; and resilient flooring.

2.2.4.3 Executive Order S-3-05

On June 1, 2005, Executive Order (EO) S-3-05 proclaimed that California is vulnerable to climate change impacts. It declared that increased temperatures could reduce snowpack in the Sierra Nevada, further exacerbate California's air quality problems, and potentially cause a rise in sea levels. To avoid or reduce climate change impacts, EO S-3-05 calls for a reduction in GHG emissions to the year 2000 level by 2010, to year 1990 levels by 2020, and to 80 percent below 1990 levels by 2050.

2.2.4.4 Assembly Bill 32 – Global Warming Solution Act of 2006

The California Global Warming Solutions Act of 2006, widely known as AB 32, requires that CARB develop and enforce regulations for the reporting and verification of statewide GHG emissions. CARB is directed by AB 32 to set a GHG emission limit, based on 1990 levels, to be achieved by 2020. The bill requires CARB to adopt rules and regulations in an open public process to achieve the maximum technologically feasible and cost-effective GHG emission reductions.

2.2.4.5 Executive Order B-30-15

On April 29, 2015, EO B-30-15 established a California GHG emission reduction target of 40 percent below 1990 levels by 2030. The EO aligns California's GHG emission reduction targets with those of leading international governments, including the 28 nation European Union. California is on track to meet or exceed the target of reducing GHGs emissions to 1990 levels by 2020, as established in AB 32. California's new emission reduction target of 40 percent below 1990 levels by 2030 will make it possible to reach the goal established by EO S-3-05 of reducing emissions 80 percent under 1990 levels by 2050.

2.2.4.6 Senate Bill 32

Senate Bill (SB) 32 (Amendments to the California Global Warming Solutions Action of 2006) extends California's GHG reduction programs beyond 2020. SB 32 amended the Health and Safety Code to include Section 38566, which contains language to authorize CARB to achieve a statewide GHG emission reduction of at least 40 percent below 1990 levels by no later than December 31, 2030. SB 32 codified the targets established by EO B-30-15 for 2030, which set the next interim step in the State's continuing efforts to pursue the long-term target expressed in EO B-30-15 of 80 percent below 1990 emissions levels by 2050.

2.2.4.7 Assembly Bill 197

A condition of approval for SB 32 was the passage of AB 197. AB 197 requires that CARB consider the social costs of GHG emissions and prioritize direct reductions in GHG emissions at mobile sources and large stationary sources. AB 197 also gives the California legislature more oversight over CARB through the addition of two legislatively appointed members to the CARB Board and the establishment a legislative committee to make recommendations about CARB programs to the legislature.

2.2.4.8 Assembly Bill 1493 – Vehicular Emissions of Greenhouse Gases

AB 1493 (Pavley) requires that CARB develop and adopt regulations that achieve "the maximum feasible reduction of GHGs emitted by passenger vehicles and light-duty truck and other vehicles determined by CARB to be vehicles whose primary use is noncommercial personal transportation in the State." On September 24, 2009, CARB adopted amendments to the Pavley regulations that intend to reduce GHG emissions in new passenger vehicles from 2009 through 2016. The amendments bind California's enforcement of AB 1493 (starting in 2009), while providing vehicle manufacturers with new compliance flexibility. In January 2012, CARB approved a new emissions-control program for model years 2017 through 2025. The program combines the control of smog, soot, and global warming gases and requirements for greater numbers of zero-emission vehicles into a single packet of standards called Advanced Clean Cars (CARB 2023d).

2.2.4.9 Assembly Bill 341

The state legislature enacted AB 341 (California Public Resource Code Section 42649.2), increasing the diversion target to 75 percent statewide. AB 341 requires all businesses and public entities that generate 4 cubic yards or more of waste per week to have a recycling program in place. The final regulation was approved by the Office of Administrative Law on May 7, 2012, and went into effect on July 1, 2012.

2.2.4.10 Executive Order S-01-07

This EO, signed by Governor Schwarzenegger on January 18, 2007, directs that a statewide goal be established to reduce the carbon intensity of California's transportation fuels by at least 10 percent by the year 2020. It orders that a Low Carbon Fuel Standard (LCFS) for transportation fuels be established for California and directs CARB to determine whether a LCFS can be adopted as a discrete early action measure pursuant to AB 32. CARB approved the LCFS as a discrete early action item with a regulation adopted and implemented in April 2010. Although challenged in 2011, the Ninth Circuit reversed the District Court's opinion and rejected arguments that implementing LCFS violates the interstate commerce clause in September 2013. CARB is therefore continuing to implement the LCFS statewide.

2.2.4.11 Senate Bill 350

Approved by Governor Brown on October 7, 2015, SB 350 increases California's renewable electricity procurement goal from 33 percent by 2020 to 50 percent by 2030. This will increase the use of Renewables Portfolio Standard eligible resources, including solar, wind, biomass, and geothermal. In addition, large utilities are required to develop and submit Integrated Resource Plans to detail how each entity will meet their customers resource needs, reduce GHG emissions, and increase the use of clean energy.

2.2.4.12 Senate Bill 375

SB 375, the Sustainable Communities and Climate Protection Act of 2008, supports the State's climate action goals to reduce GHG emissions through coordinated transportation and land use planning with the goal of more sustainable communities.

Under the Sustainable Communities Act, CARB sets regional targets for GHG emissions reductions from passenger vehicle use. In 2010, CARB established these targets for 2020 and 2035 for each region covered by one of the State's Metropolitan Planning Organizations (MPOs). CARB periodically reviews and updates the targets, as needed.

Each of California's MPOs must prepare a Sustainable Communities Strategy (SCS) as an integral part of its regional transportation plan (RTP). The SCS contains land use, housing, and transportation strategies that, if implemented, would allow the region to meet its GHG emission reduction targets. Once adopted by the MPO, the RTP/SCS guides the transportation policies and investments for the region. CARB must review the adopted SCS to confirm and accept the MPO's determination that the SCS, if implemented, would meet the regional GHG targets. If the combination of measures in the SCS would not meet the regional targets, the MPO must prepare a separate alternative planning strategy (APS) to meet the targets. The APS is not a part of the RTP. Qualified projects consistent with an approved SCS or Alternative Planning Strategy categorized as "transit priority projects" would receive incentives to streamline CEQA processing.

2.2.4.13 Senate Bill 100

Approved by Governor Brown on September 10, 2018, SB 100 extends the renewable electricity procurement goals and requirements of SB 350. SB 100 requires that all retail sales of electricity to California end-use customers be procured from 100 percent eligible renewable energy resources and zero-carbon resources by the end of 2045.

2.2.5 Executive Order N-79-20

EO N-79-20, signed by Governor Newsom on September 23, 2020, establishes three goals for the implementation of zero emissions vehicles in California: first, 100 percent of in-state sales of new passenger cars and trucks will be zero-emissions by 2035; second, 100 percent of medium- and heavy-duty vehicles in the state will be zero-emissions vehicles by 2045 for all operations where feasible, and by 2035 for drayage trucks; and third, 100 percent of off-road vehicles and equipment will be zero emissions by 2035 where feasible.

2.2.6 Assembly Bill 1279

Approved by Governor Newsom on September 16, 2022, AB 1279, the California Climate Crisis Act, declares the policy of the State to achieve net zero GHG emissions as soon as possible, but no later than 2045, and achieve and maintain net negative GHG emissions thereafter, and to ensure that by 2045, statewide anthropogenic GHG emissions are reduced to at least 85 percent below the 1990 levels. AB 1279 anticipates achieving these policies through direct GHG emissions reductions, removal of CO₂ from the atmosphere (carbon capture), and an almost complete transition away from fossil fuels.

2.2.7 Senate Bill 905

Approved by Governor Newsom on September 16, 2022, SB 905, Carbon Sequestration: Carbon Capture, Removal, Utilization, and Storage Program, requires CARB to establish a Carbon Capture, Removal, Utilization, and Storage Program to evaluate the efficacy, safety, and viability of carbon capture, utilization, or storage technologies and CO₂ removal technologies and facilitate the capture and sequestration of CO₂ from those technologies, where appropriate. SB 905 is an integral part of achieving the state policies mandated in AB 1279.

2.2.7.1 California Air Resources Board: Scoping Plan

The Scoping Plan is a strategy CARB develops and updates at least once every five years, as required by AB 32. It lays out the transformations needed across California's society and economy to reduce emissions and reach climate targets. The current 2022 Scoping Plan is the third update to the original plan that was adopted in 2008. The initial 2008 Scoping Plan laid out a path to achieve the AB 32 mandate of returning to 1990 levels of GHG emissions by 2020, a reduction of approximately 15 percent below business as usual. The 2008 Scoping Plan included a mix of incentives, regulations, and carbon pricing, laying out the portfolio approach to addressing climate change and clearly making the case for using multiple tools to meet California's GHG emission targets. The 2013 Scoping Plan assessed progress toward achieving the 2020 mandate and made the case for addressing short-lived climate pollutants (SLCPs). The 2017 Scoping Plan also assessed the progress toward achieving the 2020 limit and provided a technologically feasible and cost-effective path to achieving the SB 32 mandate of reducing GHGs by at least 40 percent below 1990 levels by 2030. On December 15, 2022, CARB approved the 2022 Scoping Plan for Achieving Carbon Neutrality (2022 Scoping Plan). The 2022 Scoping Plan lays out a path to achieve targets for carbon neutrality and reduce anthropogenic GHG emissions by 85 percent below 1990 levels no later than 2045, as directed by Assembly Bill 1279. The actions and outcomes in the plan will achieve significant reductions in fossil fuel combustion by deploying clean technologies and fuels; further reductions in SLCPs; support for sustainable development; increased action on natural and working lands to reduce emissions and sequester carbon; and the capture and storage of carbon (CARB 2022).

2.2.8 Regional GHG Policies and Plans

2.2.8.1 Sacramento Area Council of Governments

As required by the Sustainable Communities and Climate Protection Act of 2008 (SB 375), SACOG has developed the 2020 Metropolitan Transportation Plan and Sustainable Communities Strategy (MTP/SCS). This plan seeks to reduce GHG and other mobile source emissions through coordinated transportation and land use planning to reduce VMT (SACOG 2019).

2.2.8.2 County of Sacramento

In November 2011, the County approved the Phase 1 Climate Action Plan Strategy and Framework (CAP), which is the first phase of developing a community-level Climate Action Plan. The Phase 1 CAP provides a framework and overall policy strategy for reducing GHG emissions and managing our resources to comply with AB 32. It also highlights actions already taken to become more efficient and targets future mitigation and adaptation strategies. In September 2012, the County adopted the Phase 2A CAP to address reducing GHG emissions for County operations. Neither the Phase 1 CAP nor the Phase 2A CAP are “qualified” GHG reduction plans for the purposes of streamlined impact analysis of GHG emissions per Section 15183.5 of the CEQA Guidelines.

As part of an update to the General Plan, the County is preparing a new Community Wide CAP which will be a qualified GHG reduction plan in accordance with Section 15183.5 of the CEQA Guidelines (County 2021). As of this analysis, the new Community Wide CAP and Addendum to the General Plan Update Environmental Impact Report is in progress with a public comment period ending in late September 2022 and the County Board of Supervisors to consider adoption in November or December 2022. At the time of this analysis, the addendum EIR has not been certified and the new Community Wide CAP has not been adopted.

3.0 EXISTING CONDITIONS

The project site is located in a generally suburban area with commercial businesses (including truck service business) along Stockton Boulevard and residential areas east of the project site along Victory Avenue. The project site northern lot is currently occupied by a truck tire business and parking lot. The project site southern lot is currently vacant and contains no structures, trees, or bushes.

3.1 SURROUNDING LAND USES

Land uses surrounding the project site include: a vacant parcel with a General Commercial land use designation to the east, a vacant parcel with a Commercial/Offices land use designation to the north, a small retail strip mall to the northwest, a retail strip mall across Stockton Boulevard to the west, and a truck stop/truck service and truck parking business across Victory Avenue to the south (see Figure 2). A residential subdivision project (the Raj Subdivision) with a tentative map for 30 single family lots was approved for the vacant parcel to the north (APN 115-0061-044) on January 25, 2022. As of this analysis, construction activity for the Raj Subdivision has not commenced. The vacant lot to the east (APN 115-0061-030) is owned by the project applicant and, as of this analysis, there are no development plans for the lot. However, the County Department of Community Development has identified the lot to the east as having low-income residential development potential on the Housing Element Vacant Land Inventory (County 2023a).

3.2 SENSITIVE RECEPTORS

CARB and the Office of Environmental Health Hazard Assessment (OEHHA) have identified the following groups of individuals (sensitive receptors) as the most likely to be affected by air pollution: the elderly over 65, children under 14, infants (including in utero in the third trimester of pregnancy), and persons with cardiovascular and chronic respiratory diseases such as asthma, emphysema, and bronchitis (CARB 2005; OEHHA 2015). Some land uses are considered more sensitive to air pollution than others due to the types of population groups or activities involved and are referred to as sensitive receptor locations. Examples of these sensitive receptor locations are residences, schools, hospitals, and daycare centers.

Residential areas are considered sensitive receptor locations to air pollution because residents (including children and the elderly) tend to be at home for extended periods of time, resulting in sustained exposure to any pollutants present. Children and infants are considered more susceptible to health effects of air pollution due to their immature immune systems, developing organs, and higher breathing rates. As such, schools are also considered sensitive receptor locations, as children are present for extended durations and engage in regular outdoor activities.

The closest existing sensitive receptor locations to the project site are single-family residences starting approximately 135 feet east of the project site and a single-family residence approximate 370 feet northeast of the project site. The vacant lot adjacent to the property line to the north contains potential future sensitive receptor location—per the approved Raj Subdivision tentative map, the closest residential lots to the project site would be Lots 21 and 25, starting approximately 35 feet to the north, and Lot 30 adjacent to the project site just north of the existing commercial building (Aras Design and Construction 2022). The Happy Time infant, preschool, and school age daycare facility is located approximately 580 feet northeast of the project site. Additional single-family residences are located approximately 610 feet north of the project site, across Elsie Avenue. The Kaiser Permanente South Sacramento Medical Center Hospital is located approximately 1,050 feet (0.20 mile) southwest of the project site, across Stockton Boulevard and SR 99. The closest school to the project site is the Anna Kirchgater Elementary School approximately 2,800 feet (0.53 mile) to the southeast.

3.3 CLIMATE AND METEOROLOGY

The climate of the SVAB is characterized by hot dry summers and mild rainy winters. During the year, the temperature may range from 20 to 115 degrees Fahrenheit (°F) with summer highs usually in the 90s and winter lows occasionally below freezing. Average annual rainfall is about 20 inches with snowfall being very rare. The prevailing winds are moderate in strength and vary from moist breezes from the south to dry land flows from the north. The mountains surrounding the Sacramento Valley create a barrier to airflow, which can trap air pollutants in the valley when certain meteorological conditions are right, and a temperature inversion (areas of warm air overlying areas of cooler air) exists. Air stagnation in the autumn and early winter occurs when large high-pressure cells lie over the valley. The lack of surface wind during these periods and the reduced vertical flow caused by less surface heating reduces the influx of outside air and allows pollutants to become concentrated in the air. The surface concentrations of pollutants are highest when these conditions are combined with increased levels of smoke or when temperature inversions trap cool air, fog, and pollutants near the ground. The ozone season (May through October) in the SVAB is characterized by stagnant morning air or light winds with the breeze arriving in the afternoon out of the southwest from the San Francisco Bay. Usually, the evening breeze transports the airborne pollutants to the north out of the SVAB. During about half of the days from July to September, however, a phenomenon called the “Schultz Eddy” prevents this from

occurring. Instead of allowing for the prevailing wind patterns to move north carrying the pollutants out of the valley, the Schultz Eddy causes the wind pattern and pollutants to circle back southward. This phenomenon's effect exacerbates the pollution levels in the area and increases the likelihood of violating the federal and state air quality standards (SMAQMD 2020a).

The predominant wind direction in the vicinity of the project site is from the southeast and the average wind speed is approximately 7.7 miles per hour (mph), as measured at the Sacramento Executive Airport, approximately 4.5 miles northwest of the project site (Iowa Environmental Mesonet [IEM] 2023). The annual average maximum temperature in the project area, as measured at the Sacramento 5 ESE climatic station, approximately 4 miles north of the project site, is approximately 73.1 °F, and the annual average minimum temperature is approximately 49.8°F. Total precipitation in the project area averages approximately 18.2 inches annually. Precipitation occurs mostly during the winter and relatively infrequently during the summer (Western Regional Climate Center [WRCC] 2017).

3.4 EXISTING AIR QUALITY

3.4.1 Criteria Pollutants

3.4.1.1 Attainment Designations

Attainment designations are discussed in Section 2.1 and Table 3. Sacramento County is a federal nonattainment area for 8-hour ozone and PM_{2.5}. Sacramento County is also a state nonattainment area for 1-hour and 8-hour ozone and PM₁₀.

3.4.1.2 Monitored Air Quality

The SMAQMD maintains monitoring stations to measure ambient concentrations of pollutants in the county. The closest monitoring station is the Sacramento-T-Street monitoring station, approximately 7.8 miles northwest of the project site. Table 5, *Air Quality Monitoring Data*, presents a summary of the ambient pollutant concentrations monitored at Sacramento-T-Street monitoring station during the most recent three years (2019 through 2021) for which the SMAQMD has reported data.

Table 5
AIR QUALITY MONITORING DATA

Pollutant Standard	2019	2020	2021
Ozone (O₃)			
Maximum concentration 1-hour period (ppm)	0.100	0.112	0.091
Maximum concentration 8-hour period (ppm)	0.074	0.076	0.080
Days above 1-hour state standard (>0.09 ppm)	1	1	0
Days above 8-hour state/federal standard (>0.070 ppm)	1	3	1
Coarse Particulate Matter (PM₁₀)			
Maximum 24-hour concentration (µg/m ³)	174.7	298.7	132.6
Measured Days above 24-hr state standard (>50 µg/m ³)	24	59	12
Measured Days above 24-hr federal standard (>150 µg/m ³)	1	4	0
Annual average (µg/m ³)	20.7	31.2	23.5
Exceed state annual standard (20 µg/m ³)	Yes	Yes	Yes

Pollutant Standard	2019	2020	2021
<i>Fine Particulate Matter (PM_{2.5})</i>			
Maximum 24-hour concentration (µg/m ³)	32.3	111.0	89.1
Measured Days above 24-hour federal standard (>35 µg/m ³)	0	6	4
Annual average (µg/m ³)	7.7	*	9.4
Exceed state and federal annual standard (12 µg/m ³)	No	No	No
<i>Nitrogen Dioxide (NO₂)</i>			
Maximum 1-hour concentration (ppm)	0.062	0.054	0.056
Days above state 1-hour standard (0.18 ppm)	0	0	0
Days above federal 1-hour standard (0.100 ppm)	0	0	0
Annual average (ppm)	0.009	0.008	0.007
Exceed annual federal standard (0.053 ppm)	No	No	No
Exceed annual state standard (0.030 ppm)	No	No	No

Source: CARB 2023e

ppb = parts per billion; ppm = parts per million; µg/m³ = micrograms per cubic meter, * = insufficient data available.

As shown in Table 5, The state 1-hour ozone standard was exceeded one day in 2019 and 2020. The federal 8-hour ozone standard was exceeded on at least one day in each of the sample years. PM₁₀, and PM_{2.5} standards were exceeded numerous times in each of the sample years. Data for NO₂ showed no exceedances.

3.4.2 Greenhouse Gases

3.4.2.1 Worldwide GHG Inventory

In 2020, total GHG emissions worldwide were estimated at 50,510 million metric tons (MMT) of CO₂e emissions (Climate Watch 2023). By country, the U.S. contributed the second largest portion (10.5 percent) of global GHG emissions, behind China, with 24.4 percent of global emissions. The total U.S. GHG emissions were 5,290 MMT CO₂e in 2020 (Climate Watch 2023). On a national level, approximately 90 percent of GHG emissions were associated with energy, including transportation energy (Climate Watch 2023).

3.4.2.2 California GHG Inventory

CARB performed statewide inventories for the years 1990 to 2020, as shown in Table 6, *California Greenhouse Gas Emissions by Sector*. The inventory is divided into five broad sectors of economic activity: agriculture, commercial and residential, electricity generation, industrial, and transportation. Emissions are quantified in MMT CO₂e.

Table 6
CALIFORNIA GREENHOUSE GAS EMISSIONS BY SECTOR

Sector	Emissions (MMT CO ₂ e)			
	2000	2010	2019	2020
Agriculture and Forestry	30.8 (7%)	33.6 (8%)	31.4 (8%)	31.6 (8%)
Commercial and Residential	44.2 (10%)	46.0 (10%)	40.5 (10%)	38.7 (11%)
Electricity Generation	104.7 (23%)	90.3 (20%)	60.2 (15%)	59.5 (16%)
Industrial	93.0 (20%)	87.8 (20%)	80.4 (20%)	73.3 (20%)
Transportation	175.7 (38%)	162.9 (37%)	162.4 (40%)	135.8 (37%)
Unspecified Remaining	13.4 (3%)	21.6 (5%)	29.5 (7%)	30.2 (8%)
TOTAL	461.8	442.2	404.4	369.1

Source: CARB 2007 and CARB 2023f

MMT = million metric tons; CO₂e = carbon dioxide equivalent

As shown in Table 6, statewide GHG source emissions totaled 461.8 MMT CO₂e in 2000, 442.2 MMT CO₂e in 2010, 404.4 MMT CO₂e in 2019, and 369.1 MMT CO₂e in 2020. Transportation-related emissions consistently contribute the most GHG emissions, followed by electricity generation and industrial emissions (CARB 2007 and CARB 2023f).

3.4.2.3 Sacramento County GHG Emissions Inventory

A GHG emissions inventory for unincorporated communities of Sacramento County was prepared as part of the General Plan Update/draft CAP. The 2015 baseline emissions inventory is shown below in Table 7, *Sacramento County Greenhouse Gas Emissions by Sector*. The sectors included in this inventory are somewhat different from those in the statewide inventory. Similar to the statewide emissions, transportation (on-road vehicles) related GHG emissions contributed the most in Sacramento County with 34 percent of the total (County 2021).

Table 7
SACRAMENTO COUNTY GREENHOUSE GAS EMISSIONS BY SECTOR

Sector	2015(MT CO ₂ e)
Residential Energy	1,193,311 (24.6%)
Commercial Energy	890,603 (18.3%)
On-Road Vehicles	1,671,596 (34.3%)
Off-Road Vehicles	196,769 (4.1%)
Solid Waste	352,909 (7.3%)
Agriculture	254,899 (5.3%)
High-GWP Gasses	251,085 (5.2%)
Wastewater	27,253 (0.6%)
Water Related	2,219 (<0.1%)
TOTAL	4,853,647

Source: Sacramento County 2021

MT = metric tons; CO₂e = carbon dioxide equivalent

4.0 METHODOLOGY AND SIGNIFICANCE CRITERIA

4.1 METHODOLOGY

Criteria pollutant and GHG emissions were calculated using the California Emissions Estimator Model (CalEEMod), Version 2022.1.1.18. CalEEMod is a computer model used to estimate air emissions resulting from land development projects throughout the state of California. CalEEMod was developed by the California Air Pollution Control Officers Association (CAPCOA) in collaboration with the California air quality management and air pollution control districts. The calculation methodology, source of emission factors used, and default data is described in the CalEEMod User's Guide, and Appendices C, D, and G (CAPCOA 2022).

In brief, CalEEMod is a computer model that estimates criteria air pollutant and greenhouse gas emissions from mobile (i.e., on-road vehicular) sources, area sources (e.g., fireplaces, woodstoves, landscape maintenance equipment, and consumer products), energy use (electricity and natural gas used in space heating, ventilation, and cooling; lighting; and plug-in appliances), water use and wastewater generation, and solid waste disposal. Emissions are estimated based on land use information input to the model by the user.

In the first module, the user defines the specific land uses that will occur at the project site. The user also selects the appropriate land use setting (urban or rural), operational year, location, climate zone, and utility provider. The input land uses, size features, and population are used throughout CalEEMod in determining default parameters and calculations in each of the subsequent modules. The input land use information consists of land use subtypes (such as convenience store with gas pumps) and their unit or square footage quantities.

Subsequent modules include construction and operations, each of which contains submodules including off-road equipment, mobile sources (on-road vehicle emissions), area sources (e.g., architectural coatings [painting], consumer products [cleansers, aerosols, solvents]), water and wastewater, and solid waste. Each module comprises multiple components including an associated mitigation module to account for further reductions in the reported baseline calculations. Other inputs include trip generation rates, trip lengths, vehicle fleet mix (percentage autos, trucks, etc.), trip distribution (percent work to home, etc.), duration and schedule of construction activities, construction equipment usage, construction material import and export, as well as other parameters.

In various places the user can input additional information and/or override the default assumptions to account for project- or location-specific parameters. For this assessment, the default parameters were not changed unless project specific information was available and noted. The CalEEMod output files are included in Appendix A to this report.

4.1.1 Construction Emissions

CalEEMod has the capability to calculate reductions in construction emissions from the effects of dust control, diesel-engine classifications, and other selected emissions reduction measures. CalEEMod estimates construction emissions for each year of construction activity based on the annual construction equipment profile and other factors determined as needed to complete all phases of construction by the target completion year. As such, each year of construction activity has varying quantities of GHG emissions.

4.1.1.1 Construction Activities

Construction emissions were estimated based on an estimated earliest potential construction start date of January 2024 and CalEEMod default construction activity durations, with reduction in activity lengths to account for the limited demolition and no new buildings: demolition reduced from 20 days to 5 days; building construction reduced from 220 days to 20 days; paving reduced from 10 days to 5 days; and architectural coatings reduced from 10 days to 2 days. The project would not construct any new buildings, the building construction activity would consist of installation of a new CMU wall, fencing, gates, light standards, and landscaping. Existing pavement on the northern portion of the project site would not be replaced. Project construction activities are estimated to be completed in early March 2024. The quantity, duration, and intensity of construction activity influence the amount of construction emissions and related pollutant concentrations that occur at any one time. As such, the emission forecasts provided herein reflect a specific set of conservative assumptions based on the expected construction scenario wherein a relatively large amount of construction activity is occurring in a relatively intensive manner. Because of this conservative assumption, actual emissions could be less than those forecasted. If construction would be delayed or occur over a longer time period, emissions could be reduced because of: (1) a more modern and cleaner-burning construction equipment fleet mix than assumed in CalEEMod; and/or (2) a less intensive buildout schedule (i.e., fewer daily emissions occurring over a longer time interval).

Construction activities would include demolition, site preparation, grading, building construction, paving, and architectural coatings (painting of parking lot lines). Construction was assumed to occur five days per week with equipment operating up to eight hours per day. Demolition would include the removal of old asphalt, concrete, and fencing totaling approximately 160 tons (approximately 20 truckloads). Site preparation would include the removal of vegetation and debris, estimated at approximately 80 cubic yards (CY; approximately 5 truckloads). During grading, approximately 90 CY of soil would be exported (approximately 6 truckloads). During paving, approximately 170 loads of aggregate, concrete, and asphalt would be imported to the project site. The anticipated construction schedule is provided in Table 8 – *Anticipated Construction Schedule*.

Table 8
ANTICIPATED CONSTRUCTION SCHEDULE

Construction Activity	Construction Period Start	Construction Period End	Number of Working Days
Demolition	1/1/2024	1/5/2024	5
Site Preparation	1/6/2024	1/10/2024	3
Grading	1/11/2024	1/18/2024	6
Building Construction	1/19/2024	2/15/2024	20
Paving	2/16/2024	2/29/2024	10
Architectural Coating	3/1/2024	3/4/2024	2

Source: CalEEMod

4.1.1.2 Construction Off-Road Equipment

Construction would require the use of heavy off-road equipment. All construction equipment estimates are based on default values in CalEEMod, with additional equipment added for underground utilities and UST excavation, and for fugitive dust control water application. Table 9, *Construction Equipment*, presents a summary of the modeled equipment.

Table 9
CONSTRUCTION EQUIPMENT

Equipment	Horsepower	Number	Hours/Day
Demolition			
Concrete/Industrial Saws	33	1	8
Excavators	36	1	8
Rubber-Tired Dozers	367	1	8
Water Trucks	376	1	2
Site Preparation			
Graders	148	1	8
Rubber Tired Dozers	367	1	8
Tractors/Loaders/Backhoes	84	1	8
Water Trucks	376	1	2
Grading			
Excavators	36	1	8
Graders	148	1	8
Rubber Tired Dozers	367	1	8
Tractors/Loaders/Backhoes	84	1	7
Water Trucks	376	1	2
Building Construction			
Cranes	367	1	8
Forklifts	82	2	7
Generator Sets	14	1	8
Tractors/Loaders/Backhoes	84	1	6
Welders	46	1	8
Paving			
Cement and Mortar Mixers	10	1	8
Pavers	81	1	8
Paving Equipment	89	1	8
Rollers	36	2	8
Tractors/Loaders/Backhoes	84	1	8
Architectural Coating			
Air Compressors	37	1	6

Source: CalEEMod

4.1.1.3 Construction On-Road Trips

Worker commute trips and vendor delivery trips were modeled based on CalEEMod defaults. Worker trips are anticipated to vary between 10 and 15 trips per day, depending on construction activity. Hauling debris during demolition would result in approximately 8 one-way haul trips per day. Hauling debris during site preparation would result in approximately 3 one-way haul trips per day. Exporting soil to the site during grading would result in approximately 2 one-way haul trips per day. Importing aggregate, asphalt, and concrete to the site during paving would result in approximately 34 one-way haul trips per day. The CalEEMod default worker, vendor and haul trip distances were used in the model.

4.1.1.4 Construction Architectural Coatings

Because the project does not propose any new structure, architectural coatings would be limited to painting of parking lot and driveway lines. The area to be painted would be approximately

7,540 square feet and the maximum VOC content for parking lot paint would be 100 grams per liter (g/L) per CalEEMod defaults for Sacramento County.

4.1.2 Operation Emissions

Operational emissions for the proposed project and the existing truck service facility were estimated using CalEEMod. Operational sources of emissions include area, energy, transportation, water use, and solid waste.

4.1.2.1 Area Sources

Area sources include emissions from landscaping equipment, the use of consumer products, and the reapplication of architectural coatings for maintenance. Emissions associated with area sources were estimated using the CalEEMod default values.

4.1.2.2 Energy Sources

Development within the project site would use electricity for lighting, heating, and cooling. Electricity generation typically entails the combustion of fossil fuels, including natural gas and coal, which is then transmitted to end users. A building's electricity use is thus associated with the off-site or indirect emission of GHGs at the source of electricity generation (power plant). Energy use for the proposed truck parking lot would be limited to electricity for lighting, which was estimated using CalEEMod defaults.

4.1.2.3 Vehicular (Mobile) Sources

Operational emissions from mobile source emissions are associated with project-related vehicle miles traveled (VMT; calculated in the model from trip generation and trip lengths). A trip generation analysis for the project was provided by the County Department of Transportation in a letter regarding project VMT analysis and local transportation analysis. The proposed truck parking lot would generate 154 average daily trips (ADT; County 2023b). Trips for the proposed truck parking lot were modeled assuming all trips are primary (no pass-by or diverted trip reductions) and using CalEEMod default trip distances. The 154 ADT trips for the proposed truck parking lot were assumed to be 50 percent truck trips and 50 percent truck driver commute trips. Although the trucks using the project truck parking lot could include a mix of medium and heavy-duty trucks, to be conservative, all trucks were assumed to be heavy-heavy duty (more than 33,000 gross vehicle rating). Truck driver commute trips were assumed to be a mix of car and light duty trucks (e.g., pickups) using the CalEEMod default fleet mix ratio. The resulting fleet mix for the truck parking lot was assumed to be 50 percent heavy-heavy duty trucks, 32.3 percent light duty automobiles, 3 percent light duty trucks 1, and 15.7 percent light duty trucks 2.

4.1.2.4 Solid Waste Sources

The disposal of solid waste produces GHG emissions from anaerobic decomposition in landfills, incineration, and transportation of waste. CalEEMod determines the GHG emissions associated with disposal of solid waste into landfills. Portions of these emissions are biogenic. CalEEMod methods for quantifying GHG emissions from solid waste are based on the IPCC method using the degradable organic content of waste. Solid waste was modeled using CalEEMod defaults.

4.1.2.5 Water Sources

Water-related GHG emissions are from the conveyance and treatment of water. Water use and wastewater generation was modeled using CalEEMod defaults.

4.2 HEALTH RISK ASSESSMENT METHODOLOGY

A health risk assessment (HRA) was prepared to analyze potential health risks to nearby sensitive receptors and off-site workers from the emission of DPM during operation of the proposed truck parking lot in accordance with applicable portions of the OEHHA's *Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments* (OEHHA 2015). HRA modeling inputs and outputs are included in Appendix B, *HRA Modeling*, to this report.

4.2.1 TAC Emissions

The TAC emissions of concern analyzed in the HRA is DPM. Emissions of DPM from trucks utilizing the project truck parking lot were calculated using the trip generation provided by the County Department of Transportation and assuming 50 percent of parking lot trips are a truck entering or exiting the project site, resulting in 77 ADT and 8 peak hour trips. All trucks were assumed to be heavy-heavy duty trucks (more than 33,000 gross vehicle rating). DPM emissions from project trucks would gradually reduce during the lifespan of the project, as CARB and USEPA diesel exhaust emissions standards are implemented through retirement and replacement of older trucks with newer diesel-powered trucks or zero-emissions trucks. To account for future lower emissions, project truck DPM emissions were calculated using PM₁₀ exhaust emissions rates from CARB's EMFAC2021 v1.0.2 Emissions Inventory for Sacramento County in 5-year increments starting in 2025 (the first full year of project operation) and ending in 2055 (CARB 2023g). Trucks traveling on roads near the project site were assumed to be traveling at the posted speed limit (40 mph for Stockton Boulevard; 25 mph for Victory Avenue). Trucks circulating on the project site were assumed to be traveling at 10 mph. Because EMFAC does not contain emission rates for idling, DPM emissions from idling trucks were calculated assuming that the emissions rate for trucks traveling at 5 mph are approximately equal to idling emissions rates.

4.2.2 Dispersion Modeling

Localized concentrations of DPM were modeled using Lakes AERMOD View version 11.2.0. The Lakes program utilizes the USEPA's AERMOD gaussian air dispersion model version 22112.

4.2.2.1 Source Parameters

Trucks traveling streets around the project site, on project driveways, and within the project site were modeled as line volume sources following methodology/calculations recommended in the USEPA *Haul Road Workgroup Final Report*, using an average truck height of 4 meters (13.1 feet), the average road width for on-street travel, and an average truck width of 2.6 meters (8.5 feet) for driveways and on-site circulation (USEPA 2011). All trucks would be required to enter the project site from the driveway on Stockton Boulevard. Trucks could exit the project site using driveways on Stockton Boulevard or Victory Avenue. To be conservative in accounting for emissions on Victory Avenue, near the closest single-family residence east of the project site, all trucks were assumed to enter the project site from Stockton Boulevard, circulate around the parking lot, then exit the project site on Victory Avenue. Because the distribution of project trips on local streets was unknown, 50 percent of trucks were assumed to access

the site using Stockton Boulevard north of the project site and 50 percent of trucks were assumed to access the site using Stockton Boulevard south of the project site.

Trucks idling in the parking area were modeled as volume sources with a 15 meter (49 feet) wide base and a height of 5 meters (16.4 feet). Eight identical volume sources were placed in the project truck parking lot corresponding to the parking areas closest to the nearest sensitive receptor locations east of the project site. Per the CARB Airborne Toxic Control Measure to limit diesel-fueled commercial motor vehicle idling (Title 13, CCR, section 2485), prohibits diesel-fueled commercial motor vehicles with gross vehicle weight ratings greater than 10,000 pounds, including sleeper berth equipped trucks, from idling the vehicle's primary diesel engine longer than five minutes at any location. Each truck entering the project site was assumed to idle for 5 minutes prior to shutting down and each truck exiting the project was assumed to idle 5 minutes prior to leaving. Idling emissions were divided equally among the eight volume sources.

Emissions of DPM would not be constant throughout the day. The volume of trucks entering and exiting the site would vary by hour of the day and day of the week. However, since the project is assumed to operate 24 hours per day, 7 days per week, the truck volume was assumed to be steady (at peak hour volume) throughout all hours of the day and week. This modeling assumption is generally conservative (health protective).

4.2.2.2 Meteorological Data

The SMAQMD provides pre-processed meteorological data suitable for use with AERMOD for projects within the SVAB. The available data set most representative of conditions in the project vicinity was from the Sacramento Executive Airport station, approximately 4.5 miles northwest of the project site. The Sacramento Executive Airport set includes 5 years of data collected between 2014 to 2018 (SMAQMD 2022). Because the project site is near the eastern edge of high density developed areas along the SR 99 corridor, rural dispersion coefficients were selected in the model. Using rural dispersion coefficients is generally conservative (health protective) compared to using urban dispersion coefficients which account for urban heat island effects. A wind rose for the Sacramento Executive Airport shows an average speed of 7.7 mph from the south-southeast (IEM 2023). The wind rose graphics are included in Appendix B to this report.

4.2.2.3 Terrain Data

United States Geological Survey (USGS) National Elevation Dataset (NED) files with a 30-meter resolution covering an area approximately 0.5 kilometer around the project site were used in the model to cover the analysis area. Terrain data was imported to the model using AERMAP (a terrain preprocessing program for AERMOD).

4.2.3 Receptor Modeling

To develop risk isopleths (linear contours showing equal level of risk) and ensure that the area of maximum impact was captured, receptors were placed in a cartesian grid 580 meters by 580 meters (approximately 1,903 feet by 1,903 feet), centered on the project site with a grid spacing of 20 meters (66 feet) and a receptor height (flagpole height) of 1.2 meters (4 feet) above the ground. To ensure the area of maximum off-site impact was captured, receptors were placed along the project boundary at 10-meter (33 feet) intervals. Additional discrete receptors were placed in the model including: five receptors along the closest property lines of existing residential sensitive receptor locations,

one receptor on the property line (outdoor play area) for the daycare center northeast of the project site, eight receptors at the closest off-site worker locations (commercial buildings) to the project site; one receptor at the commercial building on the project site (not a part of the project); and three receptors at the closest future residential lots in the Raj Subdivision north of the project site. See Figure 4, *Modeled Receptors*, for the modeled discrete receptor locations relative to the project site.

4.2.4 Risk Determination

Adverse health effects resulting from localized concentrations of TACs were calculated using CARB's Hotspots Analysis and Reporting Program (HARP), Air Dispersion Modeling and Risk Tool (ADMRT) version 22118. Plot files from AERMOD using unitized emissions (one gram per second) from each modeled source were imported into the ADMRT. The ADMRT calculated ground-level concentrations of DPM for each source utilizing the calculated DPM emissions inventory described in Section 4.2.1, above. The latest cancer potency factors, non-cancer chronic Reference Exposure Limits (RELs), acute RELs, exposure paths, and target organ or system for all TACs designated by CARB are included in the ADMRT. For the residential cancer risk, an exposure duration of 30 years was selected in accordance with the OEHHA guidelines (OEHHA 2015). The model conservatively assumes that residents would be standing and breathing outdoors at the location of the property line closest to the project site every day between 17 and 21 hours per day (depending on the age group).

Residential health risks were modeled in 5-year increments, starting with infants in utero in the third trimester of pregnancy through age 4 and ending with age 25 through age 29, for a total of 30 years exposure. Because there are no schools near the project site (within the project 1 in 1 million cancer risk isopleth), fraction of time at home adjustments were applied to all age bins. Tier 1 fractions were used for each age bin: 0.85 for less than 2 years old, 0.72 for 2 to 16 years old, and 0.73 for 16 years and older. For the daycare center risk, an exposure duration of 12 years was used (corresponding to daycare for a child starting at age 0 and ending at age 12) with an assumption of 8 hours per day of exposure while standing outside with moderate intensity breathing rates. For off-site worker cancer risk, an exposure duration of 25 years, starting at age 16, was selected with an assumption of 8 hours per day of exposure while standing outside with moderate intensity breathing rates, in accordance with the OEHHA guidelines. The OEHHA derived intake rate percentile method was selected for residential cancer and non-cancer chronic scenarios. DPM does not have an 8-hour non-cancer chronic health effect REL or an acute health effect REL, therefore, only cancer risks and non-cancer chronic health effects were evaluated. The modeling input and output is included in Appendix B to this report.

4.3 SIGNIFICANCE CRITERIA

4.3.1 Air Quality

Thresholds used to evaluate potential air quality and odor impacts are based on applicable criteria in the State's CEQA Guidelines Appendix G. A significant air quality and/or odor impact could occur if the implementation of the proposed project would:

1. Conflict with or obstruct implementation of the Regional Ozone Plan, or applicable portions of the SIP; or
2. Result in a cumulatively considerable net increase of any criteria pollutant for which Sacramento County is non-attainment under an applicable NAAQS or CAAQS; or

3. Expose sensitive receptors to substantial pollutant concentrations; or
4. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

Appendix G of the State CEQA Guidelines states that the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the above determinations. The SMAQMD has established significance thresholds to assess the regional and localized impacts of project-related air pollutant emissions. The significance thresholds are updated, as needed, to appropriately represent the most current technical information and attainment status in Sacramento County. Table 10, *SMAQMD Thresholds of Significance*, presents the most current significance thresholds, including regional daily thresholds for short-term construction and long-term operational emissions; maximum incremental cancer risk and hazard indices for TACs; and maximum ambient concentrations for exposure of sensitive receptors to localized pollutants. A project with daily emission rates, risk values, or concentrations below these thresholds is generally considered to have a less than significant effect on air quality (SMAQMD 2020b).

Table 10
SMAQMD THRESHOLDS OF SIGNIFICANCE

Pollutant	Construction	Operation
Mass Daily Thresholds (pounds per day)		
ROG	85	65
NO _x	None	65
PM ₁₀	80 ¹	80 ¹
PM _{2.5}	82 ¹	82 ¹
Toxic Air Contaminants		
TACs	Maximum Incremental Cancer Risk ≥ 10 in 1 million Chronic & Acute Hazard Index ≥ 1.0 (project increment)	
Ambient Air Quality for Criteria Pollutants		
NO ₂	1-hour average ≥ 0.18 ppm Annual average ≥ 0.03 ppm	
CO	1-hour average ≥ 20.0 ppm (state) 8-hour average ≥ 9.0 ppm (state/federal)	
SO ₂	1-hour average ≥ 0.075 ppm 24-hour average ≥ 0.04 ppm	
Lead	1.5 µg/m³ 30-day average	

Source: SMAQMD 2020b

¹ PM thresholds are zero (0) unless all feasible Best Available Control Practices/Best Management Practices are applied.

ROG = reactive organic gases; NO_x = nitrogen oxides; CO = carbon monoxide; PM₁₀ = respirable particulate matter 10 microns or less in diameter; PM_{2.5} = fine particulate matter 2.5 microns or less in diameter; SO_x = sulfur oxides; TACs = toxic air contaminants; GHG = greenhouse gas emissions; MT/yr = metric tons per year; CO₂e = carbon dioxide equivalent; NO₂ = nitrogen dioxide; ppm = parts per million; µg/m³ = micrograms per cubic meter

4.3.2 Greenhouse Gases

Given the relatively small levels of emissions generated by a typical development in relationship to the total amount of GHG emissions generated on a national or global basis, individual development projects are not expected to result in significant, direct impacts with respect to climate change. However, given



the magnitude of the impact of GHG emissions on the global climate, GHG emissions from new development could result in significant, cumulative impacts with respect to climate change. Therefore, the potential for a significant GHG impact is limited to cumulative impacts.

According to Appendix G of the CEQA Guidelines, a project would have a significant environmental impact if it would:

- (1) Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment; or
- (2) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.

The determination of significance is governed by CEQA Guidelines 15064.4, entitled “Determining the Significance of Impacts from Greenhouse Gas Emissions.” CEQA Guidelines 15064.4(a) states, “[t]he determination of the significance of greenhouse gas emissions calls for a careful judgment by the lead agency consistent with the provisions in Section 15064. A lead agency should make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate the amount of greenhouse gas emissions resulting from a project. A lead agency shall have discretion to determine, in the context of a particular project, whether to ... [use a quantitative model or qualitative model]” (emphasis added). In turn, CEQA Guidelines 15064.4(b) clarifies that a lead agency should consider “Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project.” Therefore, consistent with CEQA Guidelines 15064.4, the GHG analysis for the project appropriately relies upon a threshold based on the exercise of careful judgement and believed to be appropriate in the context of this project.

The SMAQMD has developed GHG emissions standards of significance for land use development projects that lead agencies can use to determine the significance of a project’s emissions in relation to the County meeting the State GHG reduction mandates for the year 2030 and beyond, including the State 2045 net zero GHG emissions goal mandated by AB 1279. Justification for the use of the SMAQMD’s GHG emissions standards of significance are described in Greenhouse Gas Thresholds for Sacramento County (SMAQMD 2020c). The SMAQMD recommends a construction period GHG emissions threshold of 1,100 MT CO₂e per year. Where a qualified GHG Reduction Plan has not been adopted by the lead agency, for operational period GHG emissions, the SMAQMD recommends a screening level of 1,100 MT CO₂e per year. For all projects, regardless of project GHG emission levels, the SMAQMD requires implementation of Tier 1 Best Management Practices (BMPs). Projects that do not implement the Tier 1 Best Management Practices must conduct additional calculations to determine excess GHG emissions and provide measures either on-site or off-site to provide equivalent mitigation (SMAQMD 2020c):

- BMP 1 - projects shall be designed and constructed without natural gas infrastructure.
- BMP 2 - projects shall meet the current CALGreen Tier 2 standards, except all electric vehicle capable spaces shall instead be electric vehicle ready.

For projects which exceed 1,100 MT CO₂e per year operational screening level emissions, the SMAQMD requires implementation of Tier 2 BMPs (SMAQMD 2020c):

- BMP 3 - residential projects shall achieve a 15 percent reduction in vehicle miles traveled per resident, office projects shall achieve a 15 percent reduction in vehicle miles traveled per worker compared to existing average vehicle miles traveled for the county, and retail projects shall achieve a no net increase in total vehicle miles traveled to show consistency with SB 743.

As discussed in the justification report for the GHG significance thresholds developed by the SMAQMD, the two GHG emissions sources where the net zero emissions goal can be affected at the project level for typical land use development projects are building energy and transportation. For a project to contribute a “fair share” towards achieving the State’s 2045 net zero GHG emissions mandate, project building energy use should be decarbonized by eliminating the use of natural gas, projects should increase the supply of electric vehicle charging stations beyond minimum regulatory requirements, and projects with more than 1,100 MT CO₂e per year operation GHG emissions should achieve a 15 percent reduction in VMT compared to regional average for commercial and residential projects, or achieve no regional VMT increase for retail projects (SMAQMD 2020c). These project level actions are consistent with the priority areas for focus by local jurisdictions identified in the 2022 Scoping Plan Appendix C, *Local Actions*: transportation electrification, VMT reduction, and building decarbonization (CARB 2022).

5.0 Air Quality Impact Analysis

This section evaluates potential impacts related to air pollutant emissions resulting from implementation of the project. Project-level air quality modeling was completed as part of this analysis. Complete modeling results are included as Appendices A and B of this report.

5.1 ISSUE 1: CONSISTENCY WITH AIR QUALITY PLANS

5.1.1 Impacts

In accordance with SMAQMD’s CEQA Guide, construction-generated NO_x, PM₁₀, and PM_{2.5}, and operational-generated ROG and NO_x (ozone precursors) are used to determine consistency with the Regional Ozone Plan. The Guide states (SMAQMD 2020d, p. 4-6):

By exceeding the District’s mass emission thresholds for operational emissions of ROG, NO_x, PM₁₀, or PM_{2.5}, the project would be considered to conflict with or obstruct implementation of the District’s air quality planning efforts.

As shown in Section 5.2, below, the project’s construction-generated emissions of NO_x, PM₁₀, and PM_{2.5} and operation-generated emissions ROG and NO_x would not exceed SMAQMD thresholds. Therefore, the project would not conflict with or obstruct implementation of SMAQMD’s Regional Ozone Plan.

5.1.2 Significance of Impacts

Implementation of the project would not conflict with or obstruct implementation of the SMAQMD’s Regional Ozone Plan or applicable portions of the SIP, and the impact would be less than significant.

5.1.3 Mitigation Framework

Impacts would be less than significant; therefore, no mitigation measures would be required.

5.1.4 Significance After Mitigation

Impacts related to conflicts with the applicable air quality plan would be less than significant without mitigation.

5.2 ISSUE 2: CUMULATIVELY CONSIDERABLE NET INCREASE OF NONATTAINMENT CRITERIA POLLUTANTS

5.2.1 Impacts

By its very nature, air pollution is largely a cumulative impact. The nonattainment status of regional pollutants is a result of past and present development within Sacramento County. The Sacramento region is in non-attainment for ozone (ozone precursors NO_x and ROG) and particulate matter (PM_{2.5} and PM₁₀). The project's emissions of these criteria pollutants and precursors during construction and operation are evaluated below.

The project would generate criteria pollutants and precursors in the short-term during construction and the long-term during operation. To determine whether a project would result in cumulatively considerable emissions that would violate an air quality standard or contribute substantially to an existing or projected air quality violation, a project's emissions are evaluated based on the quantitative emission thresholds established by the SMAQMD (as shown in Table 10).

5.2.1.1 Construction

The project's construction emissions were estimated using the CalEEMod model as described in Section 4.1.1. Model outputs are provided in Appendix A to this report. The results of the project construction modeling are shown in Table 11, *Maximum Daily Construction Emissions*. The data are presented as the maximum anticipated daily emissions for comparison with the SMAQMD thresholds. The modeling assumes implementation of the fugitive dust control measures which are quantifiable in CalEEMod, specifically watering exposed surfaces twice daily.

Table 11
MAXIMUM DAILY CONSTRUCTION EMISSIONS

Activity	Pollutant Emissions (pounds per day)					
	ROG	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
Demolition	1.5	14.9	12.9	<0.1	1.3	0.7
Site Preparation	1.7	16.3	15.3	<0.1	3.7	2.1
Grading	1.7	16.0	15.0	<0.1	3.6	
Building Construction	0.9	8.5	8.6	<0.1	0.4	0.3
Paving	1.1	11.7	10.7	<0.1	0.4	0.3
Architectural Coating	17.6	0.9	1.1	<0.1	<0.1	<0.1
Maximum Daily Emissions	17.6	16.3	15.3	<0.1	3.7	2.1
<i>Threshold</i>	82	82	None	None	80	82
Exceed Threshold?	No	No	No	No	No	No

Source: CalEEMod (output data is provided in Appendix A); Thresholds SMAQMD 2020b

ROG = reactive organic gas; NO_x = nitrogen oxides; CO = carbon monoxide; SO_x = sulfur oxides;

PM₁₀ = particulate matter 10 microns or less in diameter; PM_{2.5} = particulate matter 2.5 microns or less in diameter

As shown in Table 11, emissions of criteria pollutants and precursors would not exceed the SMAQMD significance thresholds. Nevertheless, the SMAQMD recommends a set of BCECPs, considered by the SMAQMD to be feasible for controlling fugitive dust from a construction site. The practices also serve as BMPs, allowing the use of the non-zero particulate matter significance thresholds. Because Sacramento County is in nonattainment for PM₁₀ (CAAQS) and PM_{2.5} (NAAQS), the SMAQMD recommends lead agencies should add these BCECPs as Conditions of Approval (COA) or include in a mitigation measure for any project that results in a net increase of particulate matter emissions, regardless of whether the project's emissions exceed the significance thresholds (SMAQMD 2019). Without implementation of the BCECPs, project construction emissions of PM₁₀ and PM_{2.5} would be potentially significant. Mitigation Measure AQ-1 would require implementation of the SMAQMD's recommended BCECPs.

5.2.1.2 Operation

Table 12, *Maximum Daily Operational Emissions*, presents the summary of maximum daily operational emissions compared to the SMAQMD thresholds. Model outputs are provided in Appendix A to this report.

Table 12
MAXIMUM DAILY OPERATIONAL EMISSIONS

Source	Pollutant Emissions (pounds per day)					
	ROG	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
Area	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Energy	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Mobile	0.3	6.1	4.7	<0.1	1.3	0.4
Total Daily Project Emissions ¹	0.3	6.1	4.7	<0.1	1.3	0.4
SMAQMD Thresholds	65	65	None	None	80	82
Exceed Threshold?	No	No	No	No	No	No

Source: CalEEMod; Thresholds SMAQMD 2020b

¹ Totals may not sum due to rounding.

ROG = reactive organic gas; NO_x = nitrogen oxides; CO = carbon monoxide; SO_x = sulfur oxides;

PM₁₀ = particulate matter 10 microns or less in diameter; PM_{2.5} = particulate matter 2.5 microns or less in diameter

As shown in Table 12, long-term emissions of criteria pollutants and precursors would not exceed the SMAQMD thresholds. The SMAQMD considers any operational emissions of PM to be significant unless applicable BMPs and best available control technologies are implemented. Operation of the project would not include any stationary sources of criteria pollutant or precursors. As shown in Table 12, the only substantial operational sources of PM₁₀ and PM_{2.5} are mobile sources. Best available control technology of exhaust emissions from cars and trucks is implemented at the state and federal level through emissions regulations and standards. In addition, BMPs to limit truck idling are enforced through state regulations. Per the CARB Airborne Toxic Control Measure to limit diesel-fueled commercial motor vehicle idling (Title 13, CCR, section 2485), prohibits diesel-fueled commercial motor vehicles with gross vehicle weight ratings greater than 10,000 pounds from idling the vehicle's primary diesel engine longer than five minutes at any location. Therefore, all applicable BMPs and best available control technologies for control of project mobile source PM₁₀ and PM_{2.5} are implemented through regulatory compliance.

5.2.2 Significance of Impacts

While long-term operation of the project would not result in criteria pollutant and precursor pollutant emissions that would exceed the SMAQMD significance thresholds, short-term construction activities would result in an increase of emissions of PM₁₀ and PM_{2.5} compared to existing conditions. The SMAQMD considers any increase in construction PM emissions to be significant unless the BCECPs are implemented. Therefore, mitigation measures AQ-1 would be required to enforce implementation of the SMAQMD construction BCECPs.

5.2.3 Mitigation Framework

The following mitigation measures would be required to reduce particulate matter (fugitive dust) emissions during project construction.

AQ-1 Basic Construction Emissions Control Practices. The following Basic Construction Emissions Control Practices are considered feasible for controlling fugitive dust from a construction site. Control of fugitive dust is required by SMAQMD Rule 403 and enforced by SMAQMD staff. Prior to issuing grading or construction permits the County shall verify the following measures are specified on construction contracts and/or construction documentation.

- Water all exposed surfaces two times daily. Exposed surfaces include, but are not limited to soil piles, graded areas, unpaved parking areas, staging areas, and access roads.
- Cover or maintain at least two feet of free board space on haul trucks transporting soil, sand, or other loose material on the site. Any haul trucks that would be traveling along freeways or major roadways should be covered.
- Use wet power vacuum street sweepers to remove any visible trackout mud or dirt onto adjacent public roads at least once a day. Use of dry power sweeping is prohibited.
- Limit vehicle speeds on unpaved roads to 15 mph.
- All roadways, driveways, sidewalks, parking lots to be paved should be completed as soon as possible. In addition, building pads should be laid as soon as possible after grading unless seeding or soil binders are used.
- Minimize idling time by either shutting equipment off when not in use or reducing time of idling to 5 minutes. Provide clear signage that posts this requirement for workers at the entrances to the site; and
- Maintain all construction equipment in proper working condition according to manufacturer's specifications. The equipment must be checked by a certified mechanic and determined to be running in proper condition before it is operated.

5.2.4 Significance After Mitigation

With the implementation of mitigation measure AQ-1, the project would not result in a cumulatively considerable net increase of any criteria pollutant for which Sacramento Region is non-attainment, and the impact would be less than significant.

5.3 ISSUE 3: IMPACTS TO SENSITIVE RECEPTORS

5.3.1 Impacts

5.3.1.1 Construction Activities

Implementation of the project would result in the use of heavy-duty construction equipment, haul trucks, on-site generators, and construction worker vehicles. These vehicles and equipment could generate the TAC DPM. Generation of DPM from construction projects typically occurs in a localized area (e.g., at the project site) for a short period of time. Because construction activities and subsequent emissions vary depending on the phase of construction (e.g., grading, building construction), the construction-related emissions to which nearby receptors are exposed to would also vary throughout the construction period. During some equipment-intensive phases such as grading, construction-related emissions would be higher than other less equipment-intensive phases such as building construction. Concentrations of mobile-source DPM emissions are typically reduced by 70 percent at approximately 500 feet (CARB 2005).

The dose (of TAC) to which receptors are exposed is the primary factor used to determine health risk. Dose is a function of the concentration of a substance in the environment and the extent of exposure a person has to the substance; a longer exposure period to a fixed quantity of emissions would result in higher health risks. Current models and methodologies for conducting cancer health risk assessments are associated with longer-term exposure periods (typically 30 years for individual residents based on guidance from OEHHA) and are best suited for evaluation of long duration TAC emissions with predictable schedules and locations. These assessment models and methodologies do not correlate well with the temporary and highly variable nature of construction activities. Cancer potency factors are based on animal lifetime studies or worker studies where there is long-term exposure to the carcinogenic agent. There is considerable uncertainty in trying to evaluate the cancer risk from projects that will only last a small fraction of a lifetime (OEHHA 2015). As shown in Table 8, total project construction is anticipated to last less than five months. Considering this information, the highly dispersive nature of DPM, the short duration of construction activities, and the fact that construction activities would occur at various locations throughout the project site for short periods, it is not anticipated that construction of the project would expose sensitive receptors to substantial DPM concentrations.

5.3.1.2 Operational Activities

Localized Criteria Pollutants

According to the SMAQMD, land use development projects do not typically have the potential to result in localized concentrations of criteria air pollutants that expose sensitive receptors to substantial pollutant concentrations. This is because criteria air pollutants are predominantly generated in the form of mobile-source exhaust from vehicle trips associated with the land use development project. These

vehicle trips occur throughout a paved network of roads, and, therefore, associated exhaust emissions of criteria air pollutants are not generated in a single location where high concentrations could be formed (SMAQMD 2020d). Therefore, localized concentration of CO from exhaust emissions, or “CO hotspots,” would only be a concern on high-volume roadways where vertical and/or horizontal mixing is substantially limited, such as tunnels or below grade highways. There are no high-volume roadways in the region with limited mixing that would be affected by project-generated traffic.

Toxic Air Contaminants (Diesel Particulate Matter)

Implementation of the project would result in emissions of DPM from trucks using the proposed truck parking lot. To evaluate potential impacts to sensitive receptors from the operational DPM emissions, an HRA was completed, as described in Section 4.2, above. Because the existing truck service facility on the project site would be retained by the project and would not result in new emissions, the HRA does not consider the DPM emissions from the existing land use.

The incremental excess cancer risk is an estimate of the chance a person exposed to a specific source of a TAC may have of developing cancer from that exposure beyond the individual’s risk of developing cancer from existing background levels of TACs in the ambient air. For context, the average cancer risk from TACs in the ambient air for an individual living in an urban area of California is 830 in 1 million (CARB 2015). Cancer risk estimates do not mean, and should not be interpreted to mean, that a person will develop cancer from estimated exposures to toxic air pollutants.

The maximum estimated community incremental health effects due to exposure to the project DPM emissions from long term operation of the proposed truck parking lot for the Maximally Exposed Individual Resident (MEIR) and Maximally Exposed Individual Worker (MEIW) are presented in Table 13, *Maximum Incremental Health Effects*. These estimates are conservative (health protective) and assume that the resident or worker is outdoors for the entire exposure period.

Table 13
MAXIMUM INCREMENTAL HEALTH EFFECTS

	MEIR Cancer Risk (chances per million)	MEIR Non-Cancer Chronic Hazard Index	MEIW Cancer Risk (chances per million)	MEIW Non-Cancer Chronic Hazard Index
Results	9.2	<0.01	0.9	<0.01
SMAQMD Threshold	10	1	10	1
Exceed Threshold?	No	No	No	No

Source: Lakes AERMOD View and ADMRT

MEIR = Maximally Exposed Individual Resident; MEIW = Maximally Exposed Individual Worker

The estimated incremental excess cancer risk and chronic hazard index due to exposure to the project’s TAC emissions for each receptor location shown in Figure 4 are presented in Table 14, *Discrete Receptor Incremental Cancer Risk and Chronic Health Effects*. The model inputs, outputs, and risk isopleth figures are available in Appendix A to this report.

Table 14
DISCRETE RECEPTOR INCREMENTAL CANCER RISK AND CHRONIC HEALTH EFFECTS

Receptor ID	Description	Cancer Risk (chances per million)	Non-Cancer Chronic Hazard Index
ER1	Existing Single-Family Residential	2.4	<0.01
ER2	Existing Single-Family Residential	2.5	<0.01
ER3	Existing Single-Family Residential	2.54	<0.01
ER4	Existing Single-Family Residential	1.4	<0.01
ER5	Existing Single-Family Residential	1.2	<0.01
FR1	Future Single-Family Residential	9.2	<0.1
FR2	Future Single-Family Residential	5.8	<0.1
FR3	Future Single-Family Residential	4.2	<0.1
ED1	Existing Daycare Facility	0.6	<0.01
EC1	Existing Off-Site Commercial Building	0.4	<0.01
EC2	Existing Off-Site Commercial Building	0.3	<0.01
EC3	Existing Off-Site Commercial Building	0.4	<0.01
EC4	Existing Off-Site Commercial Building	0.3	<0.01
EC5	Existing Off-Site Commercial Building	0.3	<0.01
EC6	Existing Off-Site Commercial Building	0.1	<0.01
EC7	Existing Off-Site Commercial Building	<0.1	<0.01
EC8	Existing Off-Site Commercial Building	<0.1	<0.01
EC9	Existing On-Site Commercial Building	0.9	<0.1

Source: Lakes AERMOD View and ADMRT

The point of maximum off-site impact for residential cancer and non-cancer chronic health effect would be on the project's north boundary at approximately Universal Transverse Mercator (UTM) coordinates Zone 10, 638125 meters East, 4259465 meters North, on the property line of the vacant lot north of the project site. The Raj Subdivision tentative map shows landscaping and a driveway at the point of maximum impact, immediately north of the project truck parking area (Aras Design and Construction 2022). No existing or future residents are anticipated to be at the point of maximum impact for prolonged periods. If residents were to be located at the point of maximum impact for 30 years, the estimated incremental excess cancer risk would be 13.3 in 1 million. The point of maximum impact, the MEIR, and the MEIW are shown in Figure 4, *Modeled Receptors*. Cancer risk isopleth (contour lines of equal risk) figures are included in Appendix B to this report.

Although there are no planned future residences for the vacant lot east of the project site, because the lot has been identified by the county as a potential low-income residential site, potential future health risks to residences in the vacant lot were calculated. Residential incremental increased cancer risks along the property line between the project site and the vacant east lot would range between 5.7 in 1 million and 8.7 in 1 million and would not exceed the SMAQMD threshold of 10 in 1 million.

As shown in Table 13 and Table 14, the incremental increased cancer risks would not exceed the SMAQMD threshold of 10 in 1 million and the chronic hazard indices would not exceed the SMAQMD threshold of 1. Therefore, long term operation of the proposed truck parking lot would not expose sensitive receptors to substantial DPM concentrations.

5.3.2 Significance of Impacts

Construction of the project would not expose sensitive receptors to substantial DPM concentrations. Long-term operation of the project would not result in significant localized concentrations of criteria pollutants, including CO hotspots. Long-term operation of the project would not result in cancer risk and chronic health effects from truck DPM emissions exceeding the respective SMAQMD thresholds. The calculated increased residential cancer risk for future residents of the Raj Subdivision is only slightly below the SMAQMD threshold of 10 in 1 million. Because of existing poor air quality in the area (from mobile source emissions on SR 99, Stockton Boulevard, and Elsie Avenue, and emissions from the existing gas station at the intersection of Stockton Boulevard and Elsie Avenue), conditions of approval for the Raj Subdivision include the requirement to install heating, ventilation, and air conditioning systems equipped with filters with a Maximum Efficiency Reporting Value (MERV) of at least 13 for all residential buildings in the subdivision (County 2023c). A MERV-13 filter removes between 75 to 90 percent of pollutant particles 0.3 micron in diameter and larger (USEPA 2023C), reducing health risks to residents living in the buildings. Although required due to existing air quality issues in the area, the conditions of approval for the Raj Subdivisions would also reduce potential health risks to future residents from project truck DPM emissions further below the SMAQMD thresholds. Therefore, implementation of the project would not expose sensitive receptors to substantial pollutant concentrations, and the impact less than significant.

5.3.3 Mitigation Framework

Impacts would be less than significant; therefore, no mitigation measures would be required.

5.3.4 Significance After Mitigation

Implementation of the project would not expose sensitive receptors to substantial pollutant concentrations. The impact would be less than significant.

5.4 ISSUE 4: OTHER EMISSIONS (SUCH AS THOSE LEADING TO ODORS)

5.4.1 Impacts

Odors associated with diesel exhaust and ROG from application of asphalt and architectural coatings would be emitted during project construction. The odor of these emissions is objectionable to some; however, emissions would disperse rapidly from the project site and therefore should not be at a level that would affect a substantial number of people. Further, construction activities would be temporary. As a result, impacts associated with temporary odors during construction are not considered significant.

According to SMAQMD, typical land uses which could generate significant odor impacts include wastewater treatment plants, sanitary landfills, composting/green waste facilities, recycling facilities, petroleum refineries, chemical manufacturing plants, painting/coating operations, rendering plants, and food packaging plants (SMAQMD 2016). The project would not include any of these land uses. The project would not result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

5.4.2 Significance of Impacts

Implementation of the project would not result in other emissions (such as those leading to odors) adversely affecting a substantial number of people, and the impact would be less than significant.

5.4.3 Mitigation Framework

Impacts would be less than significant; therefore, no mitigation measures would be required.

5.4.4 Significance After Mitigation

Implementation of the project would not result in other emissions (such as those leading to odors) adversely affecting a substantial number of people, and the impact would be less than significant.

6.0 GREENHOUSE GAS EMISSIONS IMPACT ANALYSIS

This section evaluates potential impacts of the project related to the generation of GHG emissions. Complete modeling results are included as Appendix A of this report.

6.1 ISSUE 1: GREENHOUSE GAS EMISSIONS

6.1.1 Impacts

6.1.1.1 Construction Emissions

Project construction GHG emissions were estimated using the CalEEMod model as described in Section 4.1.1. The complete CalEEMod output files are included in Appendix A to this report. The modeling shows that short-term construction of the project would result in a total of 53 MT of CO₂e, all during 2024. Project construction emissions would not exceed the SMAQMD project level construction GHG threshold of 1,100 MT CO₂e per year.

6.1.1.2 Operational Emissions

Project operational GHG emissions were estimated using CalEEMod as described in Section 4.1.2. The calculated annual operational emissions for the project for the first full year of operation (2025) are shown Table 15, *Operational Greenhouse Gas Emissions*, and compared to the SMAQMD land use development project screening level. The complete CalEEMod output files are included in Appendix A to this report.

Table 15
OPERATIONAL GREENHOUSE GAS EMISSIONS

Emission Source	2025 Emissions (MT CO₂e)
Vehicular (Mobile)	570
Area	<0.1
Energy	13.2
Water/Wastewater	<0.1
Solid Waste	<0.1
Total Annual Project Emissions¹	583
SMAQMD Screening Level	1,100
Exceed Screening Level?	No

Source: CalEEMod (output data is provided in Appendix A)

¹ Totals may not sum due to rounding.

GHG = greenhouse gas; MT = metric tons; CO₂e = carbon dioxide equivalent

To use the SMAQMD's land use development project GHG emissions significance criteria, SMAQMD requires all projects to implement the Tier 1 GHG reduction BMPs, regardless of the projects' GHG emission levels. The project does not propose any new buildings and would not install any natural gas infrastructure or natural gas appliances; therefore, the project would comply with SMAQMD's Tier 1 GHG reduction BMP 1. Because the project does not propose to construct any new buildings or expand any existing buildings, CALGreen (Title 24, Part 11) does not apply to the project; therefore, the project would comply with SMAQMD's Tier 1 GHG reduction BMP 2. As shown in Table 15, project operational emissions would not exceed the SMAQMD operational GHG emissions screening level; therefore, the SMAQMD Tier 2 GHG reduction BMP 3 is not applicable to the project.

6.1.2 Significance of Impacts

Project construction GHG impacts would not exceed the SMAQMD's threshold and would be less than significant. Project operational GHG emissions would not exceed the SMAQMD's screening level of 1,100 MT CO₂e threshold and the Tier 1 and Tier 2 GHG reduction BMPs would not apply to the project. Therefore, the project would not generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment, and the impact would be less than significant.

6.1.3 Mitigation Framework

Impacts would be less than significant; therefore, no mitigation measures would be required.

6.1.4 Significance After Mitigation

The project would not generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment, and the impact would be less than significant.

6.2 ISSUE 2: CONFLICT WITH APPLICABLE PLANS ADOPTED FOR THE PURPOSE OF REDUCING GHG EMISSIONS

6.2.1 Impacts

There are numerous State plans, policies, and regulations adopted for the purpose of reducing GHG emissions. The principal overall State policies are AB 32, SB 32, and AB 1279. The quantitative goal of AB 32 is to reduce GHG emissions to 1990 levels by 2020. SB 32 requires further reductions of 40 percent below 1990 levels by 2030. AB 1279 establishes a state goal of net zero GHG emissions by 2045. Statewide plans and regulations such as GHG emissions standards for vehicles (AB 1493), the LCFS, and regulations requiring an increasing fraction of electricity to be generated from renewable sources are being implemented at the statewide level; as such, compliance at the project level is not addressed. Therefore, the proposed project would not conflict with those plans and regulations.

The project site has a General Plan land use designation of Commercial/Office. The project would be consistent with the General Plan designations for the site. The project would not result in residential growth in the region and any minimal regional employment growth resulting from operation or maintenance of the project would be accounted for in the General Plan growth assumptions and the growth assumptions used to develop the SACOG's 2022 RTP/SCS and CARB's 2022 Scoping Plan. In addition, per the County Transportation Department, the project would generate less than the screening level of 237 new daily trips for VMT analysis (County 2023b). Therefore, project VMT impacts would be less than significant and changes in regional VMT as a result of the project would be accounted for in the SACOG's 2020 RTP/SCS. Therefore, the project would not conflict with or obstruct implementation of the SACOG's 2020 RTP/SCS or the CARB's 2022 Scoping Plan.

6.2.2 Significance of Impacts

The project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs, including CARB's 2022 Scoping Plan and SACOG's 2020 MTP/SCS. The impact would be less than significant.

6.2.3 Mitigation Framework

Impacts would be less than significant; therefore, no mitigation measures would be required.

6.2.4 Significance After Mitigation

The project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs, and the impact would be less than significant.

7.0 LIST OF PREPARERS

Martin Rolph	Air Quality Specialist
Victor Ortiz	Senior Air Quality Specialist, QA/QC
Lesley Owing	Project Manager

HELIX Environmental Planning, Inc.
1180 Iron Point Road, Suite 130
Folsom, CA 95630

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Appendix A

CalEEMod Output

7849 Stockton Blvd Proposed V2 Detailed Report

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1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	7849 Stockton Blvd Proposed V2
Construction Start Date	1/1/2024
Operational Year	2025
Lead Agency	Sacramento County
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.00
Precipitation (days)	36.6
Location	38.47238824004654, -121.41710631663634
County	Sacramento
City	Unincorporated
Air District	Sacramento Metropolitan AQMD
Air Basin	Sacramento Valley
TAZ	736
EDFZ	13
Electric Utility	Sacramento Municipal Utility District
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.19

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
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Parking Lot	2.57	Acre	2.57	0.00	9,434	—	—	—
Other Asphalt Surfaces	13.7	1000sqft	0.31	0.00	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

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

Un/Mit.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	17.6	16.3	15.3	0.04	0.74	2.91	3.65	0.68	1.37	2.05	—	3,951	3,951	0.30	0.43	0.15	4,086
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.24	1.39	1.32	< 0.005	0.06	0.10	0.16	0.05	0.04	0.09	—	315	315	0.02	0.02	0.09	320
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.04	0.25	0.24	< 0.005	0.01	0.02	0.03	0.01	0.01	0.02	—	52.1	52.1	< 0.005	< 0.005	0.01	53.0
Exceeds (Daily Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	85.0	—	—	—	—	80.0	—	—	82.0	—	—	—	—	—	—	—
Unmit.	—	No	—	—	—	—	No	—	—	No	—	—	—	—	—	—	—
Exceeds (Average Daily)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Threshold	—	85.0	—	—	—	—	80.0	—	—	82.0	—	—	—	—	—	—	—
Unmit.	—	No	—	—	—	—	No	—	—	No	—	—	—	—	—	—	—

2.2. Construction Emissions by Year, Unmitigated

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

Year	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	17.6	16.3	15.3	0.04	0.74	2.91	3.65	0.68	1.37	2.05	—	3,951	3,951	0.30	0.43	0.15	4,086
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.24	1.39	1.32	< 0.005	0.06	0.10	0.16	0.05	0.04	0.09	—	315	315	0.02	0.02	0.09	320
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.04	0.25	0.24	< 0.005	0.01	0.02	0.03	0.01	0.01	0.02	—	52.1	52.1	< 0.005	< 0.005	0.01	53.0

2.4. Operations Emissions Compared Against Thresholds

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

Un/Mit.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.33	5.71	4.69	0.03	0.05	1.21	1.26	0.05	0.32	0.37	0.00	3,421	3,421	0.30	0.46	7.82	3,574
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.30	6.13	4.21	0.03	0.05	1.21	1.26	0.05	0.32	0.37	0.00	3,358	3,358	0.30	0.46	0.20	3,504

Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.31	6.01	4.18	0.03	0.05	1.18	1.23	0.05	0.31	0.36	0.00	3,372	3,372	0.30	0.46	3.37	3,521
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.06	1.10	0.76	0.01	0.01	0.22	0.22	0.01	0.06	0.07	0.00	558	558	0.05	0.08	0.56	583
Exceeds (Daily Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	65.0	65.0	—	—	—	—	80.0	—	—	82.0	—	—	—	—	—	—	—
Unmit.	No	No	—	—	—	—	No	—	—	No	—	—	—	—	—	—	—
Exceeds (Average Daily)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	65.0	65.0	—	—	—	—	80.0	—	—	82.0	—	—	—	—	—	—	—
Unmit.	No	No	—	—	—	—	No	—	—	No	—	—	—	—	—	—	—

2.5. Operations Emissions by Sector, Unmitigated

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

Sector	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.31	5.71	4.69	0.03	0.05	1.21	1.26	0.05	0.32	0.37	—	3,342	3,342	0.29	0.46	7.82	3,495
Area	0.02	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Energy	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	79.3	79.3	< 0.005	< 0.005	—	79.5
Water	—	—	—	—	—	—	—	—	—	—	0.00	0.17	0.17	< 0.005	< 0.005	—	0.17
Waste	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	0.33	5.71	4.69	0.03	0.05	1.21	1.26	0.05	0.32	0.37	0.00	3,421	3,421	0.30	0.46	7.82	3,574

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.28	6.13	4.21	0.03	0.05	1.21	1.26	0.05	0.32	0.37	—	3,279	3,279	0.30	0.46	0.20	3,425
Area	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	79.3	79.3	< 0.005	< 0.005	—	79.5
Water	—	—	—	—	—	—	—	—	—	—	0.00	0.17	0.17	< 0.005	< 0.005	—	0.17
Waste	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	0.30	6.13	4.21	0.03	0.05	1.21	1.26	0.05	0.32	0.37	0.00	3,358	3,358	0.30	0.46	0.20	3,504
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.29	6.01	4.18	0.03	0.05	1.18	1.23	0.05	0.31	0.36	—	3,293	3,293	0.29	0.46	3.37	3,441
Area	0.02	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Energy	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	79.3	79.3	< 0.005	< 0.005	—	79.5
Water	—	—	—	—	—	—	—	—	—	—	0.00	0.17	0.17	< 0.005	< 0.005	—	0.17
Waste	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	0.31	6.01	4.18	0.03	0.05	1.18	1.23	0.05	0.31	0.36	0.00	3,372	3,372	0.30	0.46	3.37	3,521
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.05	1.10	0.76	0.01	0.01	0.22	0.22	0.01	0.06	0.07	—	545	545	0.05	0.08	0.56	570
Area	< 0.005	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Energy	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	13.1	13.1	< 0.005	< 0.005	—	13.2
Water	—	—	—	—	—	—	—	—	—	—	0.00	0.03	0.03	< 0.005	< 0.005	—	0.03
Waste	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	0.06	1.10	0.76	0.01	0.01	0.22	0.22	0.01	0.06	0.07	0.00	558	558	0.05	0.08	0.56	583

3. Construction Emissions Details

3.1. Demolition (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	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.47	13.6	12.0	0.02	0.57	—	0.57	0.52	—	0.52	—	2,096	2,096	0.09	0.02	—	2,104
Demolition	—	—	—	—	—	0.45	0.45	—	0.07	0.07	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.19	0.17	< 0.005	0.01	—	0.01	0.01	—	0.01	—	28.7	28.7	< 0.005	< 0.005	—	28.8
Demolition	—	—	—	—	—	0.01	0.01	—	< 0.005	< 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	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.03	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.75	4.75	< 0.005	< 0.005	—	4.77
Demolition	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 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	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.43	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	89.4	89.4	< 0.005	< 0.005	0.01	90.6
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.02	1.22	0.42	0.01	0.01	0.15	0.16	0.01	0.04	0.05	—	605	605	0.06	0.10	0.03	636
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.26	1.26	< 0.005	< 0.005	< 0.005	1.28
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.29	8.29	< 0.005	< 0.005	0.01	8.72
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.21	0.21	< 0.005	< 0.005	< 0.005	0.21
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.37	1.37	< 0.005	< 0.005	< 0.005	1.44

3.3. Site Preparation (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	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.68	15.8	14.7	0.02	0.73	—	0.73	0.67	—	0.67	—	2,568	2,568	0.10	0.02	—	2,577

Dust From Material Movement	—	—	—	—	—	2.76	2.76	—	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	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.13	0.12	< 0.005	0.01	—	0.01	0.01	—	0.01	—	21.1	21.1	< 0.005	< 0.005	—	21.2
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	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.49	3.49	< 0.005	< 0.005	—	3.51
Dust From Material Movement	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 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	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.43	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	89.4	89.4	< 0.005	< 0.005	0.01	90.6
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	0.51	0.18	< 0.005	< 0.005	0.06	0.07	< 0.005	0.02	0.02	—	252	252	0.02	0.04	0.01	265

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.75	0.75	< 0.005	< 0.005	< 0.005	0.77
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.07	2.07	< 0.005	< 0.005	< 0.005	2.18
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.12	0.12	< 0.005	< 0.005	< 0.005	0.13
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.34	0.34	< 0.005	< 0.005	< 0.005	0.36

3.5. Grading (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	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.66	15.6	14.5	0.02	0.72	—	0.72	0.67	—	0.67	—	2,532	2,532	0.10	0.02	—	2,541
Dust From Material Movement	—	—	—	—	—	2.76	2.76	—	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	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.26	0.24	< 0.005	0.01	—	0.01	0.01	—	0.01	—	41.6	41.6	< 0.005	< 0.005	—	41.8

Dust From Material Movement	—	—	—	—	—	0.05	0.05	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.05	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	6.89	6.89	< 0.005	< 0.005	—	6.91
Dust From Material Movement	—	—	—	—	—	0.01	0.01	—	< 0.005	< 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	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.43	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	89.4	89.4	< 0.005	< 0.005	0.01	90.6
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.30	0.11	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	151	151	0.01	0.02	0.01	159
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.51	1.51	< 0.005	< 0.005	< 0.005	1.53
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.49	2.49	< 0.005	< 0.005	< 0.005	2.62
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.25	0.25	< 0.005	< 0.005	< 0.005	0.25
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.41	0.41	< 0.005	< 0.005	< 0.005	0.43
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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	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.93	8.47	8.61	0.02	0.36	—	0.36	0.33	—	0.33	—	1,786	1,786	0.07	0.01	—	1,792
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.46	0.47	< 0.005	0.02	—	0.02	0.02	—	0.02	—	97.9	97.9	< 0.005	< 0.005	—	98.2
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.08	0.09	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	16.2	16.2	< 0.005	< 0.005	—	16.3
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. 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	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.75	6.44	8.26	0.01	0.31	—	0.31	0.29	—	0.29	—	1,244	1,244	0.05	0.01	—	1,248
Paving	0.23	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.18	0.23	< 0.005	0.01	—	0.01	0.01	—	0.01	—	34.1	34.1	< 0.005	< 0.005	—	34.2
Paving	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.03	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.64	5.64	< 0.005	< 0.005	—	5.66
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	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.65	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	134	134	< 0.005	0.01	0.02	136
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.08	5.17	1.80	0.03	0.05	0.65	0.69	0.05	0.17	0.22	—	2,572	2,572	0.24	0.41	0.14	2,702
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.77	3.77	< 0.005	< 0.005	0.01	3.83
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.14	0.05	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	70.5	70.5	0.01	0.01	0.06	74.1
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.62	0.62	< 0.005	< 0.005	< 0.005	0.63

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.03	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	11.7	11.7	< 0.005	< 0.005	0.01	12.3

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	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.91	1.15	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	17.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.73	0.73	< 0.005	< 0.005	—	0.73
Architectural Coatings	0.10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.12	0.12	< 0.005	< 0.005	—	0.12

Architectu Coatings	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	0.31	5.71	4.69	0.03	0.05	1.21	1.26	0.05	0.32	0.37	—	3,342	3,342	0.29	0.46	7.82	3,495
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	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	0.31	5.71	4.69	0.03	0.05	1.21	1.26	0.05	0.32	0.37	—	3,342	3,342	0.29	0.46	7.82	3,495
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	0.28	6.13	4.21	0.03	0.05	1.21	1.26	0.05	0.32	0.37	—	3,279	3,279	0.30	0.46	0.20	3,425
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	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	0.28	6.13	4.21	0.03	0.05	1.21	1.26	0.05	0.32	0.37	—	3,279	3,279	0.30	0.46	0.20	3,425
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	0.05	1.10	0.76	0.01	0.01	0.22	0.22	0.01	0.06	0.07	—	545	545	0.05	0.08	0.56	570
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.05	1.10	0.76	0.01	0.01	0.22	0.22	0.01	0.06	0.07	—	545	545	0.05	0.08	0.56	570

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
----------	-----	-----	----	-----	-------	-------	-------	--------	--------	--------	------	-------	------	-----	-----	---	------

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	79.3	79.3	< 0.005	< 0.005	—	79.5
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	79.3	79.3	< 0.005	< 0.005	—	79.5
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	79.3	79.3	< 0.005	< 0.005	—	79.5
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	79.3	79.3	< 0.005	< 0.005	—	79.5
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	13.1	13.1	< 0.005	< 0.005	—	13.2
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	13.1	13.1	< 0.005	< 0.005	—	13.2

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

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

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

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
Other Asphalt Surfaces	0.00	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	0.00	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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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
Other Asphalt Surfaces	0.00	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	0.00	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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
Other Asphalt Surfaces	0.00	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	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

4.3. Area Emissions by Source

4.3.1. Unmitigated

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

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

Consumer Products	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.00	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	0.00	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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.00	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	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.17	0.17	< 0.005	< 0.005	—	0.17
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	0.00	0.17	0.17	< 0.005	< 0.005	—	0.17
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.17	0.17	< 0.005	< 0.005	—	0.17
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	0.00	0.17	0.17	< 0.005	< 0.005	—	0.17
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.03	0.03	< 0.005	< 0.005	—	0.03
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	0.00	0.03	0.03	< 0.005	< 0.005	—	0.03

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

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

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

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

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

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

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

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

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

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

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

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

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

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

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

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

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

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

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

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

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

Species	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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
Demolition	Demolition	1/1/2024	1/5/2024	5.00	5.00	—
Site Preparation	Site Preparation	1/6/2024	1/10/2024	5.00	3.00	—
Grading	Grading	1/11/2024	1/18/2024	5.00	6.00	—
Building Construction	Building Construction	1/19/2024	2/15/2024	5.00	20.0	—
Paving	Paving	2/16/2024	2/29/2024	5.00	10.0	—
Architectural Coating	Architectural Coating	3/1/2024	3/4/2024	5.00	2.00	—

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
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73

Demolition	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
Demolition	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Demolition	Off-Highway Trucks	Diesel	Average	1.00	2.00	376	0.38
Site Preparation	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Site Preparation	Off-Highway Trucks	Diesel	Average	1.00	2.00	376	0.38
Site Preparation	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Tractors/Loaders/Backhoes	Diesel	Average	1.00	7.00	84.0	0.37
Grading	Off-Highway Trucks	Diesel	Average	1.00	2.00	376	0.38
Building Construction	Cranes	Diesel	Average	1.00	8.00	367	0.29
Building Construction	Forklifts	Diesel	Average	2.00	7.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	1.00	6.00	84.0	0.37
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Paving	Cement and Mortar Mixers	Diesel	Average	1.00	8.00	10.0	0.56
Paving	Pavers	Diesel	Average	1.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	1.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Paving	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	10.0	12.4	LDA,LDT1,LDT2
Demolition	Vendor	—	7.10	HHDT,MHDT
Demolition	Hauling	8.00	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	10.0	12.4	LDA,LDT1,LDT2
Site Preparation	Vendor	—	7.10	HHDT,MHDT
Site Preparation	Hauling	3.33	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	10.0	12.4	LDA,LDT1,LDT2
Grading	Vendor	—	7.10	HHDT,MHDT
Grading	Hauling	2.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	0.00	12.4	LDA,LDT1,LDT2
Building Construction	Vendor	0.00	7.10	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	12.4	LDA,LDT1,LDT2
Paving	Vendor	—	7.10	HHDT,MHDT
Paving	Hauling	34.0	20.0	HHDT
Paving	Onsite truck	—	—	HHDT

Architectural Coating	—	—	—	—
Architectural Coating	Worker	0.00	12.4	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	7.10	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	0.00	0.00	7,539

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 (Ton of Debris)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	160	—
Site Preparation	—	80.0	2.50	0.00	—
Grading	—	90.0	8.00	0.00	—
Paving	0.00	0.00	0.00	0.00	1.04

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
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Water Exposed Area	2	61%	61%
Water Demolished Area	2	36%	36%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Parking Lot	0.73	97%
Other Asphalt Surfaces	0.31	56%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2024	0.00	375	0.01	< 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
Parking Lot	154	154	154	56,283	1,477	1,477	1,477	539,001
Other Asphalt Surfaces	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

5.10.2. 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	0.00	0.00	7,539

5.10.3. Landscape Equipment

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

5.11. Operational Energy Consumption

5.11.1. Unmitigated

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

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Parking Lot	98,067	295	0.0129	0.0017	0.00
Other Asphalt Surfaces	0.00	295	0.0129	0.0017	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Parking Lot	0.00	131,758
Other Asphalt Surfaces	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Parking Lot	0.00	—
Other Asphalt Surfaces	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
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5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

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

5.16.1. Emergency Generators and Fire Pumps

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

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

Equipment Type	Fuel Type
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5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

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

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres
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5.18.2. Sequestration

5.18.2.1. Unmitigated

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

6.1. Climate Risk Summary

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

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	19.3	annual days of extreme heat
Extreme Precipitation	5.70	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth
Wildfire	0.00	annual hectares burned

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

Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about $\frac{3}{4}$ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider different increments of sea level rise coupled with extreme storm events. Users may select from four model simulations to view the range in potential inundation depth for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 50 meters (m) by 50 m, or about 164 feet (ft) by 164 ft.

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

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	0	0	N/A
Extreme Precipitation	2	0	0	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	1	0	0	N/A
Flooding	0	0	0	N/A
Drought	0	0	0	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

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

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

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

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	1	1	2
Extreme Precipitation	2	1	1	3

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

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

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

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

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

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

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	42.6
AQ-PM	31.5
AQ-DPM	76.8
Drinking Water	69.6
Lead Risk Housing	34.8
Pesticides	0.00
Toxic Releases	20.8
Traffic	79.9
Effect Indicators	—

CleanUp Sites	28.4
Groundwater	36.2
Haz Waste Facilities/Generators	68.2
Impaired Water Bodies	43.8
Solid Waste	0.00
Sensitive Population	—
Asthma	90.9
Cardio-vascular	89.8
Low Birth Weights	49.3
Socioeconomic Factor Indicators	—
Education	77.6
Housing	57.4
Linguistic	80.8
Poverty	67.4
Unemployment	85.8

7.2. Healthy Places Index Scores

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

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	27.03708456
Employed	20.45425382
Median HI	40.5363788
Education	—
Bachelor's or higher	17.25907866
High school enrollment	100
Preschool enrollment	19.18388297

Transportation	—
Auto Access	59.70742974
Active commuting	3.811112537
Social	—
2-parent households	17.64403952
Voting	32.61901707
Neighborhood	—
Alcohol availability	89.05427948
Park access	59.07866034
Retail density	73.54035673
Supermarket access	27.13974079
Tree canopy	68.18940074
Housing	—
Homeownership	53.27858334
Housing habitability	61.59373797
Low-inc homeowner severe housing cost burden	63.89067112
Low-inc renter severe housing cost burden	74.43859874
Uncrowded housing	46.83690491
Health Outcomes	—
Insured adults	36.30180932
Arthritis	0.0
Asthma ER Admissions	10.6
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0

Diagnosed Diabetes	0.0
Life Expectancy at Birth	38.1
Cognitively Disabled	5.2
Physically Disabled	41.1
Heart Attack ER Admissions	11.6
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	19.6
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	33.8
Elderly	72.3
English Speaking	9.9
Foreign-born	84.3
Outdoor Workers	74.4
Climate Change Adaptive Capacity	—
Impervious Surface Cover	56.7
Traffic Density	84.1
Traffic Access	23.0

Other Indices	—
Hardship	73.5
Other Decision Support	—
2016 Voting	14.2

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	74.0
Healthy Places Index Score for Project Location (b)	28.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	South Florin

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

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

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Land uses and sizes per site plan, project description, and County Department of Transportation Trip Generation. Parking - Other Asphalt Surfaces = off-site street improvements.

Construction: Construction Phases	No structures to demolish, demolition limited to removal of some small existing concrete pads and fencing, reduced to 1 week. No new structures--building construction consists of new CMU wall, fencing, light standards, and landscaping, reduced to 4 weeks. Architectural coating for parking lot lines only, reduced to 1 week.
Construction: Off-Road Equipment	Demolition limited to removal of old concrete and fencing, site-preparation limited to approximately 1.2 area area--demolition and site prep equipment reduced accordingly. Off-highway truck = water truck used for dust control during demolition, site prep and grading.
Construction: Trips and VMT	Based on new paved areas, 170 loads (17 loads per day; 34 one-way trips per day) of asphalt/concrete/aggregate imported per day during paving.
Construction: Architectural Coatings	No buildings for architectural coatings (parking lot lines only).
Construction: Paving	Per project engineer, 0.73 acres of truck parking lot new paved area, remaining area will use existing pavement. Paved areas % asphalt per project engineer.
Operations: Vehicle Data	Project trip generation per Sacramento County Department of Transportation. 50% of truck parking lot trips assumed to be truck driver commute trips (H-W) and 50% truck trips (W-O).
Operations: Fleet Mix	Truck parking lot trips assumed to be 50% HHD trucks and 50% cars and light trucks used for truck driver commute trips. Ratio of LDA, LDT1, and LDT2 kept same as default.
Construction: Dust From Material Movement	90 CY soil export during grading per project engineer. 80 CY vegetation/debris exported during site prep estimated from aerial images.

Appendix B

HRA Modeling Input/Output

DPM Calculations by AERMOD Source

Project One-Way Truck Trips	Peak Hour	ADT
Heavy-Heavy Duty Truck (HHDT)	8	77

2025

Source	Emission Factor (g/mile)	Avg. Speed (mph)	% of Trips	meters	Miles	Peak Hour Trips	ADT	Annual Trips	Max lb./hour	Annual lb./year
Stockton Blvd south of Victory Ave	2.10860E-02	40	50%	222.2	0.1381	4.0	38.5	14052.50	2.5673E-05	9.0193E-02
Stockton Blvd north of Victory Ave	2.10860E-02	40	50%	297.8	0.1850	4.0	38.5	14052.50	3.4408E-05	1.2088E-01
Victory Avenue	2.24689E-02	25	50%	124.8	0.0775	4.0	38.5	14052.50	1.5365E-05	5.3980E-02
On-Site Circulation	7.13000E-02	10	50%	236.7	0.1471	4.0	38.5	14052.50	9.2476E-05	3.2488E-01
On-Site Truck Parking (10 areas)	1.16032E-01	5	10.0%	-	0.4167	0.8	7.7	2810.50	8.5268E-05	2.9956E-01

2030

Source	Emission Factor (g/mile)	Avg. Speed (mph)	% of Trips	meters	Miles	Peak Hour Trips	ADT	Annual Trips	Max lb./hour	Annual lb./year
Stockton Blvd south of Victory Ave	1.52818E-02	40	50%	222.2	0.1381	4.0	38.5	14052.50	1.8606E-05	6.5366E-02
Stockton Blvd north of Victory Ave	1.52818E-02	40	50%	297.8	0.1850	4.0	38.5	14052.50	2.4937E-05	8.7606E-02
Victory Avenue	1.53425E-02	25	50%	124.8	0.0775	4.0	38.5	14052.50	1.0492E-05	3.6859E-02
On-Site Circulation	4.86897E-02	10	50%	236.7	0.1471	4.0	38.5	14052.50	6.3150E-05	2.2186E-01
On-Site Truck Parking (10 areas)	7.89851E-02	5	10.0%	-	0.4167	0.8	7.7	2810.50	5.8043E-05	2.0391E-01

2035

Source	Emission Factor (g/mile)	Avg. Speed (mph)	% of Trips	meters	Miles	Peak Hour Trips	ADT	Annual Trips	Max lb./hour	Annual lb./year
Stockton Blvd south of Victory Ave	9.28739E-03	40	50%	222.2	0.1381	4.0	38.5	14052.50	1.1308E-05	3.9726E-02
Stockton Blvd north of Victory Ave	9.28739E-03	40	50%	297.8	0.1850	4.0	38.5	14052.50	1.5155E-05	5.3242E-02
Victory Avenue	7.99047E-03	25	50%	124.8	0.0775	4.0	38.5	14052.50	5.4642E-06	1.9196E-02
On-Site Circulation	2.59696E-02	10	50%	236.7	0.1471	4.0	38.5	14052.50	3.3683E-05	1.1833E-01
On-Site Truck Parking (10 areas)	4.27447E-02	5	10.0%	-	0.4167	0.8	7.7	2810.50	3.1412E-05	1.1035E-01

2040

Source	Emission Factor (g/mile)	Avg. Speed (mph)	% of Trips	meters	Miles	Peak Hour Trips	ADT	Annual Trips	Max lb./hour	Annual lb./year
Stockton Blvd south of Victory Ave	8.06441E-03	40	50%	222.2	0.1381	4.0	38.5	14052.50	9.8188E-06	3.4495E-02
Stockton Blvd north of Victory Ave	8.06441E-03	40	50%	297.8	0.1850	4.0	38.5	14052.50	1.3159E-05	4.6231E-02
Victory Avenue	5.97022E-03	25	50%	124.8	0.0775	4.0	38.5	14052.50	4.0827E-06	1.4343E-02
On-Site Circulation	1.53310E-02	10	50%	236.7	0.1471	4.0	38.5	14052.50	1.9884E-05	6.9856E-02
On-Site Truck Parking (10 areas)	2.38778E-02	5	10.0%	-	0.4167	0.8	7.7	2810.50	1.7547E-05	6.1645E-02

2045

Source	Emission Factor (g/mile)	Avg. Speed (mph)	% of Trips	meters	Miles	Peak Hour Trips	ADT	Annual Trips	Max lb./hour	Annual lb./year
Stockton Blvd south of Victory Ave	7.55757E-03	40	50%	222.2	0.1381	4.0	38.5	14052.50	9.2017E-06	3.2327E-02
Stockton Blvd north of Victory Ave	7.55757E-03	40	50%	297.8	0.1850	4.0	38.5	14052.50	1.2332E-05	4.3325E-02
Victory Avenue	5.05237E-03	25	50%	124.8	0.0775	4.0	38.5	14052.50	3.4550E-06	1.2138E-02
On-Site Circulation	9.92441E-03	10	50%	236.7	0.1471	4.0	38.5	14052.50	1.2872E-05	4.5221E-02
On-Site Truck Parking (10 areas)	1.32995E-02	5	10.0%	-	0.4167	0.8	7.7	2810.50	9.7734E-06	3.4335E-02

2050

Source	Emission Factor (g/mile)	Avg. Speed (mph)	% of Trips	meters	Miles	Peak Hour Trips	ADT	Annual Trips	Max lb./hour	Annual lb./year
Stockton Blvd south of Victory Ave	7.11430E-03	40	50%	222.2	0.1381	4.0	38.5	14052.50	8.6620E-06	3.0431E-02
Stockton Blvd north of Victory Ave	7.11430E-03	40	50%	297.8	0.1850	4.0	38.5	14052.50	1.1609E-05	4.0784E-02
Victory Avenue	4.49738E-03	25	50%	124.8	0.0775	4.0	38.5	14052.50	3.0755E-06	1.0805E-02
On-Site Circulation	7.47679E-03	10	50%	236.7	0.1471	4.0	38.5	14052.50	9.6974E-06	3.4068E-02
On-Site Truck Parking (10 areas)	7.96722E-03	5	10.0%	-	0.4167	0.8	7.7	2810.50	5.8548E-06	2.0569E-02

Notes:

- Truck exhaust PM10 emissions factor reported by EMFAC2021 in grams/mile.
- 1 gram = 0.0022046 pounds.
- On-site circulation is for a truck entering and leaving the site (50% of one-way trips).
- Idling emissions for truck parking volume sources calculated assuming emissions for one idling event are approximately equal to 5 mph emissions for 5 minutes (0.42 miles).
- Each of the 10 truck parking volume source assumed to include 10% of total one-way truck trips, one on-site idling event at the start or end of each one-way truck trip.

Source: EMFAC2021 (v1.0.2) Emissions Inventory

Region Type: County

Region: Sacramento

Calendar Year: 2025, 2030, 2035, 2040, 2045, 2050

Season: Annual

Vehicle Classification: EMFAC2007 Categories

Units: miles/day for VMT, g/mile for RUNEX, mph for Speed

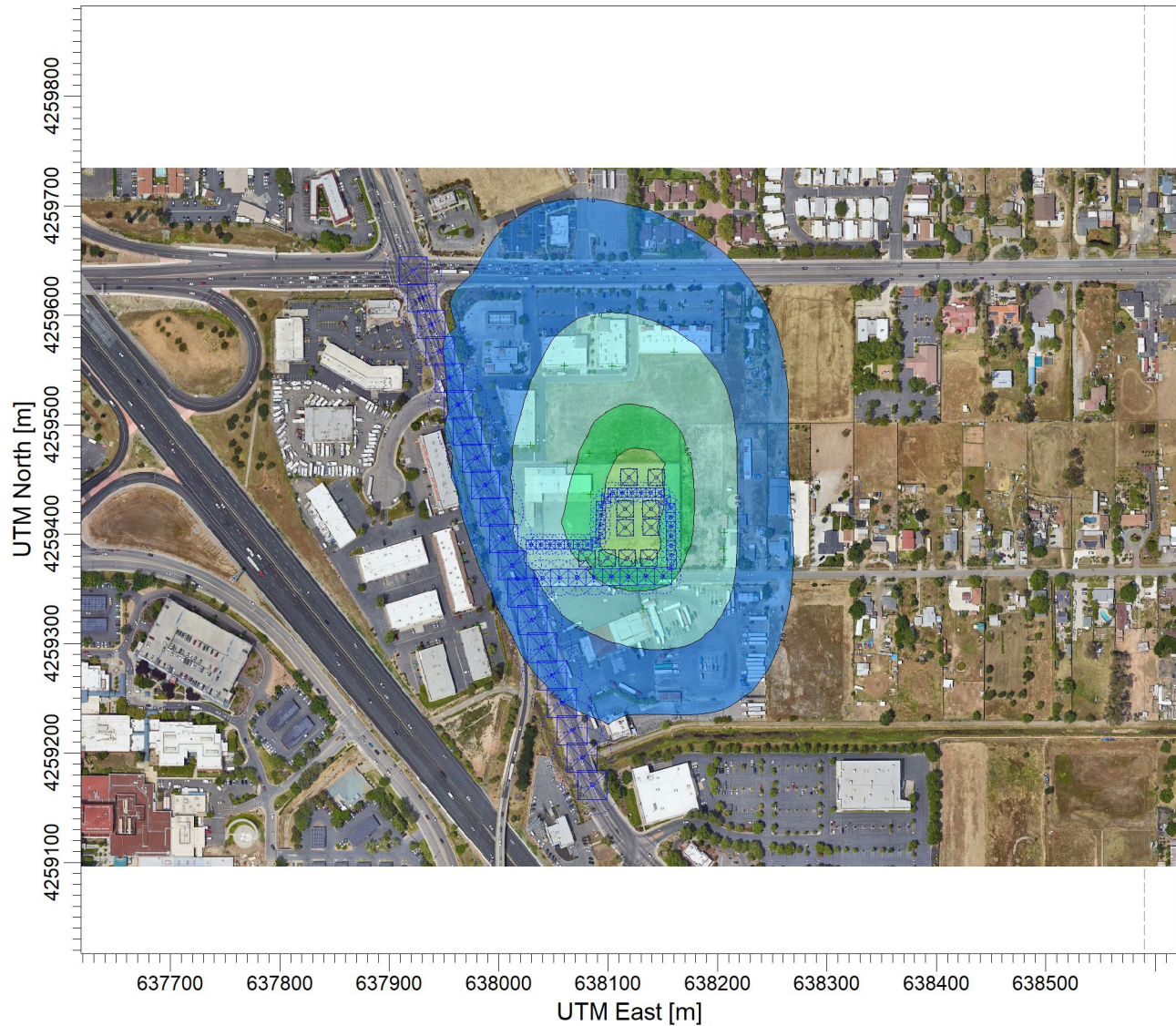
Region	Calendar Year	Vehicle Category	Model Year	Speed	Fuel	Total VMT	PM10_RUNEX
Sacramento	2025	HHDT	Aggregate		5 Diesel	6186.69969	0.116032008
Sacramento	2025	HHDT	Aggregate		10 Diesel	15854.4814	0.071300008
Sacramento	2025	HHDT	Aggregate		25 Diesel	23586.497	0.022468938
Sacramento	2025	HHDT	Aggregate		40 Diesel	41493.3095	0.021085998
Sacramento	2030	HHDT	Aggregate		5 Diesel	5918.85988	0.078985076
Sacramento	2030	HHDT	Aggregate		10 Diesel	15307.4212	0.048689669
Sacramento	2030	HHDT	Aggregate		25 Diesel	23301.9705	0.015342505
Sacramento	2030	HHDT	Aggregate		40 Diesel	40978.1377	0.015281789
Sacramento	2035	HHDT	Aggregate		5 Diesel	5225.16837	0.042744692
Sacramento	2035	HHDT	Aggregate		10 Diesel	14233.3142	0.025969642
Sacramento	2035	HHDT	Aggregate		25 Diesel	22963.52	0.007990467
Sacramento	2035	HHDT	Aggregate		40 Diesel	39939.8014	0.009287395
Sacramento	2040	HHDT	Aggregate		5 Diesel	4645.68561	0.023877826
Sacramento	2040	HHDT	Aggregate		10 Diesel	13557.0604	0.015331027
Sacramento	2040	HHDT	Aggregate		25 Diesel	23349.2492	0.005970217
Sacramento	2040	HHDT	Aggregate		40 Diesel	40033.6123	0.008064411
Sacramento	2045	HHDT	Aggregate		5 Diesel	4206.81911	0.013299491
Sacramento	2045	HHDT	Aggregate		10 Diesel	13429.8028	0.00992441
Sacramento	2045	HHDT	Aggregate		25 Diesel	24758.2938	0.00505237
Sacramento	2045	HHDT	Aggregate		40 Diesel	41827.857	0.007557573
Sacramento	2050	HHDT	Aggregate		5 Diesel	3842.46522	0.007967215
Sacramento	2050	HHDT	Aggregate		10 Diesel	13733.3676	0.007476795
Sacramento	2050	HHDT	Aggregate		25 Diesel	27110.2326	0.004497375
Sacramento	2050	HHDT	Aggregate		40 Diesel	45174.4746	0.007114305

7849 Stockton Boulevard Project
ADMT Output - Residential Cancer Risk

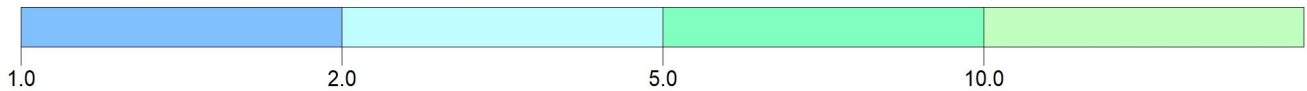
*HARP - HRACalc v22118 9/13/2023 8:07:48 AM - Cancer Risk

REC	GRP	NETID	X	Y	SCENARIO	2025	2030	2035	2040	2045	2050	Total 30-year
901	ALL	ER1	638205.08	4259376.34	30YrCancerDerived_Inh_FAH3to70	1.75E-06	4.33E-07	2.08E-07	3.82E-08	1.05E-08	6.75E-09	2.44E-06
902	ALL	ER2	638205.45	4259386.74	30YrCancerDerived_Inh_FAH3to70	1.77E-06	4.38E-07	2.11E-07	3.86E-08	1.06E-08	6.81E-09	2.47E-06
903	ALL	ER3	638205.63	4259401.61	30YrCancerDerived_Inh_FAH3to70	1.78E-06	4.42E-07	2.13E-07	3.9E-08	1.07E-08	6.87E-09	2.50E-06
904	ALL	ER4	638225.49	4259566.2	30YrCancerDerived_Inh_FAH3to70	1.01E-06	2.49E-07	1.20E-07	2.2E-08	6.06E-09	3.88E-09	1.41E-06
906	ALL	ER5	638148.47	4259657.43	30YrCancerDerived_Inh_FAH3to70	8.75E-07	2.17E-07	1.05E-07	1.93E-08	5.37E-09	3.48E-09	1.22E-06
916	ALL	FR1	638106.96	4259474.27	30YrCancerDerived_Inh_FAH3to70	6.56E-06	1.63E-06	7.82E-07	1.42E-07	3.87E-08	2.44E-08	9.17E-06
917	ALL	FR3	638082.75	4259473.85	30YrCancerDerived_Inh_FAH3to70	4.16E-06	1.03E-06	4.97E-07	9.11E-08	2.52E-08	1.62E-08	5.82E-06
918	ALL	FR3	638062.26	4259465.33	30YrCancerDerived_Inh_FAH3to70	3.03E-06	7.51E-07	3.62E-07	6.72E-08	1.89E-08	1.25E-08	4.24E-06
948	ALL	MEIR	638125.04	4259464.56	30YrCancerDerived_Inh_FAH3to70	9.50E-06	2.35E-06	1.13E-06	2.05E-07	5.54E-08	3.46E-08	1.33E-05

PROJECT TITLE:
7849 Stockton Boulevard Project
Residential Cancer Risk



PLOT FILE OF PERIOD VALUES FOR SOURCE GROUP: ALL
Max: 13.5 [ug/m^3] at (638120.00, 4259390.00) ug/m^3



COMMENTS: Risk in chances per million	SOURCES: 14	COMPANY NAME: HELIX Environmental Planning	
	RECEPTORS: 970		
	OUTPUT TYPE: Concentration	SCALE: 1:6,299 0  0.2 km	
	MAX: 13.5 ug/m^3	DATE: 9/25/2023	PROJECT NO.:

7849 Stockton Boulevard Project

ADRMT Output - Residential Non-Cancer Chronic Risk

*HARP - HRACalc v22118 9/18/2023 12:14:12 PM - Chronic Risk

REC	GRP	NETID	X	Y	SCENARIO	MAXHI
901	ALL	ER1	638205.08	4259376.34	NonCancerChronicDerived_Inh	9.32E-04
902	ALL	ER2	638205.45	4259386.74	NonCancerChronicDerived_Inh	9.42E-04
903	ALL	ER3	638205.63	4259401.61	NonCancerChronicDerived_Inh	9.52E-04
904	ALL	ER4	638225.49	4259566.2	NonCancerChronicDerived_Inh	5.37E-04
906	ALL	ER5	638148.47	4259657.43	NonCancerChronicDerived_Inh	4.67E-04
916	ALL	FR1	638106.96	4259474.27	NonCancerChronicDerived_Inh	3.50E-03
917	ALL	FR3	638082.75	4259473.85	NonCancerChronicDerived_Inh	2.22E-03
918	ALL	FR3	638062.26	4259465.33	NonCancerChronicDerived_Inh	1.62E-03
948	ALL	MEIR	638125.04	4259464.56	NonCancerChronicDerived_Inh	5.07E-03

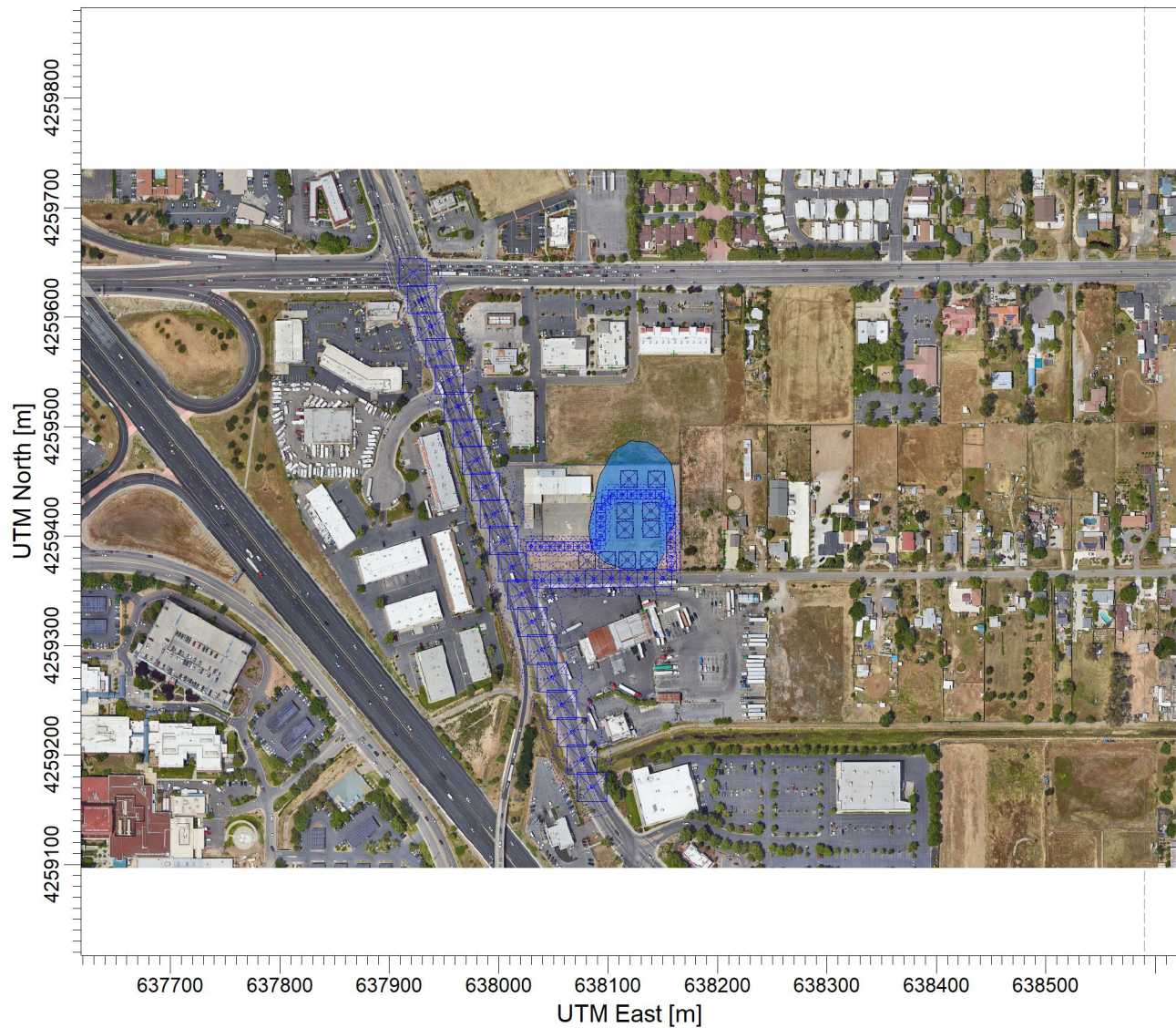
7849 Stockton Boulevard Project

ADRM Output - Worker Cancer Risk

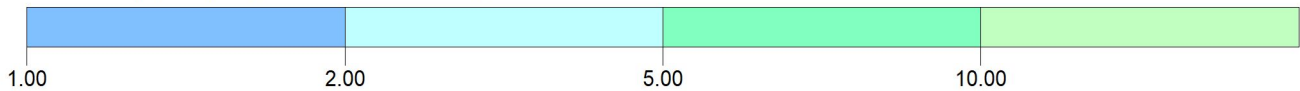
*HARP - HRACalc v22118 9/18/2023 11:42:59 AM - Cancer Risk

REC	GRP	NETID	X	Y	RISK_SUM	SCENARIO	INH_RISK
907	ALL	EC1	638131.86	4259331.83	4.31E-07	25YrCancerDerived_Inh	4.31E-07
908	ALL	EC2	638159.96	4259566.28	2.83E-07	25YrCancerDerived_Inh	2.83E-07
909	ALL	EC3	638103.63	4259553.45	3.73E-07	25YrCancerDerived_Inh	3.73E-07
910	ALL	EC4	638060	4259553.51	2.93E-07	25YrCancerDerived_Inh	2.93E-07
911	ALL	EC5	638028.8	4259481.3	2.81E-07	25YrCancerDerived_Inh	2.81E-07
912	ALL	EC6	637961.57	4259439.18	1.15E-07	25YrCancerDerived_Inh	1.15E-07
913	ALL	EC7	637966.92	4259377.72	9.87E-08	25YrCancerDerived_Inh	9.87E-08
914	ALL	EC8	637981.75	4259316.35	8.62E-08	25YrCancerDerived_Inh	8.62E-08
915	ALL	EC9	638083.9	4259436.56	9.07E-07	25YrCancerDerived_Inh	9.07E-07

PROJECT TITLE:
7849 Stockton Boulevard Project
Worker Cancer Risk



PLOT FILE OF PERIOD VALUES FOR SOURCE GROUP: ALL
Max: 1.59 [ug/m^3] at (638120.00, 4259390.00) ug/m^3



COMMENTS: Risk in chances per million	SOURCES: 14	COMPANY NAME: HELIX Environmental Planning	
	RECEPTORS: 970		
	OUTPUT TYPE: Concentration	SCALE: 1:6,299 0 0.2 km	
	MAX: 1.59 ug/m^3	DATE: 9/25/2023	PROJECT NO.:

7849 Stockton Boulevard Project

ADRM Output - Worker Non-Cancer Chronic Risk

*HARP - HRACalc v22118 9/18/2023 12:14:33 PM - Chronic Risk-

REC	GRP	NETID	X	Y	SCENARIO	MAXHI
907	ALL	EC1	638131.86	4259331.83	NonCancerChronicDerived_Inh	1.39E-03
908	ALL	EC2	638159.96	4259566.28	NonCancerChronicDerived_Inh	9.15E-04
909	ALL	EC3	638103.63	4259553.45	NonCancerChronicDerived_Inh	1.20E-03
910	ALL	EC4	638060	4259553.51	NonCancerChronicDerived_Inh	9.48E-04
911	ALL	EC5	638028.8	4259481.3	NonCancerChronicDerived_Inh	9.09E-04
912	ALL	EC6	637961.57	4259439.18	NonCancerChronicDerived_Inh	3.72E-04
913	ALL	EC7	637966.92	4259377.72	NonCancerChronicDerived_Inh	3.19E-04
914	ALL	EC8	637981.75	4259316.35	NonCancerChronicDerived_Inh	2.79E-04
915	ALL	EC9	638083.9	4259436.56	NonCancerChronicDerived_Inh	2.93E-03

7849 Stockton Boulevard Project

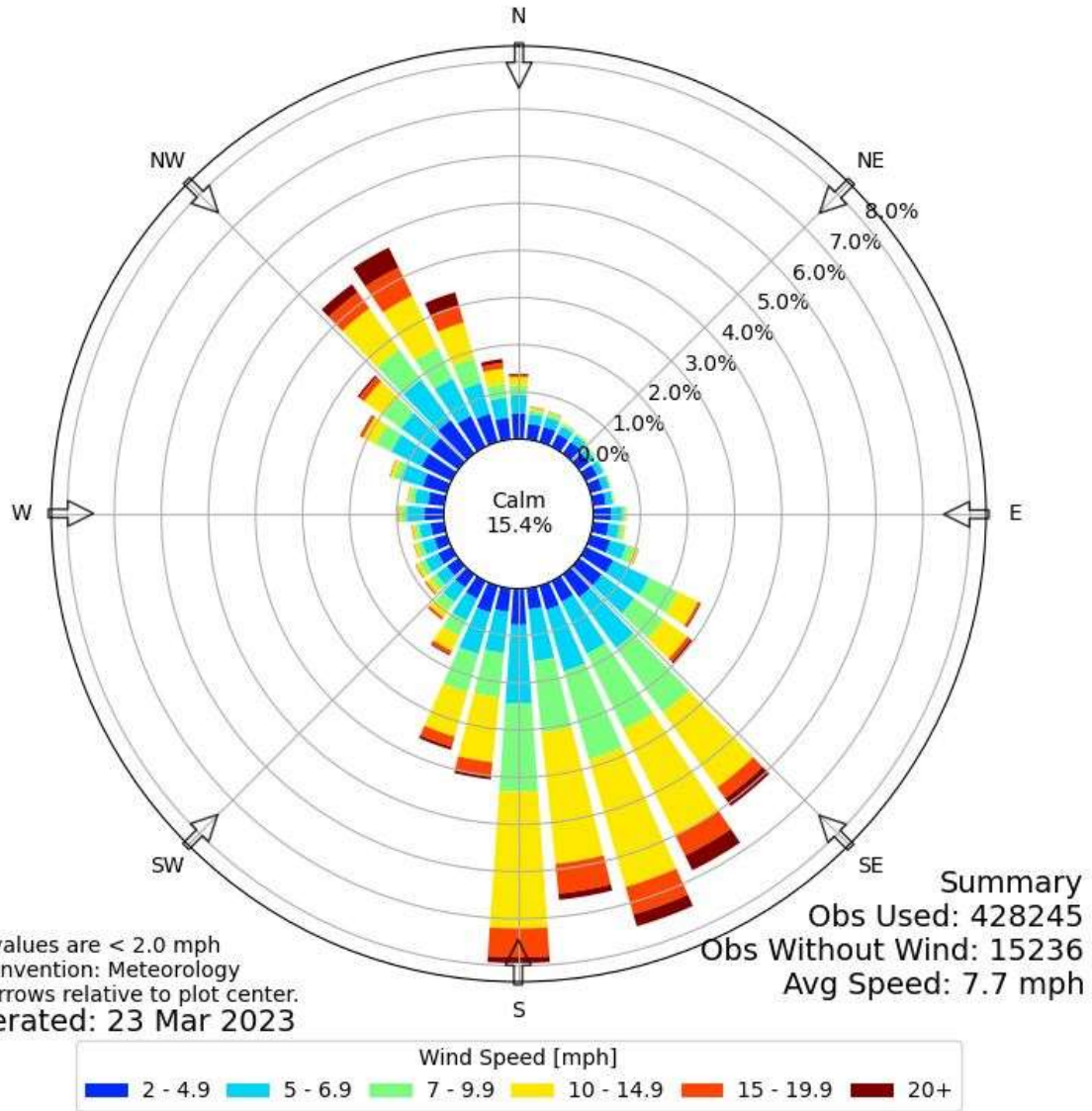
ADRMT Output - Daycare Cancer Risk

*HARP - HRACalc v22118 9/18/2023 12:17:14 PM - Cancer Risk

REC	GRP	NETID	X	Y	RISK_SUM	SCENARIO
	905 ALL	ED1	638324.57	4259536.97	6.20E-07	12YrCancerDerived_Inh



Windrose Plot for [SMF] SACRAMENTO METRO
Obs Between: 31 Dec 1972 04:00 PM - 23 Mar 2023 12:53 AM America/Los_Angeles



Control Pathway

AERMOD

Dispersion Options

Titles C:\Users\martinr\Desktop\7849 Stockton HRA\7849 Stockton Disp\7849 S	
Dispersion Options ☒ Regulatory Default ☐ Non-Default Options	Dispersion Coefficient Rural
	Output Type ☒ Concentration ☐ Total Deposition (Dry & Wet) ☐ Dry Deposition ☐ Wet Deposition
	Plume Depletion ☐ Dry Removal ☐ Wet Removal
	Output Warnings ☐ No Output Warnings ☐ Non-fatal Warnings for Non-sequential Met Data

Pollutant / Averaging Time / Terrain Options

Pollutant Type OTHER - DPM	Exponential Decay Option not available
Averaging Time Options Hours ☒ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 6 ☐ 8 ☐ 12 ☐ 24 ☐ Month ☒ Period ☐ Annual	Terrain Height Options ☐ Flat ☒ Elevated SO: Meters RE: Meters TG: Meters
Flagpole Receptors ☒ Yes ☐ No Default Height = 1.20 m	

Optional Files



Re-Start File



Init File



Multi-Year Analyses



Event Input File



Error Listing File

Detailed Error Listing File

Filename: 7849 Stockton Disp.err

Source Pathway - Source Inputs

AERMOD

Volume Sources

Source Type	Source ID	X Coordinate [m]	Y Coordinate [m]	Base Elevation (Optional)	Release Height [m]	Emission Rate [g/s]	Length of Side [m]	Building Height [m]	Initial Lateral Dim. [m]	Initial Vertical Dim. [m]
VOLUME	TRPK01	638144.03 Truck Parking	4259451.72	9.63	4.00	1.00000	15.00	Surface-Based	3.49	2.33
VOLUME	TRPK02	638118.83 Truck Parking	4259452.05	9.39	4.00	1.00000	15.00	Surface-Based	3.49	2.33
VOLUME	TRPK03	638138.95 Truck Parking	4259423.13	9.68	4.00	1.00000	15.00	Surface-Based	3.49	2.33
VOLUME	TRPK04	638115.44 Truck Parking	4259423.13	9.69	4.00	1.00000	15.00	Surface-Based	3.49	2.33
VOLUME	TRPK05	638139.29 Truck Parking	4259406.39	9.50	4.00	1.00000	15.00	Surface-Based	3.49	2.33
VOLUME	TRPK06	638115.44 Truck Parking	4259406.05	9.41	4.00	1.00000	15.00	Surface-Based	3.49	2.33
VOLUME	TRPK07	638137.19 Truck Parking	4259378.29	9.08	4.00	1.00000	15.00	Surface-Based	3.49	2.33
VOLUME	TRPK08	638117.53 Truck Parking	4259378.14	9.18	4.00	1.00000	15.00	Surface-Based	3.49	2.33
VOLUME	TRPK09	638099.08 Truck Parking	4259378.14	9.21	4.00	1.00000	15.00	Surface-Based	3.23	1.86
VOLUME	TRPK10	638080.48 Truck Parking	4259377.66	9.06	4.00	1.00000	15.00	Surface-Based	3.31	1.16

Source Pathway - Source Inputs

AERMOD

Line Volume Sources

Source Type: LINE VOLUME

Source: STOCN (Stockton Blvd North of Victory)

Length of Side [m]	Emission Rate [g/ s]	Building Height [m]	X Coordinate for Points [m]	Y Coordinate for points [m]	Base Elevation [m]	Release Height [m]
25.81	1.00000		638016.52	4259359.29	8.99	3.40
			637921.27	4259641.46	9.38	3.40

Source Type: LINE VOLUME

Source: STOCS (Stockton Blvd Sout of Victory)

Length of Side [m]	Emission Rate [g/ s]	Building Height [m]	X Coordinate for Points [m]	Y Coordinate for points [m]	Base Elevation [m]	Release Height [m]
26.73	1.00000		638016.88	4259359.18	8.99	0.00
			638092.52	4259150.23	9.00	0.00

Source Type: LINE VOLUME

Source: TRCR1 (Truck Circulation)

Length of Side [m]	Emission Rate [g/ s]	Building Height [m]	X Coordinate for Points [m]	Y Coordinate for points [m]	Base Elevation [m]	Release Height [m]
8.60	1.00000		638157.83	4259368.12	9.05	0.00
			638156.88	4259425.33	9.65	0.00
			638147.07	4259438.01	9.70	0.00
			638102.42	4259437.85	9.64	0.00
			638093.29	4259426.68	9.60	0.00
			638092.78	4259398.61	9.19	0.00
			638087.16	4259390.42	9.23	0.00
			638021.23	4259390.39	9.05	0.00

Source Type: LINE VOLUME

Source: VICTA (Victory Avenue)

Length of Side [m]	Emission Rate [g/ s]	Building Height [m]	X Coordinate for Points [m]	Y Coordinate for points [m]	Base Elevation [m]	Release Height [m]
15.75	1.00000		638031.96	4259359.67	9.04	3.40
			638156.77	4259361.87	9.05	3.40

Source Pathway - Source Inputs

AERMOD

Volume Sources Generated from Line Sources

Line Source ID	Volume Source ID	X Coordinate [m]	Y Coordinate [m]	Base Elevation [m]	Release Height [m]	Emission Rate [g/s]	Length of Side [m]	Building Height [m]	Initial Lateral Dimencion [m]	Initial Vertical Dimencion [m]
VICTA	L0000029	638039.84	4259359.81	9.05	3.40	0.12500	15.75		7.33	3.16
	L0000030	638055.59	4259360.09	9.06	3.40	0.12500	15.75		7.33	3.16
	L0000031	638071.34	4259360.36	9.07	3.40	0.12500	15.75		7.33	3.16
	L0000032	638087.09	4259360.64	9.05	3.40	0.12500	15.75		7.33	3.16
	L0000033	638102.84	4259360.92	9.00	3.40	0.12500	15.75		7.33	3.16
	L0000034	638118.59	4259361.20	8.97	3.40	0.12500	15.75		7.33	3.16
	L0000035	638134.34	4259361.47	9.01	3.40	0.12500	15.75		7.33	3.16
	L0000036	638150.09	4259361.75	9.04	3.40	0.12500	15.75		7.33	3.16

Line Source ID	Volume Source ID	X Coordinate [m]	Y Coordinate [m]	Base Elevation [m]	Release Height [m]	Emission Rate [g/s]	Length of Side [m]	Building Height [m]	Initial Lateral Dimencion [m]	Initial Vertical Dimencion [m]
STOCN	L0000037	638012.40	4259371.52	9.15	3.40	0.08333	25.81		12.01	3.16
	L0000038	638004.14	4259395.98	9.08	3.40	0.08333	25.81		12.01	3.16
	L0000039	637995.89	4259420.43	9.06	3.40	0.08333	25.81		12.01	3.16
	L0000040	637987.63	4259444.89	9.18	3.40	0.08333	25.81		12.01	3.16
	L0000041	637979.37	4259469.34	9.36	3.40	0.08333	25.81		12.01	3.16
	L0000042	637971.12	4259493.80	9.48	3.40	0.08333	25.81		12.01	3.16
	L0000043	637962.86	4259518.26	9.54	3.40	0.08333	25.81		12.01	3.16
	L0000044	637954.61	4259542.71	9.51	3.40	0.08333	25.81		12.01	3.16
	L0000045	637946.35	4259567.17	9.43	3.40	0.08333	25.81		12.01	3.16
	L0000046	637938.10	4259591.63	9.37	3.40	0.08333	25.81		12.01	3.16
	L0000047	637929.84	4259616.08	9.37	3.40	0.08333	25.81		12.01	3.16
	L0000048	637921.59	4259640.54	9.43	3.40	0.08333	25.81		12.01	3.16

Source Pathway - Source Inputs

AERMOD

Line Source ID	Volume Source ID	X Coordinate [m]	Y Coordinate [m]	Base Elevation [m]	Release Height [m]	Emission Rate [g/s]	Length of Side [m]	Building Height [m]	Initial Lateral Dimencion [m]	Initial Vertical Dimencion [m]
STOCS	L0000075	638021.43	4259346.61	9.11	0.00	0.12500	26.73		12.43	3.16
	L0000076	638030.53	4259321.48	9.08	0.00	0.12500	26.73		12.43	3.16
	L0000077	638039.63	4259296.35	9.03	0.00	0.12500	26.73		12.43	3.16
	L0000078	638048.72	4259271.22	8.97	0.00	0.12500	26.73		12.43	3.16
	L0000079	638057.82	4259246.09	8.87	0.00	0.12500	26.73		12.43	3.16
	L0000080	638066.92	4259220.96	8.92	0.00	0.12500	26.73		12.43	3.16
	L0000081	638076.02	4259195.83	8.85	0.00	0.12500	26.73		12.43	3.16
	L0000082	638085.11	4259170.70	8.96	0.00	0.12500	26.73		12.43	3.16

Line Source ID	Volume Source ID	X Coordinate [m]	Y Coordinate [m]	Base Elevation [m]	Release Height [m]	Emission Rate [g/s]	Length of Side [m]	Building Height [m]	Initial Lateral Dimencion [m]	Initial Vertical Dimencion [m]
TRCR1	L0000323	638157.76	4259372.42	8.95	0.00	0.03704	8.60		4.00	3.16
	L0000324	638157.61	4259381.02	9.12	0.00	0.03704	8.60		4.00	3.16
	L0000325	638157.47	4259389.62	9.31	0.00	0.03704	8.60		4.00	3.16
	L0000326	638157.33	4259398.22	9.41	0.00	0.03704	8.60		4.00	3.16
	L0000327	638157.18	4259406.82	9.46	0.00	0.03704	8.60		4.00	3.16
	L0000328	638157.04	4259415.42	9.58	0.00	0.03704	8.60		4.00	3.16
	L0000329	638156.90	4259424.01	9.64	0.00	0.03704	8.60		4.00	3.16
	L0000330	638152.42	4259431.09	9.71	0.00	0.03704	8.60		4.00	3.16
	L0000331	638147.16	4259437.90	9.70	0.00	0.03704	8.60		4.00	3.16
	L0000332	638138.62	4259437.98	9.70	0.00	0.03704	8.60		4.00	3.16
	L0000333	638130.02	4259437.95	9.69	0.00	0.03704	8.60		4.00	3.16
	L0000334	638121.42	4259437.92	9.65	0.00	0.03704	8.60		4.00	3.16
	L0000335	638112.82	4259437.88	9.64	0.00	0.03704	8.60		4.00	3.16
	L0000336	638104.22	4259437.85	9.60	0.00	0.03704	8.60		4.00	3.16
	L0000337	638098.11	4259432.58	9.59	0.00	0.03704	8.60		4.00	3.16

Source Pathway - Source Inputs

AERMOD

Line Source ID	Volume Source ID	X Coordinate [m]	Y Coordinate [m]	Base Elevation [m]	Release Height [m]	Emission Rate [g/s]	Length of Side [m]	Building Height [m]	Initial Lateral Dimencion [m]	Initial Vertical Dimencion [m]
TRCR1	L0000338	638093.27	4259425.70	9.62	0.00	0.03704	8.60		4.00	3.16
	L0000339	638093.12	4259417.10	9.45	0.00	0.03704	8.60		4.00	3.16
	L0000340	638092.96	4259408.51	9.31	0.00	0.03704	8.60		4.00	3.16
	L0000341	638092.81	4259399.91	9.23	0.00	0.03704	8.60		4.00	3.16
	L0000342	638088.65	4259392.59	9.22	0.00	0.03704	8.60		4.00	3.16
	L0000343	638081.19	4259390.42	9.22	0.00	0.03704	8.60		4.00	3.16
	L0000344	638072.59	4259390.42	9.15	0.00	0.03704	8.60		4.00	3.16
	L0000345	638063.99	4259390.41	9.16	0.00	0.03704	8.60		4.00	3.16
	L0000346	638055.39	4259390.41	9.18	0.00	0.03704	8.60		4.00	3.16
	L0000347	638046.79	4259390.40	9.10	0.00	0.03704	8.60		4.00	3.16
	L0000348	638038.19	4259390.40	9.05	0.00	0.03704	8.60		4.00	3.16
	L0000349	638029.59	4259390.40	9.08	0.00	0.03704	8.60		4.00	3.16

Receptor Pathway

AERMOD

Receptor Networks

Note: Terrain Elevations and Flagpole Heights for Network Grids are in Page RE2 - 1 (If applicable)
Generated Discrete Receptors for Multi-Tier (Risk) Grid and Receptor Locations for Fenceline Grid are in Page RE3 - 1 (If applicable)

Uniform Cartesian Grid

Receptor Network ID	Grid Origin X Coordinate [m]	Grid Origin Y Coordinate [m]	No. of X-Axis Receptors	No. of Y-Axis Receptors	Spacing for X-Axis [m]	Spacing for Y-Axis [m]
UCART1	637800.00	4259130.00	30	30	20.00	20.00

Discrete Receptors

Discrete Cartesian Receptors

Record Number	X-Coordinate [m]	Y-Coordinate [m]	Group Name (Optional)	Terrain Elevations	Flagpole Heights [m] (Optional)
1	638205.08	4259376.34		9.34	
2	638205.45	4259386.74		9.26	
3	638205.63	4259401.61		9.25	
4	638225.49	4259566.20		9.42	
5	638324.57	4259536.97		9.67	
6	638148.47	4259657.43		10.10	
7	638131.86	4259331.83		9.02	
8	638159.96	4259566.28		9.94	
9	638103.63	4259553.45		10.05	
10	638060.00	4259553.51		9.73	
11	638028.80	4259481.30		9.29	
12	637961.57	4259439.18		8.96	
13	637966.92	4259377.72		8.67	
14	637981.75	4259316.35		8.71	
15	638083.90	4259436.56		9.38	
16	638106.96	4259474.27		9.62	
17	638082.75	4259473.85		9.40	
18	638062.26	4259465.33		9.17	

Plant Boundary Receptors

Receptor Pathway

AERMOD

Cartesian Plant Boundary

Primary

Record Number	X-Coordinate [m]	Y-Coordinate [m]	Group Name (Optional)	Terrain Elevations	Flagpole Heights [m] (Optional)
1	638028.84	4259367.14	FENCEPRI	8.91	
2	638165.81	4259367.90	FENCEPRI	9.04	
3	638164.77	4259464.85	FENCEPRI	9.54	
4	637995.91	4259463.62	FENCEPRI	9.35	

Intermediate

Record Number	X-Coordinate [m]	Y-Coordinate [m]	Group Name (Optional)	Terrain Elevations	Flagpole Heights [m] (Optional)
1	638038.62	4259367.19	FENCEINT	9.03	
2	638048.41	4259367.25	FENCEINT	9.06	
3	638058.19	4259367.30	FENCEINT	9.09	
4	638067.97	4259367.36	FENCEINT	9.06	
5	638077.76	4259367.41	FENCEINT	9.03	
6	638087.54	4259367.47	FENCEINT	9.06	
7	638097.33	4259367.52	FENCEINT	9.09	
8	638107.11	4259367.57	FENCEINT	9.02	
9	638116.89	4259367.63	FENCEINT	9.00	
10	638126.68	4259367.68	FENCEINT	9.03	
11	638136.46	4259367.74	FENCEINT	9.02	
12	638146.24	4259367.79	FENCEINT	8.99	
13	638156.03	4259367.85	FENCEINT	9.00	
14	638165.71	4259377.60	FENCEINT	9.13	
15	638165.60	4259387.29	FENCEINT	9.26	
16	638165.50	4259396.99	FENCEINT	9.30	
17	638165.39	4259406.68	FENCEINT	9.50	
18	638165.29	4259416.38	FENCEINT	9.67	
19	638165.19	4259426.07	FENCEINT	9.58	
20	638165.08	4259435.77	FENCEINT	9.75	
21	638164.98	4259445.46	FENCEINT	9.77	
22	638164.87	4259455.16	FENCEINT	9.66	
23	638154.84	4259464.78	FENCEINT	9.71	
24	638144.90	4259464.71	FENCEINT	9.53	
25	638134.97	4259464.63	FENCEINT	9.30	
26	638125.04	4259464.56	FENCEINT	9.30	
27	638115.11	4259464.49	FENCEINT	9.50	
28	638105.17	4259464.42	FENCEINT	9.33	
29	638095.24	4259464.34	FENCEINT	9.46	

Receptor Pathway

AERMOD

30	638085.31	4259464.27	FENCEINT	9.53	
31	638075.37	4259464.20	FENCEINT	9.35	
32	638065.44	4259464.13	FENCEINT	9.16	
33	638055.51	4259464.05	FENCEINT	9.19	
34	638045.57	4259463.98	FENCEINT	9.20	
35	638035.64	4259463.91	FENCEINT	9.20	
36	638025.71	4259463.84	FENCEINT	9.17	
37	638015.78	4259463.76	FENCEINT	9.23	
38	638005.84	4259463.69	FENCEINT	9.22	
39	637998.90	4259454.85	FENCEINT	9.18	
40	638001.90	4259446.08	FENCEINT	9.10	
41	638004.89	4259437.31	FENCEINT	9.07	
42	638007.88	4259428.54	FENCEINT	9.09	
43	638010.88	4259419.77	FENCEINT	9.16	
44	638013.87	4259410.99	FENCEINT	9.02	
45	638016.87	4259402.22	FENCEINT	9.03	
46	638019.86	4259393.45	FENCEINT	9.01	
47	638022.85	4259384.68	FENCEINT	8.99	
48	638025.85	4259375.91	FENCEINT	8.97	

Receptor Groups

Record Number	Group ID	Group Description
1	FENCEPRI	Cartesian plant boundary Primary Receptors
2	FENCEINT	Cartesian plant boundary Intermediate Receptors

Meteorology Pathway

AERMOD

Met Input Data

Surface Met Data

Filename: 14-18.SFC
Format Type: Default AERMET format

Profile Met Data

Filename: 14-18.PFL
Format Type: Default AERMET format

Wind Speed



Wind Speeds are Vector Mean (Not Scalar Means)

Wind Direction

Rotation Adjustment [deg]:

Potential Temperature Profile

Base Elevation above MSL (for Primary Met Tower): 7.00 [m]

Meteorological Station Data

Stations	Station No.	Year	X Coordinate [m]	Y Coordinate [m]	Station Name
Surface		2014			SACRAMENTO/EXECUTIVE ARPT
Upper Air		2014			OAKLAND/WSO AP

Data Period

Data Period to Process

Start Date: 1/1/2014 Start Hour: 1 End Date: 12/25/2018 End Hour: 24

Wind Speed Categories

Stability Category	Wind Speed [m/s]	Stability Category	Wind Speed [m/s]
A	1.54	D	8.23
B	3.09	E	10.8
C	5.14	F	No Upper Bound

Output Pathway

AERMOD

Tabular Printed Outputs

Short Term Averaging Period	RECTABLE Highest Values Table										MAXTABLE Maximum Values Table	DAYTABLE Daily Values Table
	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th		
1												No

Contour Plot Files (PLOTFILE)

Path for PLOTFILES: 7849 Stockton Disp.AD

Averaging Period	Source Group ID	High Value	File Name
1	ALL	1st	01H1GALL.PLT
Period	ALL	N/A	PE00GALL.PLT

HARP Project Summary Report 9/25/2023 9:34:41 AM

PROJECT INFORMATION

HARP Version: 22118

Project Name: 7849 STOCKTON RISK 2025

Project Output Directory

HARP Database: NA

POLLUTANT HEALTH INFORMATION

Health Database: C:\HARP2\Tables\HEALTH17320.mdb

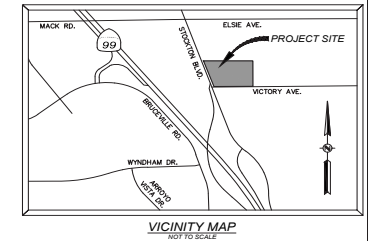
Health Table Version: HEALTH23216

Official: True

<u>PolID</u>	<u>PolAbbrev</u>	<u>InhCancer</u>	<u>AcuteREL</u>	<u>OralCancer</u>	<u>InhChronicREL</u>	<u>OralChronicREL</u>	<u>InhChronic8HRREL</u>
9901	DieselExhPM	1.1			5		

PRELIMINARY IMPROVEMENT PLANS FOR 7849 STOCKTON BLVD

SACRAMENTO, CA 95823
APN: 115-0061-031 & 032



SHEET INDEX:

- C1 PRELIMINARY SITE PLAN
- C2 EXISTING CONDITIONS
- C3 DEMOLITION PLAN
- C4 PRELIMINARY GRADING & DRAINAGE PLAN

BENCHMARK:

THE BENCHMARK USED FOR THIS SURVEY WAS THE COUNTY OF SACRAMENTO BENCHMARK NO. 25-26, WHICH IS A 7/8" METAL DISC STAMPED "CO BM 25-26", LOCATED IN THE TOP OF A VERTICAL CURB IN A CHISELED SQUARE ABOVE A DI AT THE CENTER OF THE CURB. RETURN AT THE NORTHEAST CORNER OF GERRIER ROAD AND THE STREET TO THE "OLYMPIA MOBILELODGE, 0.3 MILES EAST OF STOCKTON BLVD. ELEVATION = 30.70 (NAVD 88)

BASIS OF BEARINGS:

THE BASIS OF BEARINGS FOR THIS SURVEY IS THE CENTERLINE OF VICTORY AVENUE AS SHOWN ON THE RECORD OF SURVEY MAP FILED IN BOOK 52 OF SURVEYS, AT PAGE 2. THE BEARING OF WHICH IS NORTH 85° 31' 00" EAST AND WAS ESTABLISHED FROM RECORD MONUMENTATION THEREFROM.

TOPOGRAPHIC SURVEY:

CWE (FORMERLY RFE ENGINEERING, INC.)
FIELD SURVEY DATED: 12/20/2022

FLOOD PLAIN:

THE SOUTHERLY PORTION OF THIS PROPERTY IS IN ZONE "AE", WHICH IS A SPECIAL FLOOD HAZARD AREA PER FEMA FLOOD INSURANCE RATE MAP 06067C0306H, DATED 08/16/2012. HOWEVER, SAG MAP SHOWS THE 100 YEAR FLOOD ELEVATION TO BE FROM 29.5' TO 29.7' ACROSS THIS SITE.

PROPERTY OWNER / DEVELOPER:

HARJOT GROUP INVESTMENT, LLC
7849 STOCKTON BLVD.
SACRAMENTO, CA 95823
CONTACT: JI SINGH
PH: (209) 648-9952

ZONING:

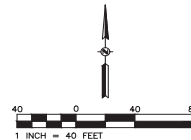
GC (NP) - GENERAL COMMERCIAL (NEIGHBORHOOD PRESERVATION AREA COMBINING ZONING DISTRICT)
-NO CHANGE IN ZONING

JURISDICTION:

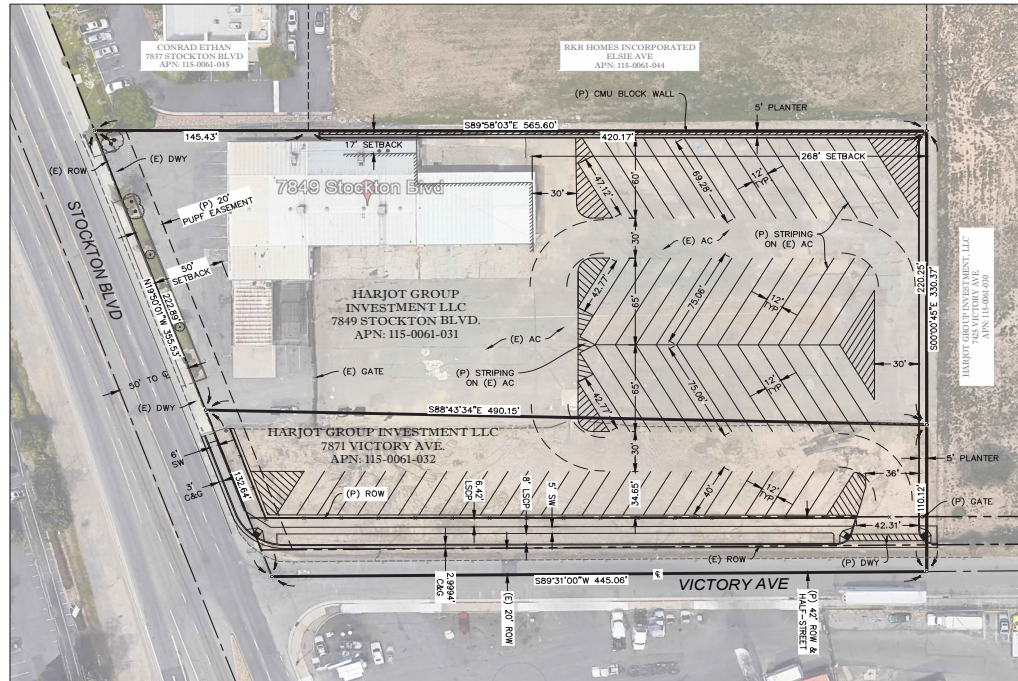
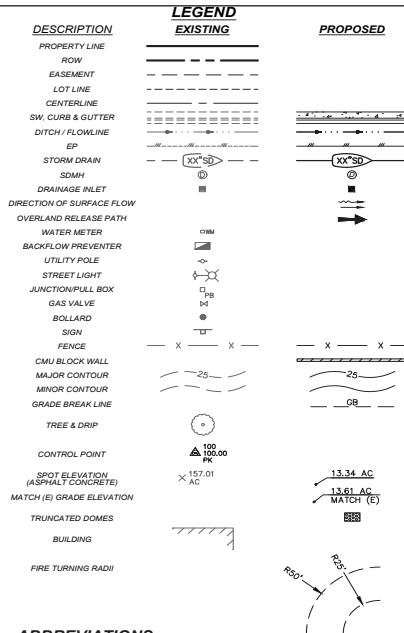
SACRAMENTO COUNTY

PARKING TABLE:

NEW PARKING SPACE DIMENSION	NUMBER OF SPACES PROVIDED
12x40'	14
12x15'	26
12x47'	1
12x43'	2
12x40'	27
TOTAL:	70



Source: CWECorp, 2023



DEVELOPMENT STANDARDS

EXISTING GENERAL PLAN: SACRAMENTO COUNTY GENERAL PLAN OF 2005-2020

ZONE: GC (NP)

ITEM	REQUIREMENTS	PROVIDED
MINIMUM FRONT SETBACK	50'	50'
MINIMUM SIDE SETBACK	50'	268'
MINIMUM REAR SETBACK	15'	17'
PROPERTY AREA: 3.88 AC GROSS 3.85 AC NET		

REFERENCE IS MADE TO THE SACRAMENTO COUNTY ZONING CODE.

UTILITY NOTE:

THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. CWE MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. CWE FURTHER DOES NOT GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. CWE HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES.

TOTAL DISTURBED AREA: 1.10 AC

RAW EARTHWORK SUMMARY

CUT:	595 CY
FILL:	505 CY
NET:	90 CY CUT (EXPORT)

NOTE: EARTHWORK QUANTITIES ARE ESTIMATED TO SUBGRADE AND DO NOT TAKE INTO ACCOUNT SHRINKAGE EXCESS MATERIALS FROM TRENCHING AND MISC. UNKNOWN STRUCTURAL SECTIONS. CONTRACTOR SHOULD VERIFY EARTHWORK QUANTITIES.

UTILITY CONTACT INFORMATION

UTILITY	UTILITY CO.	REPRESENTATIVE	PHONE
GAS	PG&E	DEMETRIUS WILLIAMS	(916) 386-5013
ELECTRIC	PG&E	DEMETRIUS WILLIAMS	(916) 386-5013
FIRE	SAC METRO	DIANA SCHMIDT	(916) 859-4323
WATER	CAL AMERICAN	SPENCER PHILLIPS	(916) 968-4210
SEWER	S&S	RAY VASSELLI	(916) 876-6140
DRAINAGE	SACRAMENTO COUNTY	LEO ALBA	(916) 874-8846
U.S.A.	UNDERGROUND SERVICE ALERT		1-800-642-2444

