AIR QUALITY, ENERGY, AND GREENHOUSE GAS IMPACT ANALYSIS

GRANITE CREEK PRECISE PLAN PROJECT

CITY OF MADERA, CALIFORNIA

LSA

January 2026

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Submitted to:

Crawford & Bowen Planning, Inc
113 N. Church Street, Suite 310
Visalia, California, 93291

Prepared by:

LSA
2565 Alluvial Avenue, Suite 112
Clovis, California 93611
(559) 490-1210

Project No. 20241905

LSA

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TABLE OF CONTENTS

TABLE OF CONTENTS i
FIGURES AND TABLES iv
LIST OF ABBREVIATIONS AND ACRONYMS v
INTRODUCTION 1
Project Location and Description 1
Existing Land Uses in the Project Area 4
BACKGROUND 5
Air Pollutants and Health Effects 5
Ozone 6
Carbon Monoxide 6
Particulate Matter 6
Nitrogen Dioxide 6
Sulfur Dioxide 6
Lead 6
Volatile Organic Compounds 7
Toxic Air Contaminants 7
Energy 11
Electricity 11
Natural Gas 11
Fuel 12
Greenhouse Gases 12
Carbon Dioxide 13
Methane 14
Nitrous Oxide 14
Hydrofluorocarbons, Perfluorocarbons, and Sulfur Hexafluoride 15
Black Carbon 15
REGULATORY SETTING 16
Air Quality Regulations 16
Federal Regulations 16
State Regulations 16
Regional Regulations 17
Local Regulations 20
Energy 21
Federal Regulations 21
State Regulations 22
Regional Regulations 24
Local Regulations 24
Greenhouse Gas Regulatory Setting 25

Federal Regulations 25
State Regulations 26
Regional Regulations 29
Local Regulations 30
SETTING 33
Attainment Status 33
Existing Climate and Air Quality 34
Air Quality Monitoring Results 36
Greenhouse Gas Emissions Inventory 36
Global Emissions 36
United States Emissions 36
State of California Emissions 38
METHODOLOGY 39
Construction Emissions 39
Construction Health Risk Assessment 39
Operational Emissions 40
Energy Use 41
Greenhouse Gas Analysis 41
THRESHOLDS OF SIGNIFICANCE 42
Air Quality 42
Regional Emissions Thresholds 42
Local Microscale Concentration Standards 42
Health Risk Thresholds 43
Energy 43
Greenhouse Gas Thresholds 43
IMPACTS ANALYSIS 47
Air Quality Impacts 47
Consistency with Applicable Air Quality Plans 47
Criteria Pollutant Analysis 48
Health Risk on Nearby Sensitive Receptors 56
Odors 58
Naturally Occurring Asbestos 59
Valley Fever 59
Energy Impacts 59
Energy Consumption 59
Conflicts with Renewable Energy or Energy Efficiency Plans 62
Greenhouse Gas Impacts 63
Generation of Greenhouse Gas Emissions 63
Consistency with Greenhouse Gas Emissions Reduction Plans 66

CONCLUSION 76

APPENDICES

A: CALEEMOD OUTPUT SHEETS
B: HRA MODEL SNAPSHOTS AND OUTPUT
C: ENERGY CALCULATIONS

FIGURES AND TABLES

FIGURES

Figure 1: Regional Project Location 2
Figure 2: Project Site 3

TABLES

Table A: Sources and Health Effects of Air Pollutants 8
Table B: Federal and State Ambient Air Quality Standards 9
Table C: Global Warming Potential of Greenhouse Gases 14
Table D: San Joaquin Valley Air Basin Air Quality Attainment Status 33
Table E: Ambient Air Quality at Nearby Monitoring Stations 37
Table F: Regional Thresholds for Construction and Operational Emissions 42
Table G: Short-Term Regional Construction Emissions 49
Table H: Unmitigated Project Operational Emissions 51
Table I: Mitigated Project Operational Emissions 54
Table J: Health Risks from Project Construction to Off-Site Receptors 56
Table K: Energy Consumption Estimates During Construction 60
Table L: Energy Consumption Estimates During Operation 61
Table M: Project Greenhouse Gas Emissions 64
Table N: Project Consistency with the City of Madera Climate Action Plan 70

LIST OF ABBREVIATIONS AND ACRONYMS

°C	degrees Celsius
°F	degrees Fahrenheit
µg/m3	micrograms per cubic meter
AAQS	ambient air quality standards
AB	Assembly Bill
APN	Assessor's Parcel Number
APS	Alternative Planning Strategy
AQMP	Air Quality Management Plan
BPS	best performance standard
CAA	Federal Clean Air Act
CAAQS	California Ambient Air Quality Standards
CalEEMod	California Emissions Estimator Model
CALGreen Code	California Green Building Standards Code
CAP	Climate Action Plan
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CARB Handbook	California Air Resources Board's Air Quality and Land Use Handbook
CBSC	California Building Standards Commission
CCAA	California Clean Air Act
CCAP	Climate Change Action Plan
CEQA	California Environmental Quality Act
CH_4	methane
City	City of Madera
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	CO_2 equivalents
DPM	diesel particulate matter
EO	Executive Order
EV	electric vehicles

Fresno COG	Fresno Council of Governments
GAMAQI	Guidance for Assessing and Mitigating Air Quality Impacts
GHG	greenhouse gas
GHGRx	Greenhouse Gas Reduction Exchange
GWP	Global Warming Potential
HFC	hydrofluorocarbon
HI	Hazard Index
HRA	Health Risk Assessment
HVAC	heating, ventilation, and air conditioning
IPCC	Intergovernmental Panel on Climate Change
ISR	Indirect Source Review
MEI	maximum exposed individual
MERV	minimum efficiency reporting value
MMT	million metric tons
MPO	Metropolitan Planning Organization
MT	metric tons
N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NO_2	nitrogen dioxide
NOA	naturally occurring asbestos
NO_X	nitrogen oxides
O_3	ozone
OEHHA	California Office of Environmental Health Hazard Assessment
Pb	lead
PFC	perfluorocarbon
PM	particulate matter
PM_{10}	particulate matter that is 10 microns or less in diameter
$PM_{2.5}$	particulate matter that is 2.5 microns or less in diameter
project	Peach and Behymer Residential Project
RCM	Regulatory Compliance Measure
ROC	reactive organic compound

ROG	reactive organic gas
RPS	Renewables Portfolio Standard
RTP	Regional Transportation Plan
SCS	Sustainable Communities Strategy
SF_6	sulfur hexafluoride
SJVAB	San Joaquin Valley Air Basin
SJVAPCD	San Joaquin Valley Air Pollution Control District
SO_2	sulfur dioxide
TAC	toxic air contaminant
TIA	Transportation Impact Analysis
UNFCCC	United Nations Framework Convention on Climate Change
URF	unit risk factor
USEPA	United States Environmental Protection Agency
VMT	vehicle miles traveled
VOC	volatile organic compound

INTRODUCTION

This Air Quality, Energy, and Greenhouse Gas (GHG) Impact Analysis has been prepared to evaluate the potential air quality, energy, and GHG emissions impacts associated with the Granite Creek Precise Plan Project (project), located in a currently unincorporated area of Madera County, California. This analysis was prepared using methods and assumptions recommended in the San Joaquin Valley Air Pollution Control District's (SJVAPCD) *Guidance for Assessing and Mitigating Air Quality Impacts* (GAMAQI).[1] This analysis includes a description of the existing regulatory framework, an assessment of project construction and operation period emissions, and an assessment of GHG emissions and energy impacts resulting from the proposed project.

In addition, LSA has prepared a construction Health Risk Assessment (HRA) for the proposed project. An HRA is a process used to estimate the increased health risk levels for people living and/or working near a project that emits toxic air contaminants (TACs). The purpose of this HRA is to determine the increased cancer and noncancer health risks from project-related emissions of TACs in the exhaust of diesel-powered construction equipment on existing nearby sensitive receptors. This HRA has been prepared in accordance with policies and procedures of the State Office of Environmental Health Hazard Assessment (OEHHA), the CARB, and the SJVAPCD.

PROJECT LOCATION AND DESCRIPTION

The approximately 198.91-acre project site is located east of Road 24 between Avenue 14-1/2 and the Fresno River in a currently unincorporated area of Madera County. It consists of two parcels which lie within the City of Madera Urban Growth Area just west of the current City limit boundary. The project site would be annexed into the City before development. Access points would be located off of Road 14-1/2. Figure 1 shows the project location, and Figure 2 shows the project's site land use plan.

The proposed project and anticipated buildout of the plan area includes multiple residential densities, town centers, elementary/middle school, employment opportunities, and public facilities, all supported by an integrated open space and trails network. Land uses will include low, medium, and high density residential, mixed and village use as well as open space and public use. At buildout, the plan area includes a maximum of 1,542 dwelling units, 417,609 square feet (sq ft) of commercial and neighborhood mixed use, an elementary school for approximately 900 students, and approximately 9.74 acres of open space. Additionally, the proposed project would include a General Plan amendment, rezoning and annexation.

Based on the project's trip generation, the proposed project is estimated to generate 24,536 average daily trips.[2] The proposed project would comply with the 2025 California Green Building Standards Code (CALGreen Code) building measures.

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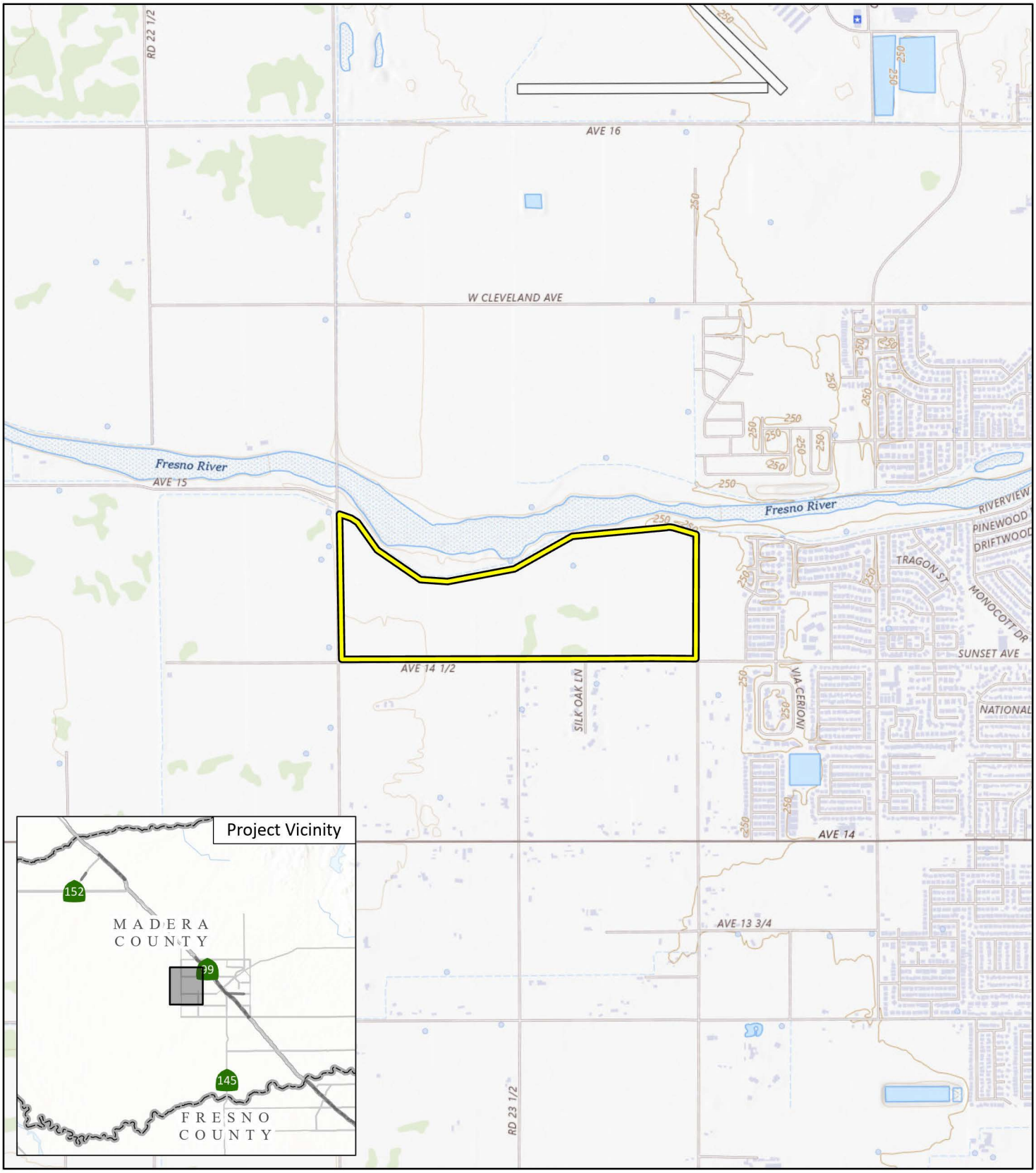
1 San Joaquin Valley Air Pollution Control District (SJVAPCD). 2015. *Guidance for Assessing and Mitigating Air Quality Impacts*. March 19. Website: www.valleyair.org/transportation/ceqa_idx.htm (accessed September 2025).

2 2025. Granite Creek Trip Generation Table. July 8.



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Project Site

FIGURE 1

N

0 1000 2000
FEET

SOURCE: USGS The National Map (2025)

Granite Creek Precise Plan Project

Project Location

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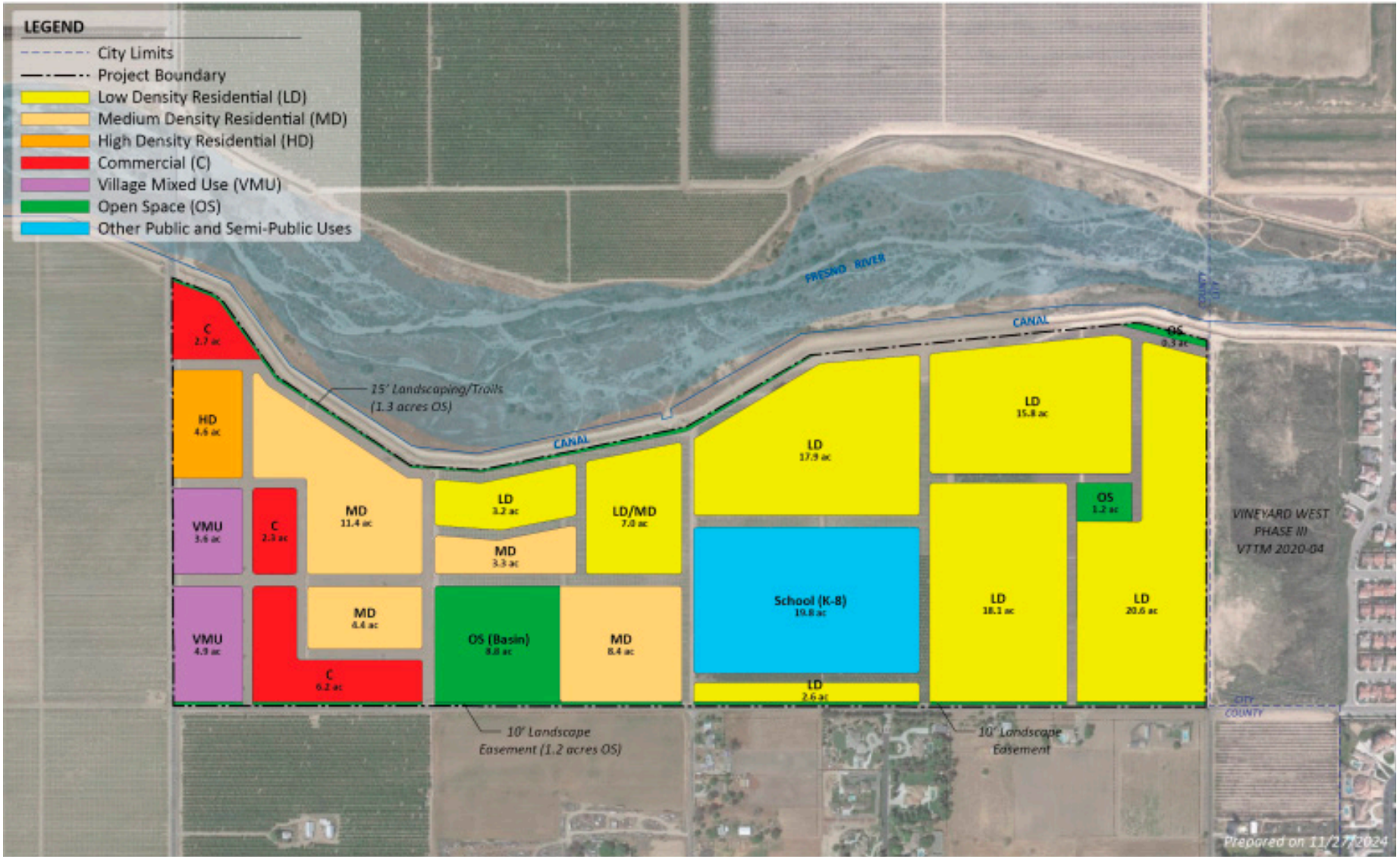

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FIGURE 2

NO SCALE

SOURCE: Crawford & Bowen Planning, 2025

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Granite Creek Precise Plan Project

Land Use Plan

Construction activities for the project would include site preparation, grading, building construction, paving, and architectural coating. The detailed project schedule is not yet known. Therefore, this analysis assumes that construction of the proposed project would begin in early 2026 and that the proposed project would be operational in 2035. This analysis also assumes that grading associated with the proposed project would be balanced on-site and no import or export of soil would be required. Grading, site preparation, and building activities would involve the use of standard earthmoving equipment such as large excavators, cranes, and other related equipment.

EXISTING LAND USES IN THE PROJECT AREA

For the purposes of this analysis, sensitive receptors are areas of the population that have an increased sensitivity to air pollution or environmental contaminants. Sensitive receptor locations include residences, schools, daycare centers, hospitals, parks, and similar uses that are sensitive to air quality. Impacts on sensitive receptors are of particular concern because those receptors are the population most vulnerable to the effects of air pollution.

The project site is surrounded primarily by agricultural uses with some residential uses. The areas adjacent to the project site include the following uses:

- **North:** Fresno River followed by agricultural uses
- **East:** Road 24 followed by existing single-family residential uses
- **South:** Avenue 14-1/2 followed by rural residential and agricultural uses
- **West:** Road 23 followed by agricultural uses

The closest sensitive receptors to the project site include single-family residences located across Avenue 14-1/2 at approximately 100 feet south as measured from the project boundary to the building façade. Other nearby sensitive receptors include the single-family residences located east of the project site at approximately 751 feet and the Lincoln Elementary School at approximately 1,470 feet of the project site.

BACKGROUND

This section provides current background information on air pollutants and their health effects. It also provides current regulatory background information, including information from the California Air Resources Board's (CARB) Air Quality and Land Use Handbook[3] (CARB Handbook), a description of the general health risks of toxics, and the significance criteria for project evaluation.

AIR POLLUTANTS AND HEALTH EFFECTS

Both State and federal governments have established health-based ambient air quality standards (California Ambient Air Quality Standards [CAAQS] and National Ambient Air Quality Standards [NAAQS], respectively) for six criteria air pollutants:[4] carbon monoxide (CO), ozone (O_3), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), lead (Pb), and suspended particulate matter (PM). In addition, the State has set standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. These standards are designed to protect the health and welfare of the populace with a reasonable margin of safety. Long-term exposure to elevated levels of criteria pollutants may result in adverse health effects. However, emission thresholds established by an air district are used to manage total regional emissions within an air basin based on the air basin's attainment status for criteria pollutants. These emission thresholds were established for individual projects that would contribute to regional emissions and pollutant concentrations and could adversely affect or delay the projected attainment target year for certain criteria pollutants.

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

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

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

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

Ozone

Rather than being directly emitted, O_3 (smog) is formed by photochemical reactions between NO_X and VOCs. O_3 is a pungent, colorless gas. Elevated ozone concentrations result in reduced lung function, particularly during vigorous physical activity. This health problem is particularly acute in sensitive receptors such as the sick, elderly, and young children. O_3 levels peak during the summer and early fall months.

Carbon Monoxide

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

Particulate Matter

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

Nitrogen Dioxide

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

Sulfur Dioxide

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

Lead

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

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

Volatile Organic Compounds

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

Toxic Air Contaminants

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

TACs do not have ambient air quality standards (AAQS), but are regulated by the USEPA, the CARB, and the SJVAPCD. In 1998, the CARB identified particulate matter from diesel-fueled engines as a TAC. The CARB has completed a risk management process that identified potential cancer risks for a range of activities using diesel-fueled engines.[5] High-volume freeways, stationary diesel engines, and facilities attracting heavy and constant diesel vehicle traffic (e.g., distribution centers and truck stops) were identified as posing the highest risk to adjacent receptors. Other facilities associated with increased risk include warehouse distribution centers, large retail or industrial facilities, high-volume transit centers, and schools with a high volume of bus traffic. Health risks from TACs are a function of both concentration and duration of exposure.

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

Although not specifically monitored, recent studies indicate that exposure to DPM may contribute significantly to a cancer risk (a risk of approximately 500 to 700 in 1,000,000) that is greater than all other measured TACs combined.[6] The technology for reducing DPM emissions from heavy-duty trucks is well established, and both State and federal agencies are moving aggressively to regulate engines and emission control systems to reduce and remediate diesel emissions. The CARB

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5 CARB. 2000. Stationary Source Division and Mobile Source Control Division. *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles.* October.

6 Ibid.

anticipated that by 2020, average statewide DPM concentrations will decrease by 85 percent from levels in 2000 with full implementation of the CARB's Diesel Risk Reduction Plan,[7] meaning that the statewide health risk from DPM is expected to decrease from 540 cancer cases in 1,000,000 to 21.5 cancer cases in 1,000,000. The CARB 2000 Diesel Risk Reduction Plan is still the most recent version and has not been updated.

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

Table A: Sources and Health Effects of Air Pollutants

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

Source: California Air Resources Board (2015).

[7] CARB. 2000. Stationary Source Division and Mobile Source Control Division. *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles.* October.

Table B: Federal and State Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards[1]		Federal Standards[2]		
		Concentration[3]	Method[4]	Primary[3,5]	Secondary[3,6]	Method[7]
Ozone (O_3)[8]	1-Hour	0.09 ppm (180 µg/m³)	Ultraviolet Photometry	–	Same as Primary Standard	Ultraviolet Photometry
	8-Hour	0.07 ppm (137 µg/m³)		0.070 ppm (137 µg/m³)		
Respirable Particulate Matter (PM_{10})[9]	24-Hour	50 µg/m³	Gravimetric or Beta Attenuation	150 µg/m³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m³		–		
Fine Particulate Matter ($PM_{2.5}$)[9]	24-Hour	-		35 µg/m³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m³	Gravimetric or Beta Attenuation	9.0 µg/m³ [15]		
Carbon Monoxide (CO)	8-Hour	9.0 ppm (10 mg/m³)	Non-Dispersive Infrared Photometry (NDIR)	9 ppm (10 mg/m³)	–	Non-Dispersive Infrared Photometry (NDIR)
	1-Hour	20 ppm (23 mg/m³)		35 ppm (40 mg/m³)		
	8-Hour (Lake Tahoe)	6 ppm (7 mg/m³)		–	–	
Nitrogen Dioxide (NO_2)[10]	Annual Arithmetic Mean	0.03 ppm (57 µg/m³)	Gas Phase Chemi-luminescence	53 ppb (100 µg/m³)	Same as Primary Standard	Gas Phase Chemi-luminescence
	1-Hour	0.18 ppm (339 µg/m³)		100 ppb (188 µg/m³)	-	
Lead (Pb)[12,13]	30-Day Average	1.5 µg/m³	Atomic Absorption	–	–	High-Volume Sampler and Atomic Absorption
	Calendar Quarter	–		1.5 µg/m³ (for certain areas)[12]	Same as Primary Standard	
	Rolling 3-Month Average[9]	–		0.15 µg/m³		
Sulfur Dioxide (SO_2)[11]	24-Hour	0.04 ppm (105 µg/m3)	Ultraviolet Fluorescence	0.14 ppm (for certain areas)	–	Ultraviolet Fluorescence; Spectro-photometry (Pararosaniline Method)
	3-Hour	–		–	0.5 ppm (1300 µg/m³)	
	1-Hour	0.25 ppm (655 µg/m³)		75 ppb (196 µg/m³)[11]	–	
	Annual Arithmetic Mean	–		0.030 ppm (for certain areas)[11]	–	
Visibility-Reducing Particles[12]	8-Hour	See footnote 14	Beta Attenuation and Transmittance through Filter Tape.	No Federal Standards		
Sulfates	24-Hour	25 µg/m³	Ion Chromatography			
Hydrogen Sulfide	1-Hour	0.03 ppm (42 µg/m³)	Ultraviolet Fluorescence			
Vinyl Chloride[10]	24-Hour	0.01 ppm (26 µg/m³)	Gas Chromatography			

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

Table notes are provided on the following page.

[1] California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1- and 24-hour), nitrogen dioxide, and particulate matter (PM_{10}, $PM_{2.5}$, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California Ambient Air Quality Standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

[2] National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over 3 years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m^3 is equal to or less than one. For $PM_{2.5}$, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over 3 years, are equal to or less than the standard. Contact USEPA for further clarification and current national policies.

[3] Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

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

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

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

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

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

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

[10] To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.

[11] On June 2, 2010, a new 1-hour SO_2 standard was established, and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.
Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.

[12] The CARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

[13] The national standard for lead was revised on October 15, 2008, to a rolling 3-month average. The 1978 lead standard (1.5 µg/m^3 as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

[14] In 1989, the CARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

[15] On February 7, 2024, the federal annual PM2.5 standard was revised from 12.0 µg/m3 to 9.0 µg/m3.

°C = degrees Celsius
µg/m^3 = micrograms per cubic meter
CARB = California Air Resources Board
mg/m^3 = milligrams per cubic meter
PM_{10} = particulate matter less than 10 microns in size
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
ppb = parts per billion
ppm = parts per million
USEPA = United States Environmental Protection Agency

ENERGY

Electricity

Electricity is a manmade resource. The production of electricity requires the consumption or conversion of energy resources (including water, wind, oil, gas, coal, solar, geothermal, and nuclear resources) into energy. Electricity is used for a variety of purposes (e.g., lighting, heating, cooling, and refrigeration, and for operating appliances, computers, electronics, machinery, and public transportation systems).

According to the most recent data available, in 2023, California's electricity was generated primarily by natural gas (43.7 percent) and renewable sources (56.1 percent), including large hydroelectric and nuclear. Coal and other unspecified sources made up less than 1 percent. Total electric generation in California in 2023 was 281,140 gigawatt-hours (GWh), down 2.1 percent from the 2022 total generation of 287,220 GWh.[8]

The project site is within the service territory of Pacific Gas and Electric (PG&E) Company. According to the California Energy Commission (CEC), total electricity consumption in the PG&E service area in 2022 was 77,886.99 gigawatt hours (GWh) (27,209.2 GWh for the residential sector and 50,677.79 GWh for the nonresidential sector).[9] Total electricity consumption in Madera County in 2022 was 1,808.2 GWh (or 1,808,229,048 kilowatt-hours [kWh]).[10]

Natural Gas

Natural gas is a non-renewable fossil fuel. Fossil fuels are formed when layers of decomposing plant and animal matter are exposed to intense heat and pressure under the surface of the Earth over millions of years. Natural gas is a combustible mixture of hydrocarbon compounds (primarily methane) that is used as a fuel source. Natural gas is found in naturally occurring reservoirs in deep underground rock formations. Natural gas is used for a variety of uses (e.g., heating buildings, generating electricity, and powering appliances such as stoves, washing machines and dryers, gas fireplaces, and gas grills).

Natural gas consumed in California is used for electricity generation (45 percent), residential uses (21 percent), industrial uses (25 percent), and commercial uses (9 percent). California continues to depend on out-of-state imports for nearly 90 percent of its natural gas supply.[11]

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8 California Energy Commission (CEC). 2023. *2023 Total System Electric Generation*. Website: 2023 Total System Electric Generation (accessed September 2025).

9 California Energy Commission. 2022 Electricity Consumption by Entity. Website: http://www.ecdms.energy.ca.gov/elecbyutil.aspx (accessed September 2025).

10 CEC. 2020a. Electricity Consumption by County and Entity. Websites: http://www.ecdms.energy.ca.gov/elecbycounty.aspx and http://www.ecdms.energy.ca.gov/elecbyutil.aspx (accessed September 2025).

11 CEC. 2021b. Supply and Demand of Natural Gas in California. Website: https://www.energy.ca.gov/data-reports/energy-almanac/californias-natural-gas-market/supply-and-demand-natural-gas-california (accessed September 2025).

PG&E is the natural gas service provider for the city of Fresno. According to the CEC, total natural gas consumption in the PG&E service area in 2022 was 4,421.63 million therms (1,856.08 million therms for the residential sector and 2,565.55 million therms for the nonresidential sector).[12]Total natural gas consumption in Madera County in 2022 was 48 million therms (48,541,390 therms).[13]

Fuel

Petroleum is also a non-renewable fossil fuel. Petroleum is a thick, flammable, yellow-to-black mixture of gaseous, liquid, and solid hydrocarbons that occurs naturally beneath the earth's surface. Petroleum is primarily recovered by oil drilling. It is refined into a large number of consumer products, primarily fuel oil, gasoline, and diesel.

Gasoline is the most used transportation fuel in California, with 97 percent of all gasoline being consumed by light-duty cars, pickup trucks, and sport utility vehicles. According to the most recent data available, in 2021, total gasoline consumption in California was 289,918 thousand barrels (12.2 billion gallons) or 1,464.7 trillion British Thermal Units (BTU).[14] Of the total gasoline consumption, 273,289 thousand barrels (11.5 billion gallons) or 1,380.7 trillion BTU were consumed for transportation.[15] Based on fuel consumption obtained from CARB's California Emissions Factor Model, Version 2025 (EMFAC2025), approximately 63.3 million gallons of gasoline and approximately 46.3 million gallons of diesel will be consumed from vehicle trips in Madera County in 2025.

GREENHOUSE GASES

Global climate change is the observed increase in the average temperature of the Earth's atmosphere and oceans in recent decades. The Earth's average near-surface atmospheric temperature rose 0.6 ± 0.2 degrees Celsius (°C) or 1.1 ± 0.4 degrees Fahrenheit (°F) in the 20th century. The prevailing scientific opinion on climate change is that most of the warming observed over the last 50 years is attributable to human activities. The increased amounts of carbon dioxide (CO_2) and other GHGs are the primary causes of the human-induced component of warming. GHGs are released by the burning of fossil fuels, land clearing, agriculture, and other activities, and lead to an increase in the greenhouse effect.[16]

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12 California Energy Commission. 2022 Gas Consumption by Entity. Website: https://ecdms.energy.ca.gov/gasbyutil.aspx (accessed April 2025).

13 CEC. 2020b. Gas Consumption by County and Entity. Website: http://www.ecdms.energy.ca.gov/gasbycounty.aspx and http://www.ecdms.energy.ca.gov/gasbyutil.aspx (accessed September 2025).

14 U.S. Energy Information Administration (EIA). 2022. California State Profile and Energy Estimates, Data. Website: www.eia.gov/state/seds/data.php?incfile=/state/seds/sep_fuel/html/fuel_mg.html&sid=CA (accessed September 2025).

15 Ibid.

16 The temperature on Earth is regulated by a system commonly known as the "greenhouse effect." Just as the glass in a greenhouse lets heat from sunlight in and reduces the heat escaping, greenhouse gases like carbon dioxide, methane, and nitrous oxide in the atmosphere keep the Earth at a relatively even temperature. Without the greenhouse effect, the Earth would be a frozen globe; thus, although an excess of greenhouse gas results in global warming, the naturally occurring greenhouse effect is necessary to keep our planet at a comfortable temperature.

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

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

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

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

These gases vary considerably in terms of Global Warming Potential (GWP), which is a concept developed to compare the ability of each GHG to trap heat in the atmosphere relative to another gas. The global warming potential is based on several factors, including the relative effectiveness of a gas to absorb infrared radiation and length of time that the gas remains in the atmosphere (“atmospheric lifetime”). The GWP of each gas is measured relative to carbon dioxide, the most abundant GHG; the definition of GWP for a particular GHG is the ratio of heat trapped by one unit mass of the GHG to the ratio of heat trapped by one unit mass of CO_2 over a specified time period. GHG emissions are typically measured in terms of pounds or tons of CO_2 equivalents (CO_2e). Table C shows the GWP for each type of GHG. For example, SF_6 is 23,500 times more potent at contributing to global warming than CO_2.

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

Carbon Dioxide

In the atmosphere, carbon generally exists in its oxidized form, as CO_2. Natural sources of CO_2 include the respiration (breathing) of humans, animals, and plants, volcanic out gassing, decomposition of organic matter and evaporation from the oceans. Human caused sources of CO_2 include the combustion of fossil fuels and wood, waste incineration, mineral production, and deforestation. Natural sources release approximately 150 billion tons of CO_2 each year, far

Table C: Global Warming Potential of Greenhouse Gases

Gas	Atmospheric Lifetime (Years)	Global Warming Potential (100-Year Time Horizon)
Carbon Dioxide	50-200	1
Methane	12	28
Nitrous Oxide	114	265
HFC-23	270	12,400
HFC-134a	14	1,300
HFC-152a	1.4	138
PFC: Tetrafluoromethane (CF_4)	50,000	6,630
PFC: Hexafluoromethane (C_2F_6)	10,000	11,100
Sulfur Hexafluoride (SF_6)	3,200	23,500

Source: *Intergovernmental Panel on Climate Change (IPCC) Fifth Assessment Report* (AR5) (IPCC 2014).
CARB = California Air Resources Board
HFC = hydrofluorocarbons
PFC = perfluorocarbons

outweighing the 7 billion tons of manmade emissions of CO_2 each year. Nevertheless, natural removal processes, such as photosynthesis by land- and ocean-dwelling plant species, cannot keep pace with this extra input of manmade CO_2, and consequently, the gas is building up in the atmosphere.

In 2022, total annual CO_2 accounted for approximately 81 percent of California's overall GHG emissions.[17] Transportation is the single largest source of CO_2 in California, which is primarily comprised of on-road travel. Electricity production, industrial and residential sources also make important contributions to CO_2 emissions in California.

Methane

CH_4 is produced when organic matter decomposes in environments lacking sufficient oxygen. Natural sources include wetlands, termites, and oceans. Decomposition occurring in landfills accounts for the majority of human-generated CH_4 emissions in California and in the United States as a whole. Agricultural processes such as intestinal fermentation, manure management, and rice cultivation are also significant sources of CH_4 in California. Total annual emissions of CH_4 accounted for approximately 9.8 percent of GHG emissions in California in 2022.[18]

Nitrous Oxide

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

17 CARB. 2024. Assembly Bill 32 Greenhouse Gas Emissions Inventory for 2000-2022 – by Gas
18 Ibid

human-generated N_2O emissions in California. Nitrous oxide emissions accounted for approximately 3.4 percent of GHG emissions in California in 2022.[19]

Hydrofluorocarbons, Perfluorocarbons, and Sulfur Hexafluoride

HFCs are primarily used as substitutes for ozone-depleting substances regulated under the Montreal Protocol.[20] PFCs and SF_6 are emitted from various industrial processes, including aluminum smelting, semiconductor manufacturing, electric power transmission and distribution, and magnesium casting. There is no aluminum or magnesium production in California; however, the rapid growth in the semiconductor industry leads to greater use of PFCs. HFCs, PFCs, and SF_6 accounted for about 5.6 percent of GHG emissions in California in 2021.[21]

Black Carbon

Black carbon is the most strongly light-absorbing component of PM formed by burning fossil fuels such as coal, diesel, and biomass. Black carbon is emitted directly into the atmosphere in the form of $PM_{2.5}$ and is the most effective form of PM, by mass, at absorbing solar energy. Per unit of mass in the atmosphere, black carbon can absorb one million times more energy than CO_2.[22] Black carbon contributes to climate change both directly, such as absorbing sunlight, and indirectly, such as affecting cloud formation. However, because black carbon is short-lived in the atmosphere, it can be difficult to quantify its effect on global warming.

Most U.S. emissions of black carbon come from mobile sources (52 percent), particularly from diesel-fueled vehicles. The other major source of black carbon is open biomass burning, including wildfires, although residential heating and industry also contribute. The CARB estimates that the annual black carbon emissions in California will be reduced approximately 50 percent below 2013 levels by 2030.[23]

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19 Ibid.

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

21 CARB. 2022. op. cit.

22 United States Environmental Protection Agency (USEPA). 2015. Black Carbon, Basic Information. February 14, 2017. Website: 19january2017snapshot.epa.gov/www3/airquality/blackcarbon/basic.html (accessed September 2025).

23 CARB. 2017b. *Short-Lived Climate Pollutant Reduction Strategy.* March. Website: https://ww2.arb.ca.gov/sites/default/files/2020-07/final_SLCP_strategy.pdf (accessed September 2025).

REGULATORY SETTING

AIR QUALITY REGULATIONS

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

Federal Regulations

Federal Clean Air Act

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

State Regulations

California Clean Air Act

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

California Air Resources Board

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

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

The California Air Resources Board Handbook. The CARB has developed an Air Quality and Land Use Handbook[24] which is intended to serve as a general reference guide for evaluating and reducing air pollution impacts associated with new projects that go through the land use decision-making process. According to the CARB Handbook, air pollution studies have shown an association between respiratory and other non-cancer health effects and proximity to high traffic roadways. Other studies have shown that diesel exhaust and other cancer-causing chemicals emitted from cars and trucks are responsible for much of the overall cancer risk from airborne toxics in California. The CARB Handbook recommends that county and city planning agencies strongly consider proximity to these sources when finding new locations for "sensitive" land uses such as homes, medical facilities, daycare centers, schools, and playgrounds.

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

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

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

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

Regional Regulations

San Joaquin Valley Air Pollution Control District

The SJVAPCD is responsible for controlling emissions primarily from stationary sources. The SJVAPCD maintains air quality monitoring stations throughout the basin. The SJVAPCD, in coordination with the eight county transportation agencies, is also responsible for developing, updating, and

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

implementing air quality attainment plans for the San Joaquin Valley Air Basin (SJVAB). The SJVAPCD also has roles under the California Environmental Quality Act (CEQA).

Guidance for Assessing and Mitigating Air Quality Impacts. The SJVAPCD prepared the GAMAQI to assist lead agencies and project applicants in evaluating the potential air quality impacts of projects in the SJVAB. The GAMAQI provides SJVAPCD-recommended procedures for evaluating potential air quality impacts during the CEQA environmental review process. The GAMAQI provides guidance on evaluating short-term (construction) and long-term (operational) air emissions. The most recent version of the GAMAQI, adopted on March 19, 2015, was used in this evaluation. It contains guidance on the following:

- Criteria and thresholds for determining whether a project may have a significant adverse air quality impact
- Specific procedures and modeling protocols for quantifying and analyzing air quality impacts
- Methods to mitigate air quality impacts
- Information for use in air quality assessments and environmental documents, including air quality, regulatory setting, climate, and topography data

Current Air Quality Plans. The SJVAPCD is responsible for formulating and implementing the Air Quality Management Plan (AQMP) for the SJVAB. The main purpose of an AQMP is to bring the area into compliance with federal and State air quality standards. The SJVAPCD does not have one single AQMP for criteria pollutants, rather the SJVAPCD address each criteria pollutant with its own Plan. The SJVAPCD has the following AQMPs:

- 2022 Plan for the 2015 8-Hour Ozone Standard
- 2018 Plan for the 1997, 2006, and 2012 $PM_{2.5}$ Standards
- 2016 Moderate Area Plan for the 2012 $PM_{2.5}$ Standard
- 2016 Plan for the 2008 8-Hour Ozone Standard
- 2013 Plan for the Revoked 1-Hour Ozone Standard
- 2007 PM_{10} Maintenance Plan
- 2004 Revision to the California State Implementation Plan for Carbon Monoxide

The SJVAPCD's AQMPs incorporate the latest scientific and technological information and planning assumptions, including updated emission inventory methodologies for various source categories. The SJVAPCD's AQMPs included the integrated strategies and measures needed to meet the national ambient air quality standards (NAAQS), implementation of new technology measures, and demonstrations of attainment of the 1-hour and 8-hour ozone NAAQS as well as the latest 24-hour and annual $PM_{2.5}$ standards.

The SJVAPCD's current air quality plans are discussed below.

Ozone Plans. The SJVAPCD's Governing Board approved the 2022 Plan for the 2015 8-hour ozone standard on December 15, 2022. The comprehensive strategy in this plan will reduce NO_x

emissions by 72 percent by 2037 and will bring the San Joaquin Valley into attainment of USEPA's 2015 8-hour ozone standard as expeditiously as practicable by the 2037 attainment deadline.

Particulate Matter Plans. The SJVAPCD adopted the 2007 PM_{10} Maintenance Plan in September 2007 to assure the SJVAB's continued attainment of the USEPA's PM_{10} standard. The USEPA designated the valley as an attainment/maintenance area for PM_{10}.

The 2008 $PM_{2.5}$ Plan builds upon the comprehensive strategy adopted in the 2007 Ozone Plan to bring the SJVAB into attainment of the 1997 national standards for $PM_{2.5}$. The USEPA has identified NO_x and SO_2 as precursors that must be addressed in air quality plans for the 1997 $PM_{2.5}$ standards. The 2008 $PM_{2.5}$ Plan is a continuation of the SJVACPD's strategy to improve the air quality in the SJVAB.

The SJVAPCD prepared the 2012 $PM_{2.5}$ Plan to bring the San Joaquin Valley into attainment of the USEPA's most recent 24-hour $PM_{2.5}$ standard of 35 $\mu g/m^3$. The CARB approved the SJVAPCD's 2012 $PM_{2.5}$ Plan at a public hearing on January 24, 2013. The plan, approved by the SJVAPCD Governing Board on December 20, 2012, will bring the San Joaquin Valley into attainment of USEPA's 1997 $PM_{2.5}$ standard as expeditiously as practicable, but no later than, December 31, 2020.

The SJVAPCD adopted the 2018 Plan for the 1997, 2006, and 2012 $PM_{2.5}$ federal standards on November 15, 2018. This plan addresses the USEPA federal 1997 annual $PM_{2.5}$ standard of 15 $\mu g/m^3$ and 24-hour $PM_{2.5}$ standard of 65 $\mu g/m^3$, the 2006 24-hour $PM_{2.5}$ standard of 35 $\mu g/m^3$, and the 2012 annual $PM_{2.5}$ standard of 12 $\mu g/m^3$. This plan demonstrates attainment of the federal $PM_{2.5}$ standards as expeditiously as practicable.

Rules and Regulations. The SJVAPCD rules and regulations that may apply to the proposed project include, but are not limited to, the following:

- **Rule 8011—General Requirements: Fugitive Dust Emission Sources.** Fugitive dust regulations are applicable to outdoor fugitive dust sources. Operations, including construction operations, must control fugitive dust emissions in accordance with SJVAPCD Regulation VIII. According to Rule 8011, the SJVAPCD requires the implementation of control measures for fugitive dust emission sources.

- **Regulation VIII—Fugitive PM_{10} Prohibitions.** Rules 8011–8081 are designed to reduce PM_{10} emissions (predominantly dust/dirt) generated by human activity, including construction and demolition activities, road construction, bulk materials storage, paved and unpaved roads, and carryout and track out. All development projects that involve soil disturbance are subject to at least one provision of the Regulation VIII series of rules.

- **Rule 2201—New and Modified Stationary Source Review Rule.** This rule provides the review of new and modified stationary sources of air pollution to operate without interfering with the attainment or maintenance of ambient air quality standards and results in no net increase in emissions above specified thresholds.

- **Rule 4102—Nuisance.** The purpose of this rule is to protect the health and safety of the public, and applies to any source operation that emits or may emit air contaminants or other materials.

- **Rule 4601—Architectural Coatings.** The purpose of this rule is to limit VOC emissions from architectural coatings. Emissions are reduced by limits on VOC content and providing requirements on coatings storage, cleanup, and labeling.

- **Rule 4901—Wood Burning Fireplaces and Wood Burning Heaters.** The purpose of this rule is to limit emissions of carbon monoxide and particulate matter from wood burning fireplaces, wood burning heaters, and outdoor wood burning devices.

- **Rule 9510—Indirect Source Review.** This rule reduces the impact of NO_x and PM_{10} emissions from new development projects. The rule places application and emission reduction requirements on development projects meeting applicability criteria in order to reduce emissions through on-site mitigation, off-site SJVAPCD-administered projects, or a combination of the two. Compliance with SJVAPCD Rule 9510 reduces emissions impacts through incorporation of on-site measures as well as payment of an off-site fee that funds emission reduction projects in the SJVAB. The emissions analysis for Rule 9510 is detailed and is dependent on the exact project design that is expected to be constructed or installed. Compliance with Rule 9510 is separate from the CEQA process, though the control measures used to comply with Rule 9510 may be used to mitigate significant air quality impacts.

Local Regulations

Madera General Plan

As noted previously, the project site will be annexed into the City of Madera prior to development. As a result, the Madera General Plan is the applicable general plan.

The City addresses air quality in the Conservation Element of its General Plan.[25] The Conservation Element includes goals and policies that work to improve air quality by meeting or exceeding all State and federal standards. The following policies from the Conservation Element are applicable to the proposed project:

- **Policy CON-28.** Residential development projects and projects categorized as sensitive receptors shall be located an adequate distance from existing and potential sources of toxic emissions such as freeways, major arterials, industrial sites, and hazardous material locations. “Adequate distance” will be based on site-specific conditions, on the types and amounts of potential toxic emissions, and other factors.

- **Policy CON-30.** The creation of dust during construction/demolition activities should be reduced to the extent feasible.

[25] City of Madera. 2009. *City of Madera General Plan – Conservation Element*. October. Website: https://www.madera.gov/media/5iifxhqp/city-of-madera-gp-12-04-20.pdf (accessed January 2026).

- **Policy CON-31**. The City seeks to reduce the urban heat island effect in the City, which causes increased temperatures and increases in ground level ozone formation through methods such as:
    - Increasing the amount of tree coverage in the City.
    - Green roofs and rooftop gardens
    - The use of reflective treatments on roofs (such as those which qualify for the EPA/DOE's Energy Start Rating.
- **Policy CON-34.** The City shall consider air quality when making changes to planned land uses and transportation systems.

ENERGY

Federal and State agencies regulate energy use and consumption through various means and programs. On the federal level, the United States Department of Transportation (USDOT), the United States Department of Energy, and the USEPA are three federal agencies with substantial influence over energy policies and programs. Generally, federal agencies influence and regulate transportation energy consumption through establishment and enforcement of fuel economy standards for automobiles and light trucks, through funding of energy-related research and development projects, and through funding for transportation infrastructure improvements. On the State level, the California Public Utilities Commission (CPUC) and the CEC are two agencies with authority over different aspects of energy.

The CPUC regulates privately owned electric, natural gas, telecommunications, water, railroad, rail transit, and passenger transportation companies and serves the public interest by protecting consumers and ensuring the provision of safe, reliable utility service and infrastructure at reasonable rates, with a commitment to environmental enhancement and a healthy California economy.

The CEC is the State's primary energy policy and planning agency. The CEC forecasts future energy needs, promotes energy efficiency, supports energy research, develops renewable energy resources, and plans for/directs State response to energy emergencies. The applicable federal, State, regional, and local regulatory framework is discussed below.

Federal Regulations

Energy Policy Act of 2005

The Energy Policy Act of 2005 seeks to reduce reliance on nonrenewable energy resources and provide incentives to reduce current demand on these resources. For example, under this Act, consumers and businesses can obtain federal tax credits for purchasing fuel-efficient appliances and products (including hybrid vehicles), building energy-efficient buildings, and improving the energy efficiency of commercial buildings. Additionally, tax credits are available for the installation of qualified fuel cells, stationary microturbine power plants, and solar power equipment.

Corporate Average Fuel Economy Standards

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

State Regulations

Assembly Bill 1575, Warren-Alquist Act

In 1975, largely in response to the oil crisis of the 1970s, the State Legislature adopted AB 1575 (also known as the Warren-Alquist Act), which created the CEC. The statutory mission of the CEC is to forecast future energy needs; license power plants of 50 megawatts (MW) or larger; develop energy technologies and renewable energy resources; plan for and direct State responses to energy emergencies; and, perhaps most importantly, promote energy efficiency through the adoption and enforcement of appliance and building energy efficiency standards. AB 1575 also amended Public Resources Code (PRC) Section 21100(b)(3) and *State CEQA Guidelines* Section 15126.4 to require Environmental Impact Reports (EIRs) to include, where relevant, mitigation measures proposed to minimize the wasteful, inefficient, and unnecessary consumption of energy caused by a project. Thereafter, the State Resources Agency created Appendix F to the *State CEQA Guidelines*. Appendix F assists EIR preparers in determining whether a project will result in the inefficient, wasteful, and unnecessary consumption of energy. Appendix F of the *State CEQA Guidelines* also states that the goal of conserving energy implies the wise and efficient use of energy and the means of achieving this goal, including (1) decreasing overall per capita energy consumption; (2) decreasing reliance on fossil fuels such as coal, natural gas, and oil; and (3) increasing reliance on renewable energy sources.

Senate Bill 1389, Energy: Planning and Forecasting

In 2002, the State Legislature passed SB 1389, which required the CEC to develop an integrated energy plan every 2 years for electricity, natural gas, and transportation fuels for the California Energy Policy Report. The plan calls for the State to assist in the transformation of the transportation system to improve air quality, reduce congestion, and increase the efficient use of fuel supplies with the least environmental and energy costs. To further this policy, the plan identifies a number of strategies, including assistance to public agencies and fleet operators in implementing incentive programs for zero emission vehicles (ZEVs) and their infrastructure needs, and encouragement of urban designs that reduce vehicle miles traveled (VMT) and accommodate pedestrian and bicycle access.

In compliance with the requirements of SB 1389, the CEC adopts an Integrated Energy Policy Report every 2 years and an update every other year. The most recently adopted report includes the *2023*

Integrated Energy Policy Report.[26] The *Integrated Energy Policy Report* covers a broad range of topics, including decarbonizing buildings, integrating renewables, energy efficiency, energy equity, integrating renewable energy, updates on Southern California electricity reliability, climate adaptation activities for the energy sector, natural gas assessment, transportation energy demand forecast, and the California Energy Demand Forecast. The *Integrated Energy Policy Report* provides the results of the CEC's assessments of a variety of energy issues facing California. Many of these issues will require action if the State is to meet its climate, energy, air quality, and other environmental goals while maintaining energy reliability and controlling costs.

Renewable Portfolio Standard

SB 1078 established the California Renewable Portfolio Standards program in 2002. SB 1078 initially required that 20 percent of electricity retail sales be served by renewable resources by 2017; however, this standard has become more stringent over time. In 2006, SB 107 accelerated the standard by requiring that the 20 percent mandate be met by 2010. In April 2011, SB 2 required that 33 percent of electricity retail sales be served by renewable resources by 2020. In 2015, SB 350 established tiered increases to the Renewable Portfolio Standards of 40 percent by 2024, 45 percent by 2027, and 50 percent by 2030. In 2018, SB 100 increased the requirement to 60 percent by 2030 and required that all the State's electricity come from carbon-free resources by 2045. SB 100 took effect on January 1, 2019.[27]

California Code

Energy consumption by new buildings in California is regulated by the Building Energy Efficiency Standards, in Part 6 of Title 24 of the California Code of Regulations (CCR), known as the Energy Code. The CEC first adopted the Building Energy Efficiency Standards for Residential and Non-residential Buildings in 1978 in response to a legislative mandate to reduce energy consumption in the State. The Energy Code is updated every 3 years, with the most recent update consisting of the 2022 Energy Code that became effective January 1, 2023. Mid-cycle supplements to the 2022 Code will become effective on July 1, 2024. The efficiency standards apply to both new construction and rehabilitation of both residential and nonresidential buildings, and regulate energy consumed for heating, cooling, ventilation, water heating, and lighting. The building efficiency standards are enforced through the local building permit process. Local government agencies may adopt and enforce energy standards for new buildings, provided these standards meet or exceed those provided in the Energy Code.

California Green Building Standards Code (CALGreen Code)

In 2010, the California Building Standards Commission (CBSC) adopted Part 11 of the Title 24 Building Energy Efficiency Standards, referred to as the California Green Building Standards Code (CALGreen Code). The CALGreen Code took effect on January 1, 2011. The CALGreen Code is updated

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26 CEC. 2023. *2023 Integrated Energy Policy Report*. California Energy Commission. Docket Number: 23-IEPR-01.

27 California Public Utilities Commission (CPUC). 2019. Renewables Portfolio Standard Program. Website: cpuc.ca.gov/rps (accessed September 2025).

on a regular basis, with the most recent update consisting of the 2025 CALGreen Code standards that became effective January 1, 2026. The CALGreen Code established mandatory measures for residential and nonresidential building construction and encouraged sustainable construction practices in the following five categories: (1) planning and design, (2) energy efficiency, (3) water efficiency and conservation, (4) material conservation and resource efficiency, and (5) indoor environmental quality. Although the CALGreen Code was adopted as part of the State's efforts to reduce GHG emissions, the CALGreen Code standards have co-benefits of reducing energy consumption from residential and nonresidential buildings subject to the standard.

California Energy Efficiency Strategic Plan

On September 18, 2008, the CPUC adopted California's first Long-Term Energy Efficiency Strategic Plan, presenting a roadmap for energy efficiency in California. The Strategic Plan was updated in 2011. The Plan articulates a long-term vision and goals for each economic sector and identifies specific near-term, mid-term, and long-term strategies to assist in achieving those goals. The Plan also reiterates the following four specific programmatic goals known as the "Big Bold Energy Efficiency Strategies" that were established by the CPUC in Decisions D.07-10-032 and D.07-12-051:

- All new residential construction will be zero net energy (ZNE) by 2020.
- All new commercial construction will be ZNE by 2030.
- 50 percent of commercial buildings will be retrofitted to ZNE by 2030.
- 50 percent of new major renovations of State buildings will be ZNE by 2025.

Regional Regulations

There are no regional regulations that apply to the proposed project.

Local Regulations

Madera General Plan

As noted previously, the project site will be annexed into the City of Madera prior to development. As a result, the Madera General Plan is the applicable general plan.

The City of Madera addresses energy in the Conservation Element of the City's General Plan.[28] The Conservation Element contains policies that work to conserve energy resources through the use of available technology and conservation practices. The following policies are applicable to the proposed project:

- **Policy CON-40.** All public and private development—including homes, commercial, and industrial—should be designed to be energy-efficient.

[28] City of Madera. 2009. *City of Madera General Plan – Conservation Element*. October. Website: https://www.madera.gov/media/5iifxhqp/city-of-madera-gp-12-04-20.pdf (accessed January 2026).

- **Policy CON-44.** The City supports the use of green building practices in the planning, design, construction, management, renovation, operations, and demolition of all private buildings and projects, including:
    - Land planning and design techniques that preserve the natural environment and minimize disturbance of the land.
    - Site development to reduce erosion, minimize paved surfaces and runoff and protect vegetation, especially trees.
    - Water conservation indoors and outdoors.
    - Energy efficiency in heating/cooling systems, appliances, lighting and the building envelope.
    - Selection of materials based on recyclability, durability and the amount of energy used to create the material.
    - Waste reduction, reuse and recycling during construction and throughout the life of the project.
    - Other new aspects of green design and construction included in LEED or other certification programs.
    - Control nighttime lighting to lower energy use, reduce glare, and prevent illumination of the night sky.
- **Policy CON- 45.** The City supports the use of green building practices in the planning, design, construction, management, renovation, operations, and demolition of facilities constructed, owned, managed, or financed by the City. All new building projects (projects intended for human occupancy) involving the use of local public funds should incorporate green building practices. Except as dictated by unique circumstances associated with a given project, the typical standard for green building will be the equivalent of the "LEED Silver Standard".

GREENHOUSE GAS REGULATORY SETTING

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

Federal Regulations

The United States has historically had a voluntary approach to reducing GHG emissions. However, on April 2, 2007, the United States Supreme Court ruled that the USEPA has the authority to regulate CO_2 emissions under the CAA.

While there currently are no adopted federal regulations for the control or reduction of GHG emissions, the USEPA commenced several actions in 2009 to implement a regulatory approach to

global climate change, including the 2009 USEPA final rule for mandatory reporting of GHGs from large GHG emission sources in the United States. Additionally, the USEPA Administrator signed an endangerment finding action in 2009 under the CAA, finding that seven GHGs (CO_2, CH_4, N_2O, HFCs, NF_3, PFCs, and SF_6) constitute a threat to public health and welfare, and that the combined emissions from motor vehicles cause and contribute to global climate change, leading to national GHG emission standards.

State Regulations

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

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

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

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

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

released a second update to the Scoping Plan, the 2017 Scoping Plan,[29] to reflect the 2030 target set by EO B-30-15 and codified by SB 32.

Most recently, the 2022 Scoping Plan[30] was approved in December 2022 and assesses progress towards achieving the SB 32 2030 target and lay out a path to achieve carbon neutrality no later than 2045. The 2022 Scoping Plan focuses on outcomes needed to achieve carbon neutrality by assessing paths for clean technology, energy deployment, natural and working lands, and others, and is designed to meet the State's long-term climate objectives and support a range of economic, environmental, energy security, environmental justice, and public health priorities.

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

Senate Bill 375 (2008)

Signed into law on October 1, 2008, SB 375 supplements GHG reductions from new vehicle technology and fuel standards with reductions from more efficient land use patterns and improved transportation. Under the law, the CARB approved GHG reduction targets in February 2011 for California's 18 federally designated regional planning bodies, known as Metropolitan Planning Organizations (MPOs). The CARB may update the targets every 4 years and must update them every 8 years. MPOs, in turn, must demonstrate how their plans, policies, and transportation investments meet the targets set by the CARB through SCSs. The SCSs are included with the Regional Transportation Plan, a report required by State law. However, if an MPO finds that its SCS will not meet the GHG reduction target, it may prepare an Alternative Planning Strategy (APS). The APS identifies the impediments to achieving the targets.

Executive Order B-30-15 (2015)

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

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

[29] CARB. 2017a. *California's 2017 Climate Change Scoping Plan*. November.

[30] CARB. 2021. *2022 Scoping Plan Update*. May 10. Website: https://ww2.arb.ca.gov/sites/default/files/2022-12/2022-sp.pdf (accessed September 2025).

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

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

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

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

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

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

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

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

Senate Bill 100

On September 10, 2018, Governor Brown signed SB 100, which raises California's Renewables Portfolio Standard (RPS) requirements to 60 percent by 2030, with interim targets, and 100 percent by 2045. The bill also establishes a State policy that eligible renewable energy resources and zero-carbon resources supply 100 percent of all retail sales of electricity to California end-use customers and 100 percent of electricity procured to serve all State agencies by December 31, 2045. Under the

bill, the State cannot increase carbon emissions elsewhere in the western grid or allow resource shuffling to achieve the 100 percent carbon-free electricity target.

Executive Order B-55-18

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

Assembly Bill 1279

AB 1279 was signed in September of 2022, and codifies the State goals of achieving net carbon neutrality by 2045 and maintaining net negative GHG emissions thereafter. This bill also requires California to reduce statewide GHG emissions by 85 percent compared to 1990 levels by 2045 and directs CARB to work with relevant state agencies to achieve these goals.

Executive Order N-79-20

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

Regional Regulations

San Joaquin Valley Air Pollution Control District

The City of Madera is within the SJVAB, which is under the jurisdiction of the SJVAPCD. The SJVAPCD has regulatory authority over certain stationary and industrial GHG emission sources and provides voluntary technical guidance on addressing GHGs for other emission sources in a CEQA context. SJVAPCD initiatives related to GHGs are described below:

Climate Change Action Plan. The San Joaquin Valley Air Pollution Control District Climate Change Action Plan (CCAP) was adopted on August 21, 2008. The CCAP includes suggested best performance standards for proposed development projects. However, the SJVAPCD's CCAP was adopted in 2009 and was prepared based on the State's 2020 GHG targets, which are now superseded by State policies (i.e., the 2022 California Green Building Standards Code [CALGreen Code]) and the 2030 GHG targets, established in SB 32.

Madera County Transportation Commission

Madera County Transportation Commission (MCTC) is the Regional Transportation Planning Agency, Metropolitan Planning Organization (MPO), and the Local Transportation Commission for Madera

County. The Commission is responsible for the development and adoption of the Regional Transportation Plan and Transportation Improvement Program.

Regional Transportation Plan/Sustainable Communities Strategy. Regional Transportation Plans (RTPs) are State-mandated plans that identify long-term transportation needs for a region's transportation network. MCTC 2022 RTP[31] charts the long-range vision of regional transportation in Madera County through 2046. The RTP identifies existing and future transportation-related needs, while considering all modes of travel, analyzing alternative solutions, and identifying priorities for the anticipated available funding for projects and multiple programs included within the RTP. Senate Bill (SB) 375, which went into effect in 2009, added statutes to the California Government Code to encourage planning practices that create sustainable communities. It calls for each metropolitan planning organization to prepare a Sustainable Communities Strategy (SCS) as an integrated element of the RTP that is to be updated every 4 years. The SCS is intended to show how integrated land use and transportation planning can lead to lower GHG emissions from automobiles and light trucks. MCTC has included the SCS in its 2022 RTP.

Local Regulations

Madera General Plan

As noted previously, the project site will be annexed into the City of Madera prior to development. As a result, the Madera General Plan is the applicable general plan.

The City of Madera addresses GHGs in the Conservation Element of its General Plan.[32] The Conservation Element includes goals and policies that work to reduce emissions of greenhouse gases that contribute to global climate change in accord with federal and State law. The following policies from the Conservation Element are related to GHGs and are applicable to the proposed project:

- **Policy CON-35.** The City shall implement and enforce State and Regional regulations pertaining to greenhouse gas emissions and climate change
- **Policy CON-36.** The City supports local, regional, and statewide efforts to reduce the emission of greenhouse gases linked to climate change.
- **Policy CON-37.** The City shall collaborate and coordinate with regional organizations and local jurisdictions within the City to reduce greenhouse gas emissions.
- **Policy CON-38.** The City shall partner with local agencies and organizations to coordinate outreach and education regarding the effects of greenhouse gas emissions and climate change.

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31 Madera County Transportation Commission. 2022. *2022 Regional Transportation Plan and Sustainable Communities Strategy.* August 31. Website: https://www.maderactc.org/transportation/page/your-madera-2046-rtpscs (accessed September 2025).

32 City of Madera. 2009. *City of Madera General Plan – Conservation Element*. October. Website: https://www.madera.gov/media/5iifxhqp/city-of-madera-gp-12-04-20.pdf (accessed January 2026).

- **Policy CON-39**. The City supports the goals of recently adopted Senate Bill 375 and will review this General Plan for consistency with the Sustainable Community Strategy (SCS) to be adopted by the Madera County Transportation Commission. The City will consider amendments to the General Plan as it deems appropriate to implement the SCS.

City of Madera Climate Action Plan

The City of Madera adopted its Climate Action Plan (CAP) in December of 2015.[33] The City of Madera CAP is a long-range plan to reduce GHG emissions from City government (municipal) and community-wide activities within the city and to prepare for the anticipated effects of climate change. The CAP provides a strategy for reducing GHG emissions. It includes objectives and policies from the proposed General Plan that addressed long-term emissions reduction efforts. The timeframe for the CAP extends from the date of adoption through the year 2030. The following community reduction measures from the CAP are applicable to the proposed project:

- **LG-1: Municipal Energy Efficiency and Conservation**: Reduce non-renewable energy consumption in City buildings and facilities.
    - *General Plan Policies and Actions:*
        - **Policy CON-40**: All public and private development—including homes, commercial, and industrial—should be designed to be energy-efficient.
        - **Policy CON-45:** The City supports the use of green building practices in the planning, design, construction, management, renovation, operations, and demolition of facilities constructed, owned, managed, or financed by the City. All new building projects (projects intended for human occupancy) involving the use of local public funds should incorporate green building practices. Except as dictated by unique circumstances associated with a given project, the typical standard for
- **LG-2: Municipal Renewable Energy:** Increase the amount of municipal energy derived from renewable sources.
    - *General Plan Policies and Actions:*
        - **Action Item CON-40.4:** To the extent practical, integrate appropriate renewable energy and clean generation technologies into existing City facilities, such as solar, wind, biofuel, cogeneration, and fuel cells to power City facilities.
        - **Policy CON-42:** The City will promote and encourage co-generation projects for commercial, industrial, and municipal facilities, provided they meet all applicable air

[33] City of Madera. 2015. *City of Madera Climate Action Plan.* September. Website: https://www.madera.gov/media/oejgv0pe/final-madera-cap_september-2015.pdf (accessed January 2026).

quality standards and provide a net reduction in GHG emissions associated with energy production.

- **Policy CON-43:** The City will install renewable energy systems at its facilities where feasible, including solar collection systems at municipal properties and waste-to-energy (methane recovery) systems at the wastewater treatment plant.

- **LG-6: Tree Planting on City Property:** Increase the quantity of drought-tolerant, low-maintenance native trees and vegetation on City-owned or -operated property.
  - *General Plan Policies and Actions:*
    - **Policy CON-9**: The City will evaluate existing City-maintained landscaping and will, as feasible, install or replace vegetation with drought-tolerant, low-maintenance native species.
    - **Policy CON-10:** The City will evaluate existing landscaping and options to convert reflective and impervious surfaces to landscaping, and will, as feasible, install or replace vegetation with drought tolerant, low-maintenance native species that can also provide shade and reduce heat-island effects.

- **E-2: Energy Efficient New Construction:** Increase the efficient use of energy and conservation of available resources in the design and construction of new buildings.
  - *General Plan Policies and Actions:*
    - **Policy CON-40**: All public and private development—including homes, commercial, and industrial— should be designed to be energy-efficient.
    - **Policy CON-44**: The City supports the use of green building practices in the planning, design, construction, management, renovation, operations, and demolition of all private buildings and projects, including: water conservation indoors and outdoors; selection of materials based on recyclability, durability and the amount of energy used to create the material; waste reduction, reuse and recycling during construction and throughout the life of the project; other new aspects of green design and construction included in LEED or other certification programs; control nighttime lighting to lower energy use.
    - **Policy CON-46**: The City will identify and remove regulatory or procedural barriers to implementing green building practices within its jurisdiction, such as updating codes, guidelines, and zoning, and will ensure that all plan review and building inspection staff are trained in green building materials, practices, and techniques.

SETTING

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

ATTAINMENT STATUS

The proposed project is located in a currently unincorporated area of Madera County, and is within the jurisdiction of the SJVAPCD. The SJVAPCD is responsible for air quality regulation within the eight-county San Joaquin Valley region.

Both the State of California and the federal government have established health-based AAQS for six criteria air pollutants: CO, O_3, NO_2, SO_2, Pb, $PM_{2.5}$, PM_{10}. The SJVAB is designated as non-attainment for O_3 and $PM_{2.5}$ for federal standards and non-attainment for O_3, PM_{10}, and $PM_{2.5}$ for State standards.

Air quality monitoring stations are located throughout the nation and maintained by the local air districts and State air quality regulating agencies. Data collected at permanent monitoring stations are used by the EPA to identify regions as “attainment” or “nonattainment” depending on whether the regions meet the requirements stated in the applicable NAAQS. Nonattainment areas are imposed with additional restrictions as required by the EPA. In addition, different classifications of attainment, such as marginal, moderate, serious, severe, and extreme, are used to classify each air basin in the State on a pollutant-by-pollutant basis. The classifications are used as a foundation to create air quality management strategies to improve air quality and comply with the NAAQS.

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

Table D: San Joaquin Valley Air Basin Air Quality Attainment Status

Pollutant	Federal	State
Ozone (1-hour)	Revoked	Nonattainment/Severe
Ozone (8-hour)	Nonattainment/Extreme	Nonattainment
PM_{10}	Attainment	Nonattainment
$PM_{2.5}$	Nonattainment	Nonattainment
Carbon Monoxide	Attainment/Unclassified	Attainment/Unclassified
Nitrogen Dioxide	Attainment/Unclassified	Attainment
Lead	No Designation/Classification	Attainment
Sulfur Dioxide	Attainment/Unclassified	Attainment
Sulfates	No Federal Standard	Attainment
Hydrogen Sulfide	No Federal Standard	Unclassified

Source: California Air Resources Board and USEPA (2023).
PM_{10} = particulate matter less than 10 microns in size
$PM_{2.5}$ = particulate matter less than 2.5 microns in size

EXISTING CLIMATE AND AIR QUALITY

Air quality is a function of both local climate and local sources of air pollution. The amount of a given pollutant in the atmosphere is determined by the amount of the pollutant released and the atmosphere's ability to transport and dilute the pollutant. The major determinants of transport and dilution are wind, atmospheric stability, terrain, and for photochemical pollutants, sunshine.

The project site is located within the SJVAB and is under the jurisdiction of the SJVAPCD. A region's topographic features have a direct correlation with air pollution flow and therefore are used to determine the boundary of air basins. The SJVAB is comprised of approximately 25,000 square miles and covers of eight counties including Fresno, Kings, Madera, Merced, San Joaquin, Stanislaus and Tulare, and the western portion of Kern. The SJVAB is defined by the Sierra Nevada mountains in the east (8,000 to 14,000 feet in elevation), the Coast Ranges in the west (averaging 3,000 feet in elevation), and the Tehachapi mountains in the south (6,000 to 8,000 feet in elevation). The valley is basically flat with a slight downward gradient to the northwest. The valley opens to the sea at the Carquinez Straits where the San Joaquin-Sacramento Delta empties into San Francisco Bay.

An aerial view of the SJVAB would simulate a "bowl" opening only to the north. These topographic features restrict air movement through and out of the basin.

Although marine air generally flows into the basin from the San Joaquin River Delta, the Coast Range hinders wind access into the SJVAB from the west, the Tehachapi Mountains prevent southerly passage of air flow, and the high Sierra Nevada range is a significant barrier to the east. These topographic features result in weak air flow which becomes blocked vertically by high barometric pressure over the SJVAB. As a result, the SJVAB is highly susceptible to pollutant accumulation over time. Most of the surrounding mountains are above the normal height of summer inversion layers (1,500 to 3,000 feet).

Local climatological effects, including wind speed and direction, temperature, inversion layers, precipitation and fog, can exacerbate the air quality in the SJVAB. Wind speed and direction play an important role in dispersion and transport of air pollutants. Wind at the surface and aloft can disperse pollution by mixing vertically and by transporting it to other locations. For example, in the summer, wind usually originates at the north end of the SJVAB and flows in a south-southeasterly direction through the SJVAB, through Tehachapi pass, into the Southeast Desert Air Basin. In the winter, wind direction is reversed and flows in a north-northwesterly direction. In addition to the seasonal wind flow, a sea breeze flows into SJVAB during the day and a land breeze flowing out of the SJVAB at night. The diversified wind flow enhances the pollutant transport capability within SJVAB.

The annual average temperature varies throughout the SJVAB, ranging from the low 40s to high 90s, measured in degrees Fahrenheit (°F). With a more pronounced valley influence, inland areas show more variability in annual minimum and maximum temperatures than coastal areas. The climatological station closest to the site is the Madera-28261 Avenue 14. The monthly average maximum temperature recorded at this station from January 1948 to June 2016 ranged from 54.6°F in January to 98.3°F in July, with an annual average maximum of 76.5°F. The monthly average minimum temperature recorded at this station ranged from 35.3°F in December to 65.7°F in July,

with an annual average minimum of 50.4°F.[34] These levels are still representative of the project area. January and December are typically the coldest months and July is typically the warmest month in this area of the SJVAB.

The majority of annual rainfall in the SJVAB occurs between November and March. Summer rainfall is minimal and is generally limited to scattered thundershowers in desert regions and slightly heavier showers near the lower portion of the SJVAB and along the Sierra Nevada mountains to the east. Average monthly rainfall during that period varied from 0.01 inches in July and August to 2.09 inches in January, with an annual total of 10.89 inches.[35] Patterns in monthly and yearly rainfall totals are predictable due to the recognizable differences in seasons within the valley.

The vertical dispersion of air pollutants in the SJVAB is limited by the presence of persistent temperature inversions. Because of cooling of the atmosphere, air temperature usually decreases with altitude. A reversal of this atmospheric state, where the air temperature increases with height, is termed an inversion. Inversions can exist at the surface, or at any height above the ground. The height of the base of the inversion is known as the "mixing height." This is the level within which pollutants can mix vertically. Air above and below the inversion base does not mix because of the differences in air density. Semi-permanent systems of high barometric pressure fronts frequently establish themselves over the SJVAB, preventing low pressure systems that might otherwise bring rain and winds that clean the air.

Inversion layers are significant in determining ozone formation, and CO and PM_{10} concentrations. Ozone and its precursors will mix and react to produce higher ozone concentrations under an inversion. The inversion will also simultaneously trap and hold directly emitted pollutants such as carbon monoxide. PM_{10} is both directly emitted and created in the atmosphere as a chemical reaction. Concentration levels of pollutants are directly related to inversion layers due to the limitation of mixing space.

Surface or radiation inversions are formed when the ground surface becomes cooler than the air above it during the night. The earth's surface goes through a radiative process on clear nights, where heat energy is transferred from the ground to a cooler night sky. As the earth's surface cools during the evening hours, the air directly above it also cools, while air higher up remains relatively warm. The inversion is destroyed when heat from the sun warms the ground, which in turn heats the lower layers of air; this heating stimulates the ground level air to float up through the inversion layer.

The combination of stagnant wind conditions and low inversions produces the greatest pollutant concentrations. On days of no inversion or high wind speeds, ambient air pollutant concentrations are lowest. Periods of low inversions and low wind speeds are conditions favorable to high concentrations of CO and PM_{10}. In the winter, the greatest pollution problems are CO and NO_x because of extremely low inversions and air stagnation during the night and early morning hours. In

[34] Western Regional Climate Center. n.d. Fresno Yosemite International Airport (043257), Period of Record Monthly Climate Summary. Website: https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca3257 (accessed September 2025).

[35] *Ibid*.

the summer, the longer daylight hours and the brighter sunshine combine to cause a reaction between hydrocarbons and oxides of nitrogen to form photochemical smog.

AIR QUALITY MONITORING RESULTS

Air quality monitoring stations are located throughout the nation and are maintained by the local air pollution control district and State air quality regulating agencies. The SJVAPCD, together with the CARB, maintains ambient air quality monitoring stations in the SJVAB. The air quality monitoring stations closest to the project area are the Madera-28261 station located at 28261 Avenue 14 and the Madera-Pump Yard station located at Road 29½ north of Avenue 8 in Madera County, California. There are no monitoring stations for CO or SO_2 in Madera County. Therefore, monitoring data was obtained from the 908 North Villa Avenue monitoring station in Clovis for CO.

Pollutant monitoring results for 2021 to 2023 at the nearby ambient air quality monitoring stations, shown in Table E, indicate that air quality in the area has generally been moderate. As indicated in the monitoring results, the State PM_{10} standard was exceeded 86 times in 2021, 64 times in 2022 and approximately 79 times in 2023. In addition, the federal PM_{10} standard was exceeded twice in 2021 but not exceeded in 2022 or 2023. The federal $PM_{2.5}$ standard had 17 exceedances in 2021, three exceedances in 2022, and one exceedance in 2023. The State 1-hour ozone standard was exceeded four times in 2021 and once in 2022 and 2023. The State 8-hour ozone standard was exceeded 23 times in 2021, 10 times in 2022, and 15 times in 2023. The federal 8-hour ozone standard was exceeded 21 times in 2021, nine times in 2022, and 13 times in 2023. The CO, NO_2, and SO_2 standards were not exceeded in this area during the 3-year period.

GREENHOUSE GAS EMISSIONS INVENTORY

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

Global Emissions

Worldwide emissions of GHGs in 2020 totaled 22.9 billion metric tons (MT) of CO_2e. Global estimates are based on country inventories developed as part of the programs of the United Nations Framework Convention on Climate Change.[36]

United States Emissions

In 2022, the year for which the most recent data are available, the United States emitted about 6,343.2 MMT CO_2e. Overall, net emissions increased by 1.3 percent from 2021 to 2022 and decreased by 16.7 percent from 2005 levels. The increase in total GHG emissions was driven by an increase in CO_2 emissions from fossil fuel combustion.

[36] United Nations Framework Convention on Climate Change (UNFCCC). 2021. GHG Data from UNFCCC. Website: unfccc.int/process-and-meetings/transparency-and-reporting/greenhouse-gas-data/ghg-data-unfccc/ghg-data-from-unfccc (accessed September 2025).

Table E: Ambient Air Quality at Nearby Monitoring Stations

Pollutant	Standard	2021	2022	2023
Carbon Monoxide (CO)[1]				
Maximum 1-hour concentration (ppm)		1.3	1.3	1.5
Number of days exceeded:	State: > 20 ppm	ND	ND	ND
	Federal: > 35 ppm	0	0	0
Maximum 8-hour concentration (ppm)		1.2	1.1	1.3
Number of days exceeded:	State: > 9 ppm	0	0	0
	Federal: > 9 ppm	0	0	0
Ozone (O_3)[2]				
Maximum 1-hour concentration (ppm)		0.118	0.101	0.100
Number of days exceeded:	State: > 0.09 ppm	4	1	1
Maximum 8-hour concentration (ppm)		0.091	0.081	0.086
Number of days exceeded:	State: > 0.07 ppm	23	10	15
	Federal: > 0.07 ppm	21	9	13
Coarse Particulates (PM_{10})[2]				
Maximum 24-hour concentration (µg/m^3)		342.2	140.5	136.9
Number of days exceeded:	State: > 50 µg/m^3	86.1	64.0	78.9
	Federal: > 150 µg/m^3	2.0	0.0	0.0
Annual arithmetic average concentration (µg/m^3)		41.7	35.4	34.0
Exceeded for the year:	State: > 20 µg/m^3	Yes	Yes	Yes
	Federal: > 50 µg/m^3	No	No	No
Fine Particulates ($PM_{2.5}$)[2]				
Maximum 24-hour concentration (µg/m^3)		97.3	40.2	36.9
Number of days exceeded:	Federal: > 35 µg/m^3	17.3	3.1	1.0
Annual arithmetic average concentration (µg/m^3)		12.3	10.4	9.8
Exceeded for the year:	State: > 12 µg/m^3	Yes	No	No
	Federal[1] > 12 µg/m^3[a]	Yes	No	No
Nitrogen Dioxide (NO_2)[3]				
Maximum 1-hour concentration (ppm)		0.0347	0.0346	0.0322
Number of days exceeded:	State: > 0.250 ppm	40	30	30
Annual arithmetic average concentration (ppm)		0.006	0.006	0.005
Exceeded for the year:	Federal: > 0.053 ppm	No	No	No
Sulfur Dioxide (SO_2)[1]				
Maximum 1-hour concentration (ppm)		0.0075	0.0034	0.0050
Number of days exceeded:	State: > 0.25 ppm	0	0	0
Maximum 24-hour concentration (ppm)		0	0	0
Number of days exceeded:	State: > 0.04 ppm	0.0027	0.0012	0.0023
	Federal: > 0.14 ppm	0	0	0
Annual arithmetic average concentration (ppm)		0.00043	0.00034	0.00043
Exceeded for the year:	Federal: > 0.030 ppm	No	No	No

Sources: CARB (2025) and EPA (2025).
Note: On February 7, 2024, the federal annual PM2.5 standard was revised from 12.0 µg/m3 to 9.0 µg/m3. However, since the data presented in Table E is through 2022, it uses the 12.0 µg/m^3 standard that was in effect through 2022.
[1] Data was taken from the Clovis N. Villa monitoring station for CO and the Fresno Garland monitoring Station for SO2.
[2] Data was taken from the Madera-28261 Avenue 14 monitoring station.
[3] Data was taken from the Madera-Pump Yard monitoring station.
µg/m^3 = micrograms per cubic meter
CARB = California Air Resources Board
EPA = United States Environmental Protection Agency
ND = No data. There were insufficient (or no) data to determine the value.
ppm = parts per million

In 2022, CO_2 emissions from fossil fuel combustion increased by 1 percent relative to the previous year. This increase in fossil fuel consumption emissions was due primarily to economic activity rebounding after the height of the COVID-19 pandemic. Of the five major sectors (e.g., residential and commercial, agricultural, industry, transportation, and electricity generation), transportation accounted for the highest amount of GHG emissions in 2022 (approximately 28 percent), with electricity generation second at 25 percent and emissions from industry third at 23 percent.[37]

State of California Emissions

The State emitted approximately 371.1 MMT CO_2e emissions in 2022, which was 9.9 MMT CO_2e lower than 2021 levels.[38] CARB estimates that transportation was the source of approximately 37.7 percent of the State's GHG emissions in 2022. The next largest sources included industrial sources at approximately 19.6 percent and electricity generation at 16.1 percent. The remaining sources of GHG emissions were commercial and residential activities at 10.6 percent, agriculture at 8.0 percent, high GWP at 5.7 percent, and waste at 2.2 percent.[39]

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37 USEPA. 2024. Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2022. Website: https://www.epa.gov/system/files/documents/2024-04/us-ghg-inventory-2024-main-text_04-18-2024.pdf (accessed September 2025).

38 CARB. 2022b. *California Greenhouse Gas Emissions for 2000 to 2022, Trends of Emissions and Other Indicators Report*. Website: https://ww2.arb.ca.gov/sites/default/files/2024-09/nc-2000_2022_ghg_inventory_trends.pdf (accessed September 2025).

39 *Ibid*.

METHODOLOGY

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

CONSTRUCTION EMISSIONS

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

The California Emissions Estimator Model (CalEEMod) Version 2022.1 computer program was used to calculate emissions from on-site construction equipment and emissions from worker and vehicle trips to the site. The exact construction schedule is not yet known. Therefore, to provide a conservative estimate of the emissions that could occur due to construction activities, this analysis assumes that project construction will begin in early 2026 and be operational in 2035, which was included in CalEEMod. This represents a conservative analysis, because if the proposed construction activities would occur at a later timeframe, estimated emissions would be expected to decrease into the future due to technological advances and the implementation of forthcoming regulatory requirements. This analysis assumes that the proposed project would be balanced on site and no import or export of soil would be required. This analysis also assumes the use of Tier 2 construction equipment and that the proposed project would comply with SJVAPCD Regulation VIII for fugitive dust control. Other detailed construction information is currently unavailable; therefore, this analysis uses CalEEMod default assumptions. CalEEMod output sheets are included in Appendix A.

CONSTRUCTION HEALTH RISK ASSESSMENT

As described above, CalEEMod was used to calculate emissions from on-site construction equipment and emissions from worker and vehicle trips to the site. Based on the CalEEMod results, a construction HRA, which evaluates construction-period health risk to off-site receptors, was performed for the proposed project. To estimate the potential cancer risk associated with construction of the proposed project from equipment exhaust (including DPM), a dispersion model was used to translate an emission rate from the source location to a concentration at the receptor location of interest (i.e., a nearby residence and worksites). Dispersion modeling varies from a simpler, more conservative screening-level analysis to a more complex and refined detailed analysis. This refined assessment was conducted using the CARB exposure methodology with the air dispersion modeling performed using the USEPA dispersion model AERMOD. The model provides a detailed estimate of exhaust concentrations based on site and source geometry, source emissions strength, distance from the source to the receptor, and meteorological data. AERMOD input parameters are included in Appendix B.

For the purposes of this HRA, short-term emissions are of concern for analyzing acute health impacts, and long-term emissions are of concern for analyzing chronic and carcinogenic health impacts. A screening-level multi-pathway assessment has been conducted. This technique was

chosen as recommended in the OEHHA *Air Toxic Hot Spots Program Risk Assessment Guidelines*[40] and guidance from SJVAPCD.

The HRA has been conducted using three models: (1) CARB's California Emissions Factor Model, Version 2021 (EMFAC2025) for on-road vehicle emissions factors and percentages of fuel type within the overall vehicle fleet; (2) the EPA's AERMOD air dispersion model to determine how the TACs would move through the atmosphere after release from sources both on site and on surrounding roadways; and (3) CARB's HARP2 model to translate the pollutant concentrations from AERMOD into individual health risks at any sensitive receptor locations surrounding the project site.

The OEHHA has determined that long-term exposure to diesel exhaust particulates poses the highest cancer risk of any TAC it has evaluated. Exposure to diesel exhaust can also have immediate health effects. Diesel exhaust can irritate the eyes, nose, throat, and lungs, and it can cause coughs, headaches, lightheadedness, and nausea. In studies with human volunteers, DPM made people with allergies more susceptible to the materials to which they were allergic, such as dust and pollen. Exposure to DPM also causes inflammation in the lungs, which may aggravate chronic respiratory symptoms and increase the frequency or intensity of asthma attacks. For risk assessment procedures, the OEHHA specifies that the surrogate for whole diesel exhaust is DPM. The HRA analyses used PM_{10} emissions to represent DPM emissions, consistent with OEHHA guidance.

The conservative nature of this analysis is due primarily to the following three factors:

- The CARB-adopted diesel exhaust unit risk factor (URF) of 300 in 1 million per $\mu g/m^3$ is based on the upper 95th percentile of estimated risk for each of the epidemiological studies used to develop the URF. Therefore, the risk factor is already representative of the conservative risk posed by DPM.

- The risk estimates assume sensitive receptors would be subject to DPM 24 hours per day, 350 days per year. As a conservative measure, SJVAPCD does not recognize indoor adjustments for residents. However, typical people spend the majority of their time indoors versus remaining outdoors 24 hours per day, 350 days per year.

- The exposure to DPM is assumed to be constant for the given period analyzed (i.e., 70 years). However, emissions from DPM are expected to substantially decrease in the future with the implementation of standard regulatory requirements and technological advancement to reduce DPM.

OPERATIONAL EMISSIONS

The air quality analysis includes estimating emissions associated with long-term operation of the proposed project. Consistent with the SJVAPCD guidance for estimating emissions associated with land use development projects, the CalEEMod computer program was used to calculate the long-term operational emissions associated with the project.

41 2025. Granite Creek Trip Generation Table. July 8.

As discussed in the Project Description section, the proposed project would construct single-family and multi-family residential units, town centers, an elementary/middle school, commercial space for employment opportunities, and public facilities, all supported by an integrated open space and trails network. Therefore, the proposed project analysis was conducted using land use codes *Regional Shopping Center, Single Family Housing, Apartments Low Rise, City Park, Elementary School, and Other Asphalt Surfaces*. The Regional Shopping Center land use represents the proposed ground floor area for the commercial space, the *City Park* land use is used to represent the proposed open space area, and the *Other Asphalt Surfaces* land use represents paved area. Trip generation rates used in CalEEMod for the project were based on the project's trip generation, which identifies that the proposed project would generate approximately 24,536 primary daily trips.[41] It is not yet known whether the proposed project would utilize natural gas; therefore, this analysis conservatively assumes that natural gas will be included as part of the project operations. Where project-specific data were not available, default assumptions (e.g., energy usage, water usage, and solid waste generation) from CalEEMod were used to estimate project emissions. CalEEMod output sheets are included in Appendix A.

ENERGY USE

Fuel consumption (diesel fuel and gasoline) from vehicle trips during operation was estimated for the opening year (2035) of the proposed project based on trip estimates from the CalEEMod model and fuel efficiencies from the CARB EMFAC2025 model. Estimates of fuel consumption (diesel fuel and gasoline) from construction trucks and construction worker vehicles were based on trip estimates from the CalEEMod model and fuel efficiencies from the CARB EMFAC2025 model.

The analysis focuses on the four sources of energy that are relevant to the proposed project: electricity, natural gas, the equipment fuel necessary for project construction, and vehicle fuel necessary for project operations. For the purposes of this analysis, the amount of electricity and natural gas, construction fuel, and fuel use from operations are quantified and compared to that consumed in Madera County. The electricity and natural gas use of the proposed project was analyzed as a whole on an annual basis. Electricity and natural gas use was estimated using default energy intensities by land use type in CalEEMod.

GREENHOUSE GAS ANALYSIS

GHG emissions associated with the project would occur over the short term from construction activities, consisting primarily of emissions from equipment exhaust. There would also be long-term GHG emissions associated with project-related vehicular trips. Recognizing that the field of global climate change analysis is rapidly evolving, the approaches advocated most recently indicate that, for determining a project's contribution to GHG emissions, lead agencies should calculate or estimate emissions from vehicular traffic, energy consumption, water conveyance and treatment, waste generation, construction activities, and any other significant source of emissions within the project area. The CalEEMod results were used to quantify GHG emissions generated by the project.

[41] 2025. Granite Creek Trip Generation Table. July 8.

THRESHOLDS OF SIGNIFICANCE

AIR QUALITY

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

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

Regional Emissions Thresholds

The SJVAPCD defines emissions thresholds in the GAMAQI, established based on the attainment status of the air basin in regard to air quality standards for specific criteria pollutants. Because the concentration standards were set at a level that protects public health with an adequate margin of safety, these emission thresholds are regarded as conservative and would overstate an individual project's contribution to health risks. The related impacts are discussed further in the Project Impacts section. The SJVAPCD regional emission thresholds for construction and operation are shown in Table F.

Table F: Regional Thresholds for Construction and Operational Emissions

Emissions Source	Pollutant Emissions Threshold (tons per year)					
	CO	NO_X	ROG	SO_X	PM_{10}	$PM_{2.5}$
Construction	100	10	10	27	15	15
Operations	100	10	10	27	15	15

Source: *Guidance for Assessing and Mitigating Air Quality Impacts* (SJVAPCD 2015).
CO = carbon monoxide
NO_X = nitrogen oxides
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size
ROG = reactive organic gas
SJVAPCD = San Joaquin Valley Air Pollution Control District
SO_X = sulfur oxides

Local Microscale Concentration Standards

The significance of localized project impacts under CEQA depends on whether ambient CO levels in the vicinity of the project are above or below State and federal CO standards. Because ambient CO levels are below the standards throughout the SJVAB, a project would be considered to have a significant CO impact if project emissions result in an exceedance of one or more of the 1-hour or 8-hour standards. The following are applicable local emission concentration standards for CO:

- California State 1-hour CO standard of 20 ppm
- California State 8-hour CO standard of 9 ppm

Health Risk Thresholds

Both the State and federal governments have established health-based AAQS for seven air pollutants. For other air pollutants without defined significance standards, the definition of substantial pollutant concentrations varies. For TACs, "substantial" is taken to mean that the individual health risk exceeds a threshold considered to be a prudent risk management level.

The following limits for maximum individual cancer risk (MICR) and noncancer acute and chronic Hazard Index (HI) from project emissions of TACs are considered appropriate for use in determining the health risk for projects in the SJVAB:

- **MICR:** MICR is the estimated probability of a maximum exposed individual (MEI) contracting cancer as a result of exposure to TACs over a period of 30 years for adults and 9 years for children in residential locations, 350 days per year. The SJVAPCD's *Update to the District's Risk Management Policy to Address the California Office of Environmental Health Hazard Assessment (OEHHA) Revised Risk Assessment Guidance Document* states that emissions of TACs are considered significant if an HRA shows an increased risk of greater than 20 in 1 million.

- **Chronic HI:** Chronic HI is the ratio of the estimated long-term level of exposure to a TAC for a potential MEI to its chronic reference exposure level. The chronic HI calculations include multi-pathway consideration when applicable. The project would be considered significant if the cumulative increase in total chronic HI for any target organ system would exceed 1.0 at any receptor location.

- **Acute HI:** Acute HI is the ratio of the estimated maximum 1-hour concentration of a TAC for a potential MEI to its acute reference exposure level. The project would be considered significant if the cumulative increase in total acute HI for any target organ system would exceed 1.0 at any receptor location.

ENERGY

The thresholds for energy impacts used in this analysis are consistent with Appendix G of the *State CEQA Guidelines*. The proposed project may be deemed to have a significant impact with respect to aesthetics if it would:

- Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.

- Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

GREENHOUSE GAS THRESHOLDS

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

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

Section 15064.4 of the *State CEQA Guidelines* states that "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." In performing that analysis, the lead agency has discretion to determine whether to use a model or methodology to quantify GHG emissions or to rely on a qualitative analysis or performance-based standards. In making a determination as to the significance of potential impacts, the lead agency then considers the extent to which the project may increase or reduce GHG emissions as compared to the existing environmental setting, whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project, and the extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions. The relevant plans for the reduction of GHG emissions are the CARB's 2022 Scoping Plan, the MCTC RTP/SCS, and the City's CAP.

At the time that is was prepared, the City's CAP met the requirements for a Qualified Greenhouse Gas Reduction Strategy and was designed to streamline environmental review of future development projects, consistent with *State CEQA Guidelines* Section 15183.5(b), by showing that the city would achieve emission reduction goals in-line with State goals and targets codified in AB 32 and SB 32 for the years 2020 and 2030. SB 32 affirms the importance of addressing climate change by codifying into statute a GHG emissions reductions target of at least 40 percent below 1990 levels by 2030, along with setting an objective for California to reduce emissions to 80 percent below 1990 levels by 2050. However, the City's CAP does not address State goals related to achieving carbon neutrality by 2045 (as codified in AB 1279). Neither the City nor the SJVAPCD has developed or adopted numeric GHG significance thresholds. Therefore, in the absence of any City or SJVAPCD specific guidelines or thresholds, this analysis evaluates the proposed project for consistency with the Bay Area Air District (Air District) *Justification Report: CEQA Thresholds for Evaluating the Significance of Climate Impacts from Land Use Projects and Plans* (Justification Report).[42]

In April 2022, the Air District adopted the Justification Report[43] document, which identifies applicable GHG significance thresholds. These thresholds establish whether a project would be consistent with California's efforts to meet long-term climate goals of achieving carbon neutrality by 2045. If a project is designed and built to incorporate design elements related to natural gas, energy, VMT, and EVs, then it would contribute its portion of what is necessary to achieve California's long-term climate goals—its "fair share"—and an agency reviewing the project under CEQA can conclude that the project would not make a cumulatively considerable contribution to global climate change.

[42] Bay Area Air Quality Management District. 2022. *Justification Report: CEQA Thresholds for Evaluating the Significance of Climate Impacts From Land Use Projects and Plans*. April.

[43] *Ibid*.

The Justification Report provides substantial evidence supporting the use of their thresholds for projects throughout California because the thresholds are applicable to meeting the State's goal.[44] In the absence of any City or SJVAPCD specific guidelines or thresholds, this analysis evaluates the proposed project for consistency with the identified project design elements as the applicable thresholds of significance to establish if the proposed project is achieving its "fair share" of emission reductions to support long term State goals for GHG emissions and carbon neutrality.

According to the Justification Report, a project would have a less than significant impact related to GHG emissions if it would include the following project design elements:

1. Buildings

    a. The project will not include natural gas appliances or natural gas plumbing (in both residential and nonresidential development).

    b. The project will not result in any wasteful, inefficient, or unnecessary electrical usage as determined by the analysis required under CEQA Section 21100(b)(3) and Section 15126.2(b) of the State CEQA Guidelines.

2. Transportation

    a. Achieve a reduction in project-generated vehicle miles traveled (VMT) below the regional average consistent with the current version of the California Climate Change Scoping Plan (currently 15 percent) or meet a locally adopted Senate Bill 743 VMT target, reflecting the recommendations provided in the Governor's Office of Planning and Research's Technical Advisory on Evaluating Transportation Impacts in CEQA:

        1. Residential projects: 15 percent below the existing VMT per capita

        2. Office projects: 15 percent below the existing VMT per employee

        3. Retail projects: no net increase in existing VMT

    b. Achieve compliance with off-street electric vehicle requirements in the most recently adopted version of CALGreen Tier 2.

These project design elements are utilized in the following analysis as the thresholds of significance to evaluate the project's potential to generate GHG emissions that may have a significant impact, given the absence of City or SJVAPCD specified thresholds. To evaluate the project's potential to

[44] The Justification Report is incorporated by reference. The information provided in the Justification Report is intended to provide the substantial evidence that a lead agency, here the City of Madera, needs to support their determinations about significance using these thresholds. In the Newhall Ranch decision, the California Supreme Court has held "consisten[cy] with meeting statewide [GHG] emission reduction goals", which is the basis for the Air District thresholds, is an appropriate metric under CEQA. (Newhall Ranch, supra, 62 Cal.4th at p. 213.)

conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing emissions of GHGs, the proposed project is evaluated for consistency with the CARB 2022 Scoping Plan, the MCTC RTP/SCS, and City's CAP.

IMPACTS ANALYSIS

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

AIR QUALITY IMPACTS

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

Consistency with Applicable Air Quality Plans

An air quality plan describes air pollution control strategies to be implemented by a city, county, or region classified as a nonattainment area. As discussed above, the SJVAB is designated as non-attainment for O_3 and $PM_{2.5}$ for federal standards and non-attainment for O_3, PM_{10}, and $PM_{2.5}$ for State standards. The main purpose of the air quality plan is to bring the area into compliance with the requirements of the federal and State air quality standards. To bring the San Joaquin Valley into attainment, the SJVAPCD adopted the *2022 Plan for the 2015 8-Hour Ozone Standard* in December 2022 to satisfy Clean Air Act requirements and ensure attainment of the 75 parts per billion (ppb) 8-hour ozone standard.[45]

To ensure the SJVAB's continued attainment of the USEPA PM_{10} standard, the SJVAPCD adopted the 2007 PM_{10} Maintenance Plan in September 2007.[46] The SJVAPCD adopted the *2018 Plan for the 1997, 2006, and 2012 $PM_{2.5}$ Standards* in November 2018, to address the USEPA 1997 annual $PM_{2.5}$ standard of 15 µg/m^3 and 24-hour $PM_{2.5}$ standard of 65 µg/m^3, the 2006 24-hour $PM_{2.5}$ standard of 35 µg/m^3, and the 2012 annual $PM_{2.5}$ standard of 12 µg/m^3.[47]

For a project to be consistent with SJVAPCD air quality plans, the pollutants emitted from a project should not exceed the SJVAPCD emission thresholds or cause a significant impact on air quality. In addition, emission reductions achieved through implementation of offset requirements are a major component of the SJVAPCD air quality plans. In addition to the construction-period thresholds of significance, the SJVAPCD has implemented Regulation VIII measures for dust control during construction. These control measures are intended to reduce the amount of PM_{10} emissions during the construction period. Implementation of the fugitive dust control measures outlined in Regulatory Compliance Measure (RCM) AIR-1, would ensure that the proposed project complies with Regulation VIII, further reduces the short-term construction period air quality impacts, and ensures compliance with air quality plans. In addition, as discussed below and shown later in Table H and Table I, long-term operational emissions associated with the proposed project, including area, energy, and mobile

45 SJVAPCD. 2016. *2016 Plan for the 2008 8-Hour Ozone Standard*. June 16. Website: www.valleyair.org/Air_Quality_Plans/Ozone-Plan-2016.htm (accessed September 2025).

46 SJVAPCD. 2007. *2007 PM_{10} Maintenance Plan and Request for Redesignation*. Website: www.valleyair.org/Air_Quality_Plans/docs/Maintenance%20Plan10-25-07.pdf (accessed September 2025).

47 SJVAPCD. 2018. *2018 Plan for the 1997, 2006, and 2012 $PM_{2.5}$ Standards*. November 15. Website: http://valleyair.org/pmplans/documents/2018/pm-plan-adopted/2018-Plan-for-the-1997-2006-and-2012-PM2.5-Standards.pdf (accessed September 2025).

source emissions, would not exceed the significance criteria for annual CO, SO_X, or $PM_{2.5}$ emissions. However, long-term operational emissions associated with mobile and area sources would result in annual emissions of ROG, NO_X, and PM_{10} that exceed the SJVAPCD significance thresholds. Even with implementation of mitigation measures, the estimated ROG, NO_X, and PM_{10} emissions generated under the proposed project would still exceed the SJVAPCD's significance thresholds and would cumulatively contribute to the nonattainment designations in the air basin for O3. Therefore, the proposed project would conflict with or obstruct the implementation of SJVAPCD air quality plans. This impact would be significant and unavoidable.

Criteria Pollutant Analysis

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

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

Construction Emissions

During construction, short-term degradation of air quality may occur due to the release of particulate emissions generated by grading, paving, building, and other activities. Emissions from construction equipment are also anticipated and would include CO, NO_x, ROG, directly emitted particulate matter ($PM_{2.5}$ and PM_{10}), and TACs such as diesel exhaust particulate matter.[48]

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

[48] Potential impacts related to sensitive receptor exposure to project-generated TACs are discussed later in this document, under *Health Risk on Nearby Sensitive Receptors*.

from the construction site. Water or other soil stabilizers can be used to control dust, resulting in emission reductions of 50 percent or more. The SJVAPCD has implemented Regulation VIII measures for reducing fugitive dust emissions (PM_{10}). SJVAPCD Rule 8011, General Requirements, and Rule 8021, Construction, Demolition Excavation, Extraction, and Other Earthmoving Activities, would also be applicable.

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

Construction emissions were estimated for the project using CalEEMod and are summarized in Table G. Appendix A provides CalEEMod output sheets.

Table G: Short-Term Regional Construction Emissions

Construction Year	Pollutant Emissions (Tons per Year)					
	ROG	NO_x	CO	SO_X	PM_{10}	$PM_{2.5}$
2026	0.1	5.1	3.7	<0.1	1.1	0.6
2027	0.2	6.1	4.4	<0.1	0.8	0.4
2028	0.4	4.9	5.1	<0.1	0.9	0.3
2029	0.5	4.0	5.2	<0.1	1.1	0.3
2030	0.5	3.9	5.0	<0.1	1.1	0.3
2031	0.5	3.8	4.8	<0.1	1.1	0.3
2032	0.5	3.8	4.6	<0.1	1.1	0.3
2033	0.3	2.6	2.7	<0.1	0.5	0.2
2034	8.3	0.5	0.7	<0.1	0.1	<0.1
2035	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Maximum Emissions	**8.3**	**6.1**	**5.2**	**<0.1**	**1.1**	**0.6**
SJVAPCD Threshold	10.0	10.0	100.0	27.0	15.0	15.0
Significant?	**No**	**No**	**No**	**No**	**No**	**No**

Source: Compiled by LSA (August 2025).
CO = carbon monoxide
NO_x = nitrogen oxides
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size
ROG = reactive organic gas
SJVAPCD = San Joaquin Valley Air Pollution Control District
SO_x = sulfur oxides

As shown in Table G, construction emissions associated with the proposed project would not exceed the SJVAPCD's thresholds for ROG, NO_x, CO, SO_x, PM_{10}, and $PM_{2.5}$ emissions. In addition to the construction period thresholds of significance, the SJVAPCD has implemented Regulation VIII measures for dust control during construction. Implementation of RCM AIR-1 would ensure that the proposed project complies with Regulation VIII.

RCM AIR-1 Consistent with San Joaquin Valley Air Pollution Control District (SJVAPCD) Regulation VIII (Fugitive PM_{10} Prohibitions), the following controls are required to be

included as specifications for the proposed project and implemented at the construction site:

- All disturbed areas, including storage piles, which are not being actively utilized for construction purposes, shall be effectively stabilized of dust emissions using water or chemical stabilizer/suppressant or covered with a tarp or other suitable cover or vegetative ground cover.
- All on-site unpaved roads and off-site unpaved access roads shall be effectively stabilized of dust emissions using water or chemical stabilizer/suppressant.
- All land clearing, grubbing, scraping, excavation, land leveling, grading, cut and fill, and demolition activities shall be effectively controlled of fugitive dust emissions utilizing application of water or by presoaking.
- When materials are transported off site, all material shall be covered, or effectively wetted to limit visible dust emissions, and at least 6 inches of freeboard space from the top of the container shall be maintained.
- All operations shall limit or expeditiously remove the accumulation of mud or dirt from adjacent public streets at the end of each workday. (The use of dry rotary brushes is expressly prohibited except where preceded or accompanied by sufficient wetting to limit the visible dust emissions. Use of blower devices is expressly forbidden.)
- Following the addition of materials to, or the removal of materials from, the surface of outdoor storage piles, said piles shall be effectively stabilized of fugitive dust emissions utilizing sufficient water or chemical stabilizer/suppressant.

Construction emissions associated with the proposed project would be less than significant with implementation of RCM AIR-1. Therefore, construction of the proposed project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or State ambient air quality standard.

Operational Air Quality Impacts

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

Mobile source emissions include ROG and NO_X emissions that contribute to the formation of ozone. Additionally, PM_{10} emissions result from running exhaust, tire and brake wear, and the entrainment of dust into the atmosphere from vehicles traveling on paved roadways.

Energy source emissions result from activities in buildings for which natural gas is used. The quantity of emissions is the product of usage intensity (i.e., the amount of natural gas) and the emission factor of the fuel source.

Typically, area source emissions consist of direct sources of air emissions located at the project site, including architectural coatings and the use of landscape maintenance equipment. Area source emissions associated with the project would include emissions from the use of landscaping equipment and the use of consumer products.

Long-term operational emissions associated with the proposed project were calculated using CalEEMod. Table H provides the proposed project's estimated operational emissions without implementation of mitigation. Appendix A provides CalEEMod output sheets.

Table H: Unmitigated Project Operational Emissions

Emission Type	Pollutant Emissions (Tons per Year)					
	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Mobile Sources	11.5	10.9	69.6	0.2	20.8	5.4
Area Sources	12.7	0.6	10.1	<0.1	<0.1	<0.1
Energy Sources	0.2	2.7	1.3	<0.1	0.2	0.2
Total Project Emissions	**24.4**	**14.2**	**80.9**	**0.2**	**21.0**	**5.6**
SJVAPCD Threshold	10.0	10.0	100.0	27.0	15.0	15.0
Exceeds Threshold?	**Yes**	**Yes**	**No**	**No**	**Yes**	**No**

Source: Compiled by LSA (August 2025).
Note: Some values may not appear to add correctly due to rounding.
CO = carbon monoxide
NO_x = nitrogen oxides
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size
ROG = reactive organic gas
SJVAPCD = San Joaquin Valley Air Pollution Control District
SO_X = sulfur oxides

The results shown in Table H indicate that the proposed project would not exceed the significance criteria for daily CO, SO_X, or $PM_{2.5}$ emissions. However, the proposed project would result in long-term operations that exceed the SJVAPCD regional thresholds for ROG, NO_X, and PM_{10} emissions. The proposed project would be required to comply with SJVAPCD Rule 4601: Architectural Coatings, which requires that ROG emissions be reduced during painting by placing limits on the ROG content in various coating categories. Compliance with Rule 4601 architectural coatings would minimize ROG emissions. NO_X and PM_{10} emissions are primarily associated with mobile sources. Thus, Mitigation Measure (MM) AIR-1 would be required to further reduce ROG, NO_X, and PM_{10} emissions.

Mitigation Measure AIR-1 Prior to issuance of building permits, the City of Madera shall review and approve project design details and specifications to demonstrate implementation of the following emission reduction measures. The applicant shall incorporate the measures, as applicable to the proposed land use(s), into final project design. These measures are enforceable as conditions of approval and shall be verified by the City prior to issuance of certificates of occupancy. Implementation of the following measures, where applicable, are

considered to be effective in reducing criteria pollutant emissions generated by the project:

A. Transportation and Circulation Measures (All Land Uses)

- Traffic Calming and Vehicle Speed Reduction. Project roadway designs shall include at least two traffic-calming features per roadway segment, such as narrowed travel lanes (≤10 feet for local streets), speed tables or platforms, curb bulb-outs, chicanes, or raised intersections, consistent with City engineering standards.

- Pedestrian and Bicycle Connectivity. The project shall provide continuous pedestrian sidewalks on both sides of all internal streets, separated from travel lanes by landscaping or on-street parking where feasible. Bicycle facilities shall be provided in accordance with City standards or the latest Caltrans Highway Design Manual, as applicable.

- Safe and Direct Access. Pedestrian and bicycle access routes from public rights-of-way, transit stops, and parking areas to building entrances shall be physically separated from vehicular travel lanes and shall not be obstructed by walls, berms, excessive slopes, or discontinuous pathways.

- Parking Lot Pedestrian Circulation. For land uses that include public parking lot(s), parking areas shall include clearly marked pedestrian pathways connecting parking stalls and transit facilities to building entrances. Pathways shall be a minimum of 6 feet wide, landscaped or shaded with trees or canopies providing at least 50 percent shade coverage within 15 years of project approval.

- Carpool, Vanpool, and Rideshare Incentives. For land uses that include public parking lot(s), a minimum of 5 percent of on-site parking spaces shall be designated as preferential parking for carpool, vanpool, or rideshare vehicles and shall be located within the closest parking row to primary building entrances and clearly signed.

B. Building Energy and Electrification Measures (Residential and Non-Residential)

- All-Electric Development Requirement. All new buildings shall be designed and constructed as all-electric, with no

natural gas infrastructure (including piping, meters, or combustion appliances).

If the applicant demonstrates to the City's satisfaction that full electrification is infeasible, the project shall implement equivalent or greater criteria pollutant and greenhouse gas emission reductions through a combination of the following measures, subject to City approval:

- Install on-site solar photovoltaic systems sized to offset 100 percent of the projected annual electricity demand attributable to gas-powered end uses;
- Install battery energy storage systems to support peak-load reduction; and/or
- Incorporate other City-approved design features that achieve equivalent emission reductions, quantified using accepted modeling methods.

- Energy Efficiency Standards. All buildings shall exceed the Title 24 Building Energy Efficiency Standards by a minimum of 20 percent, as demonstrated through energy compliance documentation submitted with building permit applications.
- Efficient Appliances and Water Heating. All appliances shall be ENERGY STAR–certified, where available, and all water heating systems shall consist of high-efficiency electric heat pump water heaters.

C. Renewable Energy and Site Design Measures (All Land Uses)

- On-Site Solar Energy Generation. The project shall maximize on-site solar energy generation by installing photovoltaic systems on rooftops and/or carport structures. Solar installations shall utilize all feasible roof area not constrained by shading, structural limitations, or code requirements.
- Sustainable Site Design. Buildings shall incorporate energy-efficient design features, including optimal site orientation, light-colored roofing and paving materials with a minimum solar reflectance index (SRI) of 75 for roofs and 50 for pavements, and the strategic placement of deciduous shade

trees and windbreak trees to reduce heating and cooling demands.

D. Materials, Coatings, and Construction-Related Measures (All Land Uses)

- Low-VOC Coatings. All interior and exterior paints, coatings, and finishes shall contain no more than 10 grams per liter of VOCs, excluding water and exempt compounds.

E. Landscaping and Water Efficiency Measures (All Land Uses)

- Water-Efficient Landscaping. Landscaping shall comply with the Model Water Efficient Landscape Ordinance (MWELO) and shall utilize drought-tolerant plant species, high-efficiency irrigation systems, and soil moisture sensors to minimize water use and associated energy demand.

Table I shows the project operational emissions with implementation of MM AIR-1.

Table I: Mitigated Project Operational Emissions

Emission Type	Pollutant Emissions (Tons per Year)					
	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Mobile Sources	11.5	10.9	69.6	0.2	20.8	5.4
Area Sources	11.1	0.5	0.2	<0.1	<0.1	<0.1
Energy Sources	<0.1	0.3	0.2	<0.1	<0.1	<0.1
Total Project Emissions	**22.6**	**11.7**	**70.0**	**0.2**	**20.8**	**5.4**
SJVAPCD Threshold	10.0	10.0	100.0	27.0	15.0	15.0
Exceeds Threshold?	**Yes**	**Yes**	**No**	**No**	**Yes**	**No**

Source: Compiled by LSA (August 2025).
Note: Some values may not appear to add correctly due to rounding.
CO = carbon monoxide
NO_x = nitrogen oxides
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size
ROG = reactive organic gas
SJVAPCD = San Joaquin Valley Air Pollution Control District
SO_X = sulfur oxides

As shown in Table I, even with implementation of MM AIR-1 and with compliance with the anticipated regulations, the estimated long-term emissions generated under the proposed project would still exceed the SJVAPCD's regional operational significance thresholds.

Although implementation of MM AIR-1 would incorporate design features that would contribute to reducing criteria air pollutant emissions generated during operational activities associated with the proposed project, some measures would provide emissions reductions that are not quantifiable. Further, the majority of the project's operational-source emissions are generated by mobile sources/passenger cars accessing the project. Neither the project applicant nor the City have regulatory authority to control tailpipe emissions, and there are no additional feasible measures that

would reduce project operational-source emissions to a less than significant level. Without quantification to guarantee a less than significant finding, the proposed project may still exceed the SJVAPCD regional significance thresholds and would cumulatively contribute to the nonattainment designations in the air basin for O_3 and PM.

Regarding ROGs, it is important to note that approximately 52 percent of the total operational ROG area emissions are derived from consumer products. As such, the project applicant cannot meaningfully control the use of consumer products by future building users via mitigation. Neither the project applicant nor the City have regulatory authority to control consumer product emissions, and no feasible mitigation measures beyond the measures identified herein exist that would reduce project operation-source of ROG emissions to levels that are less than significant. Therefore, the proposed project's operational emissions of ROG would represent a significant and unavoidable impact for which additional mitigation is not available.

Due to the level of the project's regional emissions that would exceed the SJVAPCD regional thresholds, and as discussed in the preceding section, the project also would result in significant and unavoidable impacts due to a conflict with or obstruction of the applicable air quality plans. As such, operation of the proposed project would result in a cumulatively considerable net increase of criteria pollutants for which the project region is in nonattainment under an applicable federal or State AAQS. This impact would be significant and unavoidable.

Long-Term Microscale (CO Hot Spot) Analysis

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

Typically, high CO concentrations are associated with roadways or intersections operating at unacceptable levels of service or with extremely high traffic volumes. In areas with high ambient background CO concentrations, modeling is recommended to determine a project's effect on local CO levels.

An assessment of project-related impacts on localized ambient air quality requires that future ambient air quality levels be projected. Ambient CO levels monitored at the Clovis air quality monitoring stations, the closest stations to the project site monitoring CO, showed a highest recorded 1-hour concentration of 1.5 ppm (the State standard is 20 ppm) and a highest 8-hour concentration of 1.3 ppm (the State standard is 9 ppm) during the past 3 years (Table E). The highest CO concentrations would normally occur during peak traffic hours; hence, CO impacts calculated under peak traffic conditions represent a worst-case analysis.

Based on the project's trip Generation, the proposed project would result in 808 a.m. and 1,029 p.m. peak-hour trips.[49]. Therefore, given the extremely low level of CO concentrations in the project area and the lack of traffic impacts at any intersections, project-related vehicles are not expected to result in CO concentrations exceeding the State or federal CO standards. No CO hot spots would occur, and the project would not result in any project-related impacts on CO concentrations.

Health Risk on Nearby Sensitive Receptors

Sensitive receptors are defined as residential uses, schools, daycare centers, nursing homes, and medical centers. Individuals particularly vulnerable to diesel particulate matter are children, whose lung tissue is still developing, and the elderly, who may have serious health problems that can be aggravated by exposure to diesel particulate matter. The project site is surrounded primarily by agricultural uses with some residential uses. The closest sensitive receptors to the project site include single-family residences located across Avenue 14-1/2 at approximately 100 feet south as measured from the project boundary to the building façade. Other nearby sensitive receptors include the single-family residences located east of the project site at approximately 751 feet and the Lincoln Elementary School at approximately 1,470 feet of the project site.

Construction Health Risk

A construction HRA, which evaluates construction-period health risk to off-site receptors, was performed for the proposed project. Table J, below, identifies the results of the analysis assuming the use of Tier 2 construction equipment as proposed by the project. Model snapshots of the sources are shown in Appendix B.

Table J: Health Risks from Project Construction to Off-Site Receptors

Location	Carcinogenic Inhalation Health Risk in One Million	Chronic Inhalation Hazard Index	Acute Inhalation Hazard Index
Residential Receptor Risk	11.32	0.006	0.000
Worker Receptor Risk	0.46	0.006	0.000
School Receptor	1.05	<0.001	0.000
SJVAPCD Significance Threshold	**20.0 in one million**	**1.0**	**1.0**
Significant?	**No**	**No**	**No**

Source: LSA (August 2024).
SJVAPCD = San Joaquin Valley Air Pollution Control District

As shown in Table J, the maximum cancer risk for the residential receptor MEI would be 11.32 in one million, which would not exceed the SJVAPCD cancer risk threshold of 20 in one million. The worker receptor risk would be lower at 0.46 in one million and the school receptor risk would be 1.05 in one million, which would also not exceed the SJVAPCD cancer risk thresholds. The total chronic hazard index would be 0.006 for both, the residential receptor MEI and worker receptor MEI, and less than 0.001 for the school receptor MEI, which are all below the threshold of 1.0. In addition, the total acute hazard index would be nominal (0.000), which would also not exceed the threshold of 1.0.

[49] LSA, Inc. 2025. *Transportation Impact Analysis for the Fairmead Truck Stop Project.* May.

Therefore, construction of the proposed project would not exceed SJVAPCD thresholds and would not expose nearby sensitive receptors to substantial pollutant concentrations. No significant health risk would occur from project construction emissions.

Operational Health Risk

The proposed project would construct single-family and multi-family residential units, town centers, an elementary/middle school, commercial space for employment opportunities, and public facilities, all supported by an integrated open space and trails network. The OEHHA *Air Toxic Hot Spots Program Risk Assessment Guidelines*[50] has determined that long-term exposure to diesel exhaust particulates poses the highest cancer risk of any TAC it has evaluated. In addition, CARB has also identified DPM emitted by off-road and diesel-fueled engines as a TAC.[51] As such, the TAC of concern would be DPM associated with the use of diesel engines during project construction and operation. For risk assessment procedures, the OEHHA specifies that the surrogate for whole diesel exhaust is DPM. HRA analyses typically use PM_{10} emissions to represent DPM emissions, consistent with OEHHA guidance.

Known health effects related to ozone include worsening of bronchitis, asthma, and emphysema and a decrease in lung function. Particulate matter can also lead to a variety of health effects in people. These include premature death of people with heart or lung disease, heart attacks, irregular heartbeat, decreased lung function, and increased respiratory symptoms.

As demonstrated in Table I above, although the emissions from operations resulting from implementation of the proposed project are expected to exceed the SJVAPCD's project level thresholds, this does not in itself constitute a significant health impact.

The SJVAPCD's project level thresholds are based in part on Section 180 (e) of the CAA. The project level thresholds are intended to provide a means of consistency in significance determination within the environmental review process.

Notwithstanding, simply exceeding the SJVAPCD's project level criteria pollutant thresholds does not constitute a particular health risk impact to an individual nearby. The reason for this is that the project level criteria pollutant thresholds are in tons/year emitted into the air, whereas health effects are determined based on the concentration of a pollutant in the air at a particular location (e.g., ppm by volume of air or $\mu g/m^3$ of air). CAAQS and NAAQS were developed to protect the most susceptible population groups from adverse health effects and were established in terms of ppm or $\mu g/m^3$ for the applicable emissions.

As demonstrated in Table I above, the proposed project's long-term operational ROG, NO_X, and PM_{10} emissions would exceed the SJVAPCD's significance criteria. As described above, the majority of the

50 OEHHA. 2015. Air Toxic Hot Spots Program – Risk Assessment Guidelines. February. Website: https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf (accessed September 2025)

51 CARB. 2025. Overview: Diesel Exhaust and Health. Website: https://ww2.arb.ca.gov/resources/overview-diesel-exhaust-and-health (accessed September 2025)

project's operational-source emissions are generated by passenger cars accessing the project. Neither the project applicant nor the City have regulatory authority to control tailpipe emissions, and there are no additional feasible measures that would reduce project operational-source emissions to a less than significant level. Furthermore, approximately half of ROG emissions are derived from the use of consumer products, and the project applicant and City do not have regulatory authority to control the use of such products. Implementation of MM AIR-1 would reduce emissions to the maximum extent feasible, but the proposed project's operational emissions of ROG, NO_X, and PM_{10}would represent a significant and unavoidable impact.

Furthermore, air quality trends for emissions of ROG, NO_X, ozone (which is a byproduct of ROG and NO_X), and PM emissions have been trending downward within the SJVAB even as development has increased over the last several years. Therefore, continued implementation of the proposed project is not expected to result in any SJVAB-wide increase in health effects.

As noted in the Brief of Amicus Curiae by the SJVAPCD (2015),[52] the SJVAPCD has acknowledged that currently available modeling tools are not equipped to provide a meaningful analysis of the correlation between an individual development project's air emissions and specific human health impacts. This document is incorporated herein by reference.

Additionally, the SJVAPCD acknowledges that health effects quantification from ozone, as an example, is correlated with the increases in ambient level of ozone in the air (concentration) that an individual person breathes. The SJVAPCD indicates that it would take a large amount of additional emissions to result in a modeled increase in ambient ozone levels over the entire region. As such, it is not currently possible to accurately quantify ozone-related health impacts caused by NO_X or VOC emissions from relatively small projects (defined as projects with a regional scope) due to photochemistry and regional model limitations.

Further, the SJVAPCD acknowledges that:[53]

> "…the Air District is simply not equipped to analyze and to what extent the criteria pollutant emissions of an individual CEQA project directly impact human health in a particular area…even for projects with relatively high levels of emissions of criteria pollutant precursor emissions."

Current scientific, technological, and modeling limitations prevent the relation of expected adverse air quality impacts to likely health consequences. However, without quantification to guarantee a less than significant finding, this impact is considered to be significant and unavoidable.

Odors

The SJVAPCD addresses odor criteria within the GAMAQI. The district has not established a rule or standard regarding odor emissions, rather, the district has a nuisance rule: "Any project with the

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52 SJVAPCD. 2015. *Amicus Curiae Brief of San Joaquin Valley Unified Air Pollution Control District*. April. Website: www.courts.ca.gov/documents/7-s219783-ac-san-joaquin-valley-unified-air-pollution-control-dist-041315.pdf (accessed September 2025).

53 Ibid.

potential to frequently expose members of the public to objectionable odors should be deemed to have a significant impact."

During project construction, some odors may be present due to diesel exhaust. However, these odors would be temporary and limited to the construction period. The proposed uses are not anticipated to emit any objectionable odors. Any odors in general would be confined mainly to the project site and would readily dissipate. Therefore, the proposed project would not result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

Naturally Occurring Asbestos

The project is in Madera County, which is among the counties found to have serpentine and ultramafic rock in their soils.[54] However, according to the California Geological Survey, no such rock has been identified in the project vicinity. When demolition is proposed during construction, the demolition of existing buildings may expose asbestos used in building materials. However, the proposed project would not involve any demolition or renovation as no current development exists on the project site. Therefore, the potential risk for naturally occurring asbestos during project construction is small and would not be significant.

Valley Fever

The closest sensitive receptors to the project site include single-family residences located across Avenue 14-1/2 at approximately 100 feet south as measured from the project boundary to the building façade. Except under high wind conditions, this distance is sufficient that particulate matter would settle prior to reaching the nearest sensitive receptor. In addition, crosswinds influenced by the adjacent roadways would help dissipate any particulate matter associated with the construction phase of the project. Therefore, any Valley fever spores suspended with the dust would not be anticipated to reach the sensitive receptors. However, during project construction, it is possible that workers could be exposed to Valley fever through fugitive dust. Dust control measures, consistent with SJVAPCD Regulation VIII, would reduce the exposure to the workers and sensitive receptors. Therefore, dust from the construction of the project is not anticipated to significantly add to the existing exposure of people to Valley fever.

ENERGY IMPACTS

The following described the potential impacts regarding energy resources that could result from implementation of the proposed project.

Energy Consumption

The proposed project would increase the demand for energy through day-to-day operations and fuel consumption associated with project construction. This section discusses energy use resulting from implementation of the proposed project and evaluates whether the proposed project would result in

[54] California Department of Conservation (DOC). n.d. California Geological Survey. Asbestos. Website: https://www.conservation.ca.gov/cgs/minerals/mineral-hazards (accessed September 2025).

the wasteful, inefficient, or unnecessary consumption of energy resources or conflict with any applicable plans for renewable energy and energy efficiency.

Construction Energy Use

Construction of the proposed project is anticipated to be completed in approximately 9 years. The proposed project would require energy for activities such as the manufacture and transportation of building materials, grading activities, and building construction. Construction of the proposed project not involve the consumption of natural gas. The construction-related equipment would not be powered by natural gas, and no natural gas demand is anticipated during construction.

Transportation energy represents the largest energy use during construction and would occur from the transport and use of construction equipment, delivery vehicles and haul trucks, and construction worker vehicles that would use petroleum fuels (e.g., diesel fuel and/or gasoline). Therefore, the analysis of energy use during construction focuses on fuel consumption. Construction trucks and vendor trucks hauling materials to and from the project site would be anticipated to use diesel fuel, whereas construction workers traveling to and from the project site would be anticipated to use gasoline-powered vehicles. Fuel consumption from transportation uses depends on the type and number of trips, VMT, the fuel efficiency of the vehicles, and the travel mode.

Estimates of fuel consumption (diesel fuel and gasoline) from construction equipment, construction trucks, and construction worker vehicles were based on default construction equipment assumptions and trip estimates from CalEEMod and fuel efficiencies from EMFAC2025. Fuel consumption estimates are presented in Table K. CalEEMod output sheets are included in Appendix A, and detailed energy calculations are included in Appendix C.

Table K: Energy Consumption Estimates During Construction

Energy Type	Total Energy Consumption	Percentage Increase Countywide
Total Fuel Consumption		
Diesel Fuel (total gallons)	1,420,857.2	-
Gasoline (total gallons)	807,487.0	-
Annual Fuel Consumption		
Diesel Fuel (total gallons)	157,843.0	0.3
Gasoline (total gallons)	89,720.8	0.1

Source: Compiled by LSA (August 2025).

As indicated in Table K, the proposed project would consume a total approximately 1,420,857.2 gallons of diesel fuel and approximately 807,487 gallons of gasoline during the construction period. Construction of the proposed project is anticipated to occur for 9 years. Therefore, when averaged over the 9-year construction period, the proposed project is estimated to consume approximately 157,843 gallons of diesel fuel and approximately 89,720.8 gallons of gasoline per year. Based on fuel consumption obtained from EMFAC2025, approximately 61.4 million gallons of gasoline and approximately 45.7 million gallons of diesel will be consumed from vehicle trips in Madera County in 2026. Therefore, the proposed project would increase the annual construction-generated fuel use in

Madera County by approximately 0.3 percent for diesel fuel usage and by approximately 0.1 percent for gasoline fuel usage. As such, project construction would have a negligible effect on local and regional energy supplies. Furthermore, impacts related to energy use during construction would be temporary and relatively small in comparison to Madera County's overall use of the State's available energy resources. No unusual project characteristics would necessitate the use of construction equipment that would be less energy efficient than at comparable construction sites in the region or the State. In addition, construction activities are not anticipated to result in an inefficient use of energy because gasoline and diesel fuel would be supplied by construction contractors who would conserve the use of their supplies to minimize their costs on the project. The proposed project would not cause or result in the need for additional energy facilities or an additional or expanded delivery system. For these reasons, fuel consumption during construction of the proposed project would not be inefficient, wasteful, or unnecessary.

Operational Energy Use

Operational energy use is typically associated with natural gas use, electricity consumption, and fuel used for vehicle trips associated with a project. It is not yet known whether the unmitigated proposed project would include natural gas. Therefore, as a conservative assumption, this analysis assumes that the unmitigated proposed project would utilize natural gas during project operations. Energy consumption was estimated for the proposed project using default energy intensities by land use type in CalEEMod.

The proposed project would also result in energy usage associated with gasoline and diesel fuel consumed by project-related vehicle and truck trips. Fuel use associated with vehicle and truck trips generated by the proposed project were calculated based on the project's trip generation,[55] which identifies that the proposed project would generate approximately 24,536 daily trips. The amount of operational fuel use was estimated using CARB's EMFAC2025 model, which provided projections for typical daily fuel usage in Madera County.

Electricity, natural gas, and fuel usage estimates associated with operation of the proposed project are shown in Table L.

Table L: Energy Consumption Estimates During Operation

Energy Type	Annual Energy Consumption
Electricity Consumption (kWh/year)	15,620,033.0
Natural Gas (Therms/year)	584,455.0
Gasoline (gallons/year)	2,265,694.4
Diesel Fuel (gallons/year)	366,633.6

Source: Compiled by LSA (August 2025).
kWh = kilowatt-hours

[55] 2025. Granite Creek Trip Generation Table. July 8.

As shown in Table L, the estimated potential increase in electricity demand associated with the operation of the proposed project is 15,620,033 kWh per year. Total electricity consumption in Madera County in 2023 was 1,548 GWh (~1,548,000,000 kWh). Therefore, operation of the proposed project would increase the annual electricity consumption in Madera County by approximately 1.0 percent.

As shown in Table L, the estimated potential increase in natural gas demand associated with the operation of the unmitigated proposed project is 584,455 therms per year. Total natural gas consumption in Madera County in 2023 was 47.6 million therms. Therefore, operation of the proposed project would increase the annual natural gas consumption in Madera County by approximately 1.2 percent. However, the proposed project would be required to comply with MM AIR-1, which, among other measures, requires that the proposed project includes all electric development. Therefore, with implementation of MM AIR-1, the proposed project would not be increasing natural gas consumption in the region.

Electrical and natural gas demand associated with project operations would not be considered inefficient, wasteful, or unnecessary in comparison to other similar developments in the region. Furthermore, the proposed project would not conflict with or obstruct a State or local plan for renewable energy or energy efficiency. The proposed project would also be required to adhere to all federal, State, and local requirements for energy efficiency, including the Title 24 standards. Title 24 building energy efficiency standards establish minimum efficiency standards related to various building features, including appliances, water and space heating and cooling equipment, building insulation and roofing, and lighting, which would further reduce energy usage.

As shown in Table L, the increase in fuel use associated with the vehicle trips generated by the proposed project is estimated at 2,265,694.4 gallons of gasoline and 366,633.6 gallons of diesel fuel per year. This analysis conservatively assumes that all vehicle trips generated as a result of project operation would be new to Madera County. Based on fuel consumption obtained from EMFAC2025, approximately 37.5 million gallons of gasoline and approximately 34.7 million gallons of diesel will be consumed from vehicle trips in Madera County in 2035. Therefore, vehicle and truck trips associated with the proposed project would represent approximately 6 percent of the annual fuel use in Madera County for gasoline and approximately 1 percent of the annual fuel use for diesel. As discussed in further detail in the GHG analysis, the proposed project would result in fewer VMT per capita compared to the regional threshold and, therefore, would result in the efficient use of fuel for transportation. Therefore, fuel consumption associated with vehicle trips generated by the proposed project operations would not be considered inefficient, wasteful, or unnecessary in comparison to other similar developments in the region.

Conflicts with Renewable Energy or Energy Efficiency Plans

In 2002, the Legislature passed SB 1389, which required the CEC to develop an integrated energy plan every 2 years for electricity, natural gas, and transportation fuels for the Integrated Energy Policy Report. The plan calls for the State to assist in the transformation of the transportation system to improve air quality, reduce congestion, and increase the efficient use of fuel supplies with the least environmental and energy costs. To further this policy, the plan identifies a number of strategies, including assistance to public agencies and fleet operators in implementing incentive

programs for ZEVs and their infrastructure needs, and encouragement of urban designs that reduce VMT and accommodate pedestrian and bicycle access.

The CEC's *2024 Integrated Energy Policy Report Update* provide the results of the CEC's assessments of a variety of energy issues facing California. As indicated above, energy usage during construction of the proposed project would be temporary in nature and relatively small in comparison to the overall use in the County. In addition, energy usage associated with operation of the proposed project would be relatively small in comparison to the overall use in Madera County, and the State's available energy resources. Therefore, energy impacts at the regional level would be negligible. Because California's energy conservation planning actions are conducted at a regional level, and because the proposed project's total impact on regional energy supplies would be minor, the proposed project would not conflict with or obstruct California's energy conservation plans as described in the CEC's Integrated Energy Policy Report.

The City's General Plan includes energy efficiency policies CON-40, CON-44, and CON-45 that are relevant to the proposed project. The proposed project would comply with each policy through the required compliance with the CALGreen Code, as ensured during City review, and the energy efficiency standards set forth in MM AIR-1. Additionally, as demonstrated above, the proposed project would not result in the inefficient, wasteful, and unnecessary consumption of energy.

In conclusion, potential impacts related to conflict with or obstruction of a State or local plan for renewable energy or energy efficiency would be less than significant, and no mitigation is required.

GREENHOUSE GAS IMPACTS

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

Generation of Greenhouse Gas Emissions

This section describes the proposed project's construction- and operational-related GHG emissions and contribution to global climate change.

Short-Term Greenhouse Gas Emissions

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

The SJVAPCD does not have an adopted threshold of significance for construction-related GHG emissions. However, lead agencies are encouraged to quantify and disclose GHG emissions that would occur during construction. Using CalEEMod, it is estimated that emissions associated with

construction of the proposed project would be approximately 11,613 metric tons of CO_2e. Construction GHG emissions were amortized over the life of the project (assumed to be 30 years[56]) and added to the operational emissions. When annualized over the life of the project, amortized construction emissions would be approximately 387.1 MT CO_2e per year.

Long-Term Greenhouse Gas Emissions

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

Following guidance from the SJVAPCD, GHG emissions for operation of the project were calculated using CalEEMod and the modeling assumptions outlined in the Methodology section of this document. Based on the analysis results, summarized in Table M, the proposed project would result in emissions of approximately 25,916.5 MT TCO_2e per year. These estimated emissions are provided for informational purposes, and the significance of the proposed project is further analyzed below. CalEEMod output sheets are provided in Appendix A.

Table M: Project Greenhouse Gas Emissions

Emission Type	Operational Emissions (Metric Tons per Year)			
	CO_2	CH_4	N_2O	CO_2e
Mobile Sources	19,596	0.7	1.0	19,939
Area Sources	604.3	<0.1	<0.1	605.0
Energy Sources	4,545.7	0.5	<0.1	4,568.6
Water Sources	59.8	3.1	0.1	160.9
Waste Sources	169.1	16.9	0.0	591.5
Amortized Construction Emissions				51.5
Total Operational Emissions				**25,916.5**

Source: Compiled by LSA (August 2025).
CH_4 = methane
CO_2 = carbon dioxide
CO_2e = carbon dioxide equivalent
N_2O = nitrous oxide

[56] Amortization over a 30-year project lifetime is the industry standard assumption. This is a conservative approach as the proposed project is anticipated to have a lifespan greater than 30 years.

As discussed, the SJVAPCD has not established a numeric threshold for GHG emissions. The significance of GHG emissions may be evaluated based on locally adopted quantitative thresholds or consistency with a regional GHG reduction plan (e.g., a Climate Action Plan). Therefore, consistent with the *State CEQA Guidelines*, Section 15183.5, if a project is consistent with an adopted qualified Greenhouse Gas Reduction Strategy, it can be presumed that the project would not have significant GHG emission impacts. However, neither the City nor the SJVAPCD has developed or adopted numeric GHG significance thresholds.

In the absence of any City or SJVAPCD specific guidelines or thresholds, this analysis evaluates the proposed project for consistency with the Bay Area Air District Justification Report,[57] which identifies project design elements as the applicable thresholds of significance. If a project is designed and built to incorporate design elements related to natural gas, energy, VMT, and EVs, then it would contribute its portion of what is necessary to achieve California's long-term climate goals—its "fair share"—and an agency reviewing the project under CEQA can conclude that the project would not make a cumulatively considerable contribution to global climate change.

Per the significance thresholds described above, a less than significant GHG impact would occur if the project were consistent with the identified design standards.

Natural Gas Usage. According to the Justification Report, a less than significant GHG impact would occur if the project does not include natural gas appliances or natural gas plumbing. It is not yet know whether the unmitigated proposed project would include natural gas. Therefore, as worst case scenario, the unmitigated project was assumed to include natural gas throughout this analysis. Without mitigation, the proposed project would conflict with this design element and a significant impact would occur. However, with implementation of MM AIR-1, which requires several emissions reduction features, one of which is a requirement for all electric development, the proposed project would be consistent with this design element (Criterion Buildings a.).

Energy Usage. Under this design criterion, the project must not result in any wasteful, inefficient, or unnecessary energy usage as determined by the analysis required under CEQA Section 21100(b)(3) and Section 15126.2(b) of the *State CEQA Guidelines*. Energy use consumed by the proposed project would be associated with electricity consumption associated with the project. Energy consumption was estimated for the project using default energy intensities by land use type in the CalEEMod output, which is included in Attachment B.

The estimated potential increase in electricity demand associated with the operation of the proposed project is 15,620,033 kWh per year. Total electricity consumption in Madera County in 2023 was 1,548 GWh (~1,548,000,000 kWh). Therefore, operation of the proposed project would increase the annual electricity consumption in Madera County by approximately 1.0 percent. As mentioned above, with implementation of MM AIR-1, the proposed project would not increase natural gas consumption.

[57] Bay Area Air Quality Management District. 2022. *Justification Report: CEQA Thresholds for Evaluating the Significance of Climate Impacts From Land Use Projects and Plans*. April.

In addition, the proposed project would be constructed to current Title 24 standards, which would require energy-saving building features. As such, based on this analysis, as required under CEQA Section 21100(b)(3) and Section 15126.2(b) of the *State CEQA Guidelines*, the proposed project would not result in the wasteful, inefficient, or unnecessary consumption of fuel or energy and would incorporate renewable energy and energy efficiency measures into the building design, equipment use, and transportation. As such, the proposed project would be consistent with this design element (Criterion Buildings b.).

Vehicle Miles Traveled. As discussed above, development would be considered to have a less than significant GHG emission impact from transportation sources if it would achieve a reduction in project-generated VMT below the regional average. The proposed project includes the development of single-family and multi-family residential units, town centers, an elementary/middle school, commercial space for employment opportunities, and public facilities, all supported by an integrated open space and trails network. Project-generated VMT was estimated using the MCTC Travel Demand Forecasting Model and analyzed in a Vehicle Miles Traveled Analysis Memorandum (Memo).[58] The Memo concluded that the project-generated VMT would be below the threshold of significance, defined as 15 percent below the baseline regional VMT, and the impact would be less than significant. Therefore, the proposed project would be consistent with this project design element (Criterion Transportation a.).

Electric Vehicle Requirements. The final project design element that the proposed project should include to ensure that it is achieving its "fair share" of GHG emission reductions is compliance with EV requirements in the most recently adopted version of the CALGreen Code Tier 2 measures. It is not yet known whether the proposed project would include EV charging. However, the proposed project would be required to implement MM AIR-1, which requires that the proposed project shall provide electric vehicle (EV) charging capabilities that meet the requirements of the latest version of the California Green Building Standards Code (CALGreen Code) Tier 2 Voluntary Standards as part of the final project designs. Therefore, with implementation of MM AIR-1, the proposed project would be consistent with this design element (Criterion Transportation b.).

With implementation of MM AIR-1, the proposed project would be consistent with the project design elements related to natural gas, energy usage, and EV requirements. Therefore, the proposed project would be consistent with the GHG emission thresholds identified for this project. As such, with implementation of MM AIR-1, the proposed project would not result in the generation of GHG emissions that would have a significant impact on the environment.

Consistency with Greenhouse Gas Emissions Reduction Plans

An evaluation of the proposed project's consistency with the CARB's 2022 Scoping Plan, the MCTC RTP/SCS, and the City's CAP is provided below.

[58] LSA Associates, Inc. 2025. *Granite Creek Master Plan Project Vehicle Miles Traveled Analysis Memorandum (LSA Project# 20252395).* August.

CARB 2022 Scoping Plan

The following discussion evaluates the proposed project according to the goals of the 2022 Scoping Plan, EO B-30-15, AB 1279, SB 32, and AB 197.

EO B-30-15 added the immediate target of reducing GHG emissions to 40 percent below 1990 levels by 2030. CARB released a second update to the Scoping Plan, the 2017 Scoping Plan, to reflect the 2030 target set by EO B-30-15 and codified by SB 32. SB 32 affirms the importance of addressing climate change by codifying into statute the GHG emissions reductions target of at least 40 percent below 1990 levels by 2030 contained in EO B-30-15. SB 32 builds on AB 32 and keeps us on the path toward achieving the State's 2050 objective of reducing emissions to 80 percent below 1990 levels. The companion bill to SB 32, AB 197, provides additional direction to the CARB related to the adoption of strategies to reduce GHG emissions. Additional direction in AB 197 intended to provide easier public access to air emissions data that are collected by CARB was posted in December 2016. AB 1279 establishes State policy to achieve net zero GHG emissions no later than 2045 and for Statewide anthropogenic GHG emissions to be reduced to at least 85 percent below 1990 levels by 2045. In addition, the 2022 Scoping Plan assesses progress toward the statutory 2030 target, while laying out a path to achieving carbon neutrality no later than 2045.

Energy efficient measures are intended to maximize energy efficiency building and appliance standards, pursue additional efficiency efforts including new technologies and new policy and implementation mechanisms, and pursue comparable investment in energy efficiency from all retail providers of electricity in California. In addition, these measures are designed to expand the use of green building practices to reduce the carbon footprint of California's new and existing inventory of buildings. As identified above, the proposed project would be required to comply with the latest Title 24 and CALGreen Code standards regarding energy conservation requirements. The elimination of natural gas in new development would help projects implement their "fair share" of achieving long-term 2045 carbon neutrality consistent with State goals. As such, if a project does not utilize natural gas, a lead agency can conclude that it would be consistent with achieving the 2045 neutrality goal and will not have a cumulative considerable impact on climate change.[59] It is not yet known whether the proposed project would include natural gas. To be conservative, this analysis assumes that natural gas would be included in the unmitigated project. However, MM AIR-1 would require that the proposed project includes all electric development. Further, the proposed project will be constructed with the latest Title 24 building design and will meet all required energy efficiency measures. Therefore, with implementation of MM AIR-1, the proposed project would comply with applicable energy measures.

Water conservation and efficiency measures are intended to continue efficiency programs and use cleaner energy sources to move and treat water. Increasing the efficiency of water transport and reducing water use would reduce GHG emissions. As noted above, buildout associated with the proposed project would be required to comply with the latest Title 24 and CALGreen Code

[59] Bay Area Air Quality Management District. 2022. *Justification Report: CEQA Thresholds for Evaluating the Significance of Climate Impacts From Land Use Projects and Plans.* April. Website: https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa-guidelines-2022/appendix-b-thresholds-for-evaluating-significance-of-climate-impacts_final-pdf (accessed September 2025).

standards, which include a variety of different measures, including reduction of wastewater and water use. In addition, the proposed project would use drip irrigation and install low-flow water fixtures. Therefore, the proposed project would not conflict with any of the water conservation and efficiency measures.

The goal of transportation and motor vehicle measures is to develop regional GHG emissions reduction targets for passenger vehicles. Specific regional emission targets for transportation emissions would not directly apply to the proposed project. As noted previously, implementation of the proposed project would result in a less-than-significant VMT impact. The proposed project would also be designed to support low and zero emission vehicles by including an EV charging stations. Therefore, the proposed project would not conflict with the identified transportation and motor vehicle measures.

MCTC 2022 Regional Transportation Plan/Sustainable Communities Strategy

The MCTC 2022 RTP/SCS[60] reflects transportation planning for Madera County through 2046. The vision, goals, and policies in the 2022 RTP are intended to serve as the foundation for both short and long-term planning and guide implementation activities. The core vision in the 2022 RTP is to create a region of diverse, safe, resilient, and accessible transportation options that improve the quality of life for all residents by fostering sustainability, equity, a vibrant economy, clean air, and healthy communities. The 2022 RTP contains transportation projects to help more efficiently distribute population, housing, and employment growth, as well as forecast development that is generally consistent with regional-level general plan data. The actions in the 2022 RTP address all transportation modes (e.g., highways, local streets and roads, mass transportation, rail, bicycle, and aviation facilities and services) and consist of short and long-term activities that address regional transportation needs. While the actions are organized by the five key policy areas, many of them support multiple goals and policies. Some actions are intended to support the SCS and reduce GHG emissions directly, while others are focused on the RTP's broader goals. The 2022 RTP does not require that local General Plans, Specific Plans, or zoning be consistent with the 2022 RTP, but provides incentives for consistency for governments and developers.

The proposed project would not interfere with the MCTC ability to achieve the region's GHG reductions. Furthermore, the proposed project would not conflict with the 2022 RTP targets because those targets were established and are applicable on a regional level. The proposed project would develop single-family and multi-family residential units, town centers, an elementary/middle school, commercial space for employment opportunities, and public facilities, all supported by an integrated open space and trails network. Under *State CEQA Guidelines* Section 15206, a project has the potential to be regionally significant if it would house more than 1,000 persons, occupy more than 40 acres of land, or encompass more than 650,000 sq ft of floor area. Thus, the proposed project would be considered regionally significant.

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60 Madera County Transportation Commission. 2022. *2022 Regional Transportation Plan and Sustainable Communities Strategy.* August 31. Website: https://www.maderactc.org/transportation/page/your-madera-2046-rtpscs (accessed September 2025).

Based on the 2016-2024 Housing Element of the City's General Plan, the average household size is approximately 3.87 persons.[61,62] The proposed project would include a total of 1,542 residential units (738 single family units and 804 multi family units). As such, the proposed project has the potential to increase population size in Madera County by approximately 5,968 people. As shown in Table 4-2, Population Increase by Jurisdiction, of the RTP/SCS, the City of Madera is projected to grow from a population of 69,000 in 2025 to 77,015 in 2035, which is the opening year assumed for the proposed project, for a total population increase of 8,015 residents. Therefore, growth projections of the proposed project would be within the parameters of expected overall growth in the City. As such, the proposed project land uses would be consistent with the growth assumptions used in the 2022 RTP. Therefore, it is anticipated that implementation of the proposed project would not interfere with MCTC's ability to implement the regional strategies outlined in the 2022 RTP.

City of Madera Climate Action Plan

As described above, the City of Madera adopted its CAP in December of 2015.[63] The CAP provides a strategy for reducing GHG emissions. It includes objectives and policies from the proposed General Plan that addressed long-term emissions reduction efforts. The timeframe for the CAP extends from the date of adoption through the year 2030. The CAP reduction targets are based on AB 32, Executive Order S-3-05, and Executive Order B-30-15. The State has since adopted updated emission targets for 2030 and additional 2045 (codified by AB 1279); therefore, additional reductions would be required. However, in order to evaluate the proposed project consistency with the CAP, the City has developed the CAP Consistency Worksheet (Appendix E of the CAP). The worksheet is designed to help the City determine if a project is consistent with the CAP but does not define which measures would need to be implemented for the consistency determination, as requirements may vary by project type. The project consistency with the CAP measures is shown in Table N below.

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61 City of Madera. 2015. City of Madera 2016-2024 Housing Element Update. December. Website: https://www.madera.gov/media/n20at0qu/madhe_adopted_12-02-15_highlighted.pdf (accessed January 2026)

62 The City of Madera is currently preparing its 6th Cycle Housing Element (2024-2032). The draft document has not yet been adopted as of this writing.

63 City of Madera. 2015. *City of Madera Climate Action Plan.* September. Website: https://www.madera.gov/media/oejgv0pe/final-madera-cap_september-2015.pdf (accessed January 2026).

Table N: Project Consistency with the City of Madera Climate Action Plan

Measure Name	Project Actions	Project Compliance (Yes/No/NA)	Description/Details
E-2 Energy Efficient New Construction	Is the project consistent with applicable policies of the Conservation Element of the General Plan?	Yes	Applicable policies of the Conservation Element of the General Plan state that projects should aim to reduce dust during construction/demolition activities to the extent feasible (Policy CON-30) and should increase tree coverage to reduce the heat island effect (Policy CON-31). Additionally, all development should be designed to be energy-efficient (Policy CON-40) and development should include green building practices in all projects (Policy CON-44). The proposed project is consistent with the applicable policies of the Conservation Element of the General Plan. The proposed project would be required to comply with SJVAPCD Regulation VIII to reduce fugitive dust (RCM AIR-1); and would include a 9.74-acre open space area and landscaping throughout the plan area, thus increasing tree coverage for the project site. In addition, the proposed project would comply with the applicable CALGreen standards regarding energy conservation and green building standards. Implementation of MM AIR-1 would further enforce project inclusion of green building practices, such as the installation of EV charging stations and solar panels. Therefore, the proposed project would be consistent with the applicable general plan policies under the Conservation Element.
	Does the project exceed Title 24 Energy Efficiency Building Standards, meet the State's Green Building Standards voluntary tier levels, or is LEED Greenpoint, or ENERGY STAR rated?	Yes	As required by MM AIR-1, the proposed project would exceed Title 24 Building Energy Efficiency Standards by 20 percent. Therefore, the proposed project would be consistent with this action.
E-3 On-Site Small-Scale Renewable Energy	Does the project include solar PV systems or solar hot water heaters?	Yes	As required by MM AIR-1, the proposed project would be designed to include solar panels. Therefore, the proposed project would be consistent with the action.

Table N: Project Consistency with the City of Madera Climate Action Plan

Measure Name	Project Actions	Project Compliance (Yes/No/NA)	Description/Details
T-1: Infill and Mixed-Use Development	Is the project consistent with the land use designation(s) shown on the General Plan Land Use Map and with the applicable polies of the Land Use Element of the General Plan policies?	N/A	The proposed project would include annexation into the City, a General Plan amendment, and rezoning. Because the project site is not currently within the City limits, the project cannot show consistency with the General Plan Land Use Map. Applicable policies of the Land Use Element of the General Plan state that new residential development should incorporate amenities which establish a sense of identity at the project or neighborhood level, create opportunities for community interaction, and enhance the visual appeal of the area (Policy LU-20) and single-family developments need to provide functional outdoor recreational space (Policy LU-22). The proposed project would include a variety of land use types, such as residential, open space, and public use, which would create opportunity for community interaction. Additionally, the inclusion of 9.74 acres of open space would serve as function outdoor recreation space. As such, the proposed project would be generally consistent with the relevant policies from the Land Use Element.
	Is the project consistent with the Madera County Blueprint?	Yes	The CAP notes that the Blueprint planning process is a part of land use and transportation planning coordinated by MCTC. As discussed above, the proposed project is consistent with MCTC planning efforts outlined in the RTP/SCS and, therefore, it follows that the project is consistent with the Madera County Blueprint.
	Does the project include mixed-use, higher density (22.5 to 50 units per acre), or infill development?	Yes	The proposed project includes a variety of land uses, including high density residential and mixed use.
	Is the project located within ¼ mile of transit stops or in existing community centers/downtown?	N/A	The proposed project would include annexation into the City, a General Plan amendment, and rezoning. Because the project site is not currently within the City limits, the project site is not located near existing transit stops of community centers. Nevertheless, implementation of the transportation and circulation features set forth in MM AIR-1 would ensure that future development supports public transit use.
T-2 Bicycle and Pedestrian Environment	Is the project consistent with applicable policies of the Community Design and Circulation Elements of the General Plan?	Yes	Applicable policies of the Community Design Element and the Circulation Element of the General Plan relate to designing new development to be walkable pedestrian- and bicycle-oriented development. The proposed project would fulfill the policies of the Madera General Plan Circulation Element and the City's CAP by providing a mix of land uses in close proximity. In addition, implementation of the transportation and circulation features set forth in MM AIR-1 would ensure that future development includes bicycle and pedestrian infrastructure.

Table N: Project Consistency with the City of Madera Climate Action Plan

Measure Name	Project Actions	Project Compliance (Yes/No/NA)	Description/Details
	Is the project consistent with the Bicycle Master Plan?	N/A	The proposed project would include annexation into the City, a General Plan amendment, and rezoning. Because the project site is not currently within the City limits, the project cannot show consistency with the Bicycle Master Plan. Nevertheless, implementation of the transportation and circulation features set forth in MM AIR-1 would ensure that future development includes bicycle infrastructure and connectivity.
	Does the project meet minimum design criteria for bicycle and pedestrian circulation?	Yes	Specific details regarding individual developments facilitated by the proposed project are not available at this time. However, implementation of the transportation and circulation features set forth in MM AIR-1 would ensure that future development includes bicycle and pedestrian infrastructure and connectivity.
	Does the project provide adequate and secure bicycle parking?	N/A	Specific details regarding individual developments facilitated by the proposed project are not available at this time
T-3 Transit Travel	Is the project consistent with applicable policies of the Circulation and Community Development Elements of the General Plan?	Yes	Applicable policies of the Community Design Element and the Circulation Element of the General Plan relate to planning and accommodating for transit travel (Policy CI-28, Policy CI-30, Policy CI-31, Policy CI-41, Policy CI-50, Policy H-5.3, and Policy CD-59). As mentioned above, the proposed project would also include a mixture of land uses which would generally minimize vehicle trips due to internal trip capture. Additionally, implementation of the transportation and circulation features set forth in MM AIR-1 would ensure that future development includes bicycle and pedestrian infrastructure and connectivity to support multimodal travel.
	Does the project provide safe routes to adjacent transit stops, where applicable?	Yes	Specific details regarding individual developments facilitated by the proposed project are not available at this time. However, implementation of the transportation and circulation features set forth in MM AIR-1 would ensure that future development includes safe routes to transit stops where applicable.
	Does the project finance and/or construct bus turnouts and shelters where transit demand warrants such improvements?	N/A	Specific details regarding individual developments facilitated by the proposed project are not available at this time
	Does the project provide public transit vouchers to its employees?	N/A	Specific details regarding individual developments facilitated by the proposed project are not available at this time

Table N: Project Consistency with the City of Madera Climate Action Plan

Measure Name	Project Actions	Project Compliance (Yes/No/NA)	Description/Details
T-4 Commute Trip Reduction	Is the project consistent with applicable policies of the Community Development Element of the General Plan?	Yes	Applicable policies of the Community Design Element and the Circulation Element of the General Plan aim to provide parking for alternative modes of transportation (Policy CD-59) and encourage the use of ridesharing (Policy CI-37). The proposed project would provide EV charging and off-street parking consistent with City requirements. Specific details regarding individual developments facilitated by the proposed project are not available at this time, but it is assumed that bicycle parking would be provided at multi-family, mixed-use, and commercial land uses. In addition, the proposed land use plan would site residences in close proximity to other residential neighborhoods and commercial areas, which would increase the potential for ridesharing.
	Does the project include and/or promote TDM programs?	N/A	The proposed project would not include a transportation demand program (TDM). As noted previously, implementation of the proposed project would result in a less-than-significant VMT impact.
T-5 Traffic Flow and Vehicle Idling	Does the project include measures to improve traffic flow?	Yes	As required by MM AIR-1, appropriate traffic calming measures, such as narrower traffic lanes, traffic signs, etc., would be provided to help reduce traffic speeds, promote attentive driving and increase yield to pedestrians.
T-6 Low Carbon Fuel Vehicles and Infrastructure	Is the project consistent with applicable policies of the Community Development Element of the General Plan?	Yes	Applicable policies of the Community Design Element of the General Plan aim to provide parking for alternative modes of transportation (Policy CD-59). The proposed project would provide EV charging and off-street parking consistent with City requirements. Specific details regarding individual developments facilitated by the proposed project are not available at this time, but it is assumed that bicycle parking would be provided at multi-family, mixed-use, and commercial land uses.
	Is the project consistent with the San Joaquin Valley Plug-in Electric Vehicle (PEV) Readiness Plan?	Yes	As required by MM AIR-1, the project would install EV charging capabilities sufficient to meet the requirements of the latest CALGreen Code Tier 2 Voluntary Standards.
	Does the project include alternative fueling stations or EV charging stations?	Yes	As required by MM AIR-1, the project would install EV charging capabilities sufficient to meet the requirements of the latest CALGreen Code Tier 2 Voluntary Standards.
T-7 Construction and Off-Road Equipment	Would construction of the project use alternatively fueled construction vehicles/equipment (i.e., repowered engines, electric drive trains, CARB-approved low carbon fuel, electrically-powered)?	No	The proposed project would utilize a minimum of Tier 2 or better construction equipment engines as recommended by CARB. As described in the Energy Impacts Section, construction contractors would be encouraged to conserve the use of their supplies to minimize their costs on the project. In addition, energy (i.e., fuel) usage on the project site during construction would be temporary in nature and would be relatively small in comparison to the State's available energy sources.

Table N: Project Consistency with the City of Madera Climate Action Plan

Measure Name	Project Actions	Project Compliance (Yes/No/NA)	Description/Details
	Would the project include low-maintenance native landscaping or xeriscaping?	Yes	The proposed project would include 9.74 acres of open space. The project would be required to comply with the California Model Water Efficient Landscape Ordinance which includes ordinances for low maintenance drought tolerant landscape and irrigation requirements.
W-1 Exceed SB X7-7 Water Conservation Target	Does the project incorporate water efficiency and water conservation measures?	Yes	The project would be required to comply with the applicable CALGreen standards, which include a variety of different measures, including reduction of wastewater and water use. In addition, the proposed project would also be required to comply with the California Model Water Efficient Landscape Ordinance.
W-2 Recycled Water	Is the project consistent with applicable policies of the Conservation Element of the General Plan?	Yes	Applicable policies of the Conservation Element of the General Plan support the use of reclaimed water (Policy CI-54, Policy CON-5, and Policy CON-6), implement strategies to ensure long-term sustainability of water supply (Policy CON-2), and encourage the use of gray water systems and other water reuse methods (Policy CON-7). The proposed project is consistent with these policies and would strive for water efficiency in accordance with the applicable CALGreen standard measures for water efficiency.
	Does the project incorporate recycled/reclaimed water?	Yes	As mentioned above, the proposed project would be required to comply with the applicable CALGreen standards, which include a variety of different measures, including reduction of wastewater and water use. The proposed project would also be required to comply with the California Model Water Efficient Landscape Ordinance. In addition, the proposed project would include a basin on at least one of the open space lots for reclaimed water.
U-1 Trees and Vegetation	Is the project consistent with applicable policies of the Community Design Element of the General Plan?	Yes	Applicable policies of the Community Design Element of the General Plan support the planning of street trees (Policy CD-26, Policy CD-43), encourage landscaping to reduce the urban heat island effect (Policy CON-10, Policy Con-31, Policy CD-4), and establish landscape and façade maintenance programs (Policy CD-7). The proposed would include landscaped areas as well as 9.74 acres of open space, and would therefore be consistent with these policies
	Does the project include the planting of new trees or new acres of vegetated land?	Yes	As mentioned above, the proposed project would include landscaped areas as well as 9.74 acres of open space. Therefore, the proposed project would be consistent with this measure.

Source: City of Madera (2015) and LSA (January 2026).

As shown in Table K, the proposed project would generally be consistent with the applicable project actions from the City's CAP Consistency Checklist. The proposed project would also be supporting and implementing the General Plan objectives and policies. Therefore, the proposed project would not conflict with or obstruct the implementation of the City's CAP.

Conclusion

The proposed project would be consistent with applicable State plans and programs designed to reduce GHG emissions, including the CARB's 2022 Scoping Plan, MCTC RTP/SCS, and the City's CAP. Therefore, the proposed project would not conflict with an applicable plan, policy or regulation adopted for the purpose of reducing GHG emissions.

CONCLUSION

Based on the analysis presented above, with implementation of RCM AIR-1, construction activities associated with the proposed project would not result in the generation of criteria air pollutants that would exceed SJVAPCD thresholds of significance. However, operational emissions would result in an exceedance of ROG emissions. Even with implementation of MM AIR-1, the proposed project would exceed the SJVAPCD ROG, NO_X, and PM_{10} significance thresholds and would cumulatively contribute to the nonattainment designations in the air basin for ozone. Therefore, the proposed project would conflict with or obstruct implementation of SJVAPCD air quality plans. As such, operation of the proposed project would result in a cumulatively considerable net increase of criteria pollutants for which the project region is in nonattainment under an applicable federal or State AAQS. This impact would be significant and unavoidable. Construction of the proposed project is not expected to produce significant emissions that would affect nearby sensitive receptors; however, the proposed project would result in a significant and unavoidable impact related to operational health risk due to the proposed project's potential contribution to regional exceedances of the federal and State AAQS. The project would not result in other emissions (such as those leading to odors) affecting a substantial number of people. As mentioned above, neither the County of Madera nor the SJVAPCD has developed or adopted numeric GHG significance thresholds. Therefore, this analysis evaluated the project based on the project design features and concludes that the project would not result in the emissions of substantial GHG emissions. Additionally, the project would not conflict with the State's GHG emissions reductions objectives embodied in EO B-30-15, AB 1279, SB 32, or AB 197. Therefore, the proposed project's incremental contribution to cumulative GHG emissions would not be cumulatively considerable.

APPENDIX A

CALEEMOD OUTPUT SHEETS

Madera Granite Creek Precise Plan Custom Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

1.2. Land Use Types

1.3. User-Selected Emission Reduction Measures by Emissions Sector

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

2.2. Construction Emissions by Year, Unmitigated

2.3. Construction Emissions by Year, Mitigated

2.4. Operations Emissions Compared Against Thresholds

2.5. Operations Emissions by Sector, Unmitigated

2.6. Operations Emissions by Sector, Mitigated

3. Construction Emissions Details

3.1. Site Preparation (2026) - Unmitigated

3.2. Site Preparation (2026) - Mitigated

3.3. Site Preparation (2027) - Unmitigated

3.4. Site Preparation (2027) - Mitigated

3.5. Grading (2027) - Unmitigated

3.6. Grading (2027) - Mitigated

3.7. Grading (2028) - Unmitigated

3.8. Grading (2028) - Mitigated

3.9. Building Construction (2028) - Unmitigated

3.10. Building Construction (2028) - Mitigated

3.11. Building Construction (2029) - Unmitigated

3.12. Building Construction (2029) - Mitigated

3.13. Building Construction (2030) - Unmitigated

3.14. Building Construction (2030) - Mitigated

3.15. Building Construction (2031) - Unmitigated

3.16. Building Construction (2031) - Mitigated

3.17. Building Construction (2032) - Unmitigated

3.18. Building Construction (2032) - Mitigated

3.19. Building Construction (2033) - Unmitigated

3.20. Building Construction (2033) - Mitigated

3.21. Paving (2033) - Unmitigated

3.22. Paving (2033) - Mitigated

3.23. Paving (2034) - Unmitigated

3.24. Paving (2034) - Mitigated

3.25. Architectural Coating (2034) - Unmitigated

3.26. Architectural Coating (2034) - Mitigated

3.27. Architectural Coating (2035) - Unmitigated

3.28. Architectural Coating (2035) - Mitigated

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

4.1.2. Mitigated

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

4.2.2. Electricity Emissions By Land Use - Mitigated

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

4.2.4. Natural Gas Emissions By Land Use - Mitigated

4.3. Area Emissions by Source

4.3.1. Unmitigated

4.3.2. Mitigated

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

4.4.2. Mitigated

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

4.5.2. Mitigated

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

4.6.2. Mitigated

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

4.7.2. Mitigated

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

4.8.2. Mitigated

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

4.9.2. Mitigated

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

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

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

5. Activity Data

5.1. Construction Schedule

5.2. Off-Road Equipment

5.2.1. Unmitigated

5.2.2. Mitigated

5.3. Construction Vehicles

5.3.1. Unmitigated

5.3.2. Mitigated

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

5.5. Architectural Coatings

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

5.6.2. Construction Earthmoving Control Strategies

5.7. Construction Paving

5.8. Construction Electricity Consumption and Emissions Factors

5.9. Operational Mobile Sources

5.9.1. Unmitigated

5.9.2. Mitigated

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.1.2. Mitigated

5.10.2. Architectural Coatings

5.10.3. Landscape Equipment

5.10.4. Landscape Equipment - Mitigated

5.11. Operational Energy Consumption

5.11.1. Unmitigated

5.11.2. Mitigated

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

5.12.2. Mitigated

5.13. Operational Waste Generation

5.13.1. Unmitigated

5.13.2. Mitigated

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

5.14.2. Mitigated

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

5.15.2. Mitigated

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

5.16.2. Process Boilers

5.17. User Defined

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

5.18.1.2. Mitigated

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

5.18.1.2. Mitigated

5.18.2. Sequestration

5.18.2.1. Unmitigated

5.18.2.2. Mitigated

8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Madera Granite Creek Precise Plan
Construction Start Date	1/5/2026
Operational Year	2035
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.90
Precipitation (days)	25.8
Location	36.96176843725058, -120.12066912269258
County	Madera
City	Unincorporated
Air District	San Joaquin Valley APCD
Air Basin	San Joaquin Valley
TAZ	2544
EDFZ	5
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.30

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
Single Family Housing	738	Dwelling Unit	105	1,439,100	0.00	—	2,413	—

Apartments Low Rise	804	Dwelling Unit	35.4	852,240	0.00	—	2,629	—
Regional Shopping Center	418	1000sqft	25.3	417,609	0.00	—	1,848	—
Elementary School	900	Student	1.73	75,243	0.00	0.00	—	—
City Park	9.74	Acre	9.74	0.00	0.00	0.00	—	—
Other Asphalt Surfaces	21.4	Acre	21.4	0.00	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Transportation	T-14*	Provide Electric Vehicle Charging Infrastructure
Transportation	T-32*	Orient Project Toward Transit, Bicycle, or Pedestrian Facility
Transportation	T-34*	Provide Bike Parking
Transportation	T-35*	Provide Tra c Calming Measures
Energy	E-1	Buildings Exceed 2019 Title 24 Building Envelope Energy Efficiency Standards
Energy	E-2	Require Energy Efficient Appliances
Energy	E-15	Require All-Electric Development
Water	W-5	Design Water-Efficient Landscapes
Area Sources	LL-1	Replace Gas Powered Landscape Equipment with Zero-Emission Landscape Equipment
Area Sources	AS-2	Use Low-VOC Paints

* Qualitative or supporting measure. Emission reductions not included in the mitigated emissions results.

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	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	81.0	48.9	45.8	0.09	1.36	7.75	8.87	1.23	3.96	4.98	—	16,981	16,981	0.35	1.54	17,483
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	80.9	48.9	42.0	0.09	1.36	7.75	8.87	1.23	3.96	4.98	—	16,414	16,414	0.42	1.56	16,890
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	45.6	33.2	28.3	0.07	0.93	5.48	6.27	0.84	2.80	3.52	—	11,593	11,593	0.27	1.10	11,937
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	8.32	6.06	5.17	0.01	0.17	1.00	1.14	0.15	0.51	0.64	—	1,919	1,919	0.04	0.18	1,976

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	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	1.15	39.9	28.9	0.05	1.12	7.75	8.87	1.02	3.96	4.98	—	5,396	5,396	0.22	0.05	5,415
2027	1.41	48.9	36.0	0.06	1.36	3.69	5.05	1.23	1.45	2.68	—	6,707	6,707	0.27	0.06	6,732
2028	4.95	48.9	45.8	0.09	1.36	7.70	8.53	1.23	1.92	2.70	—	16,981	16,981	0.35	1.54	17,483
2029	4.54	29.9	43.5	0.09	0.83	7.70	8.53	0.78	1.92	2.70	—	16,637	16,637	0.35	1.54	17,135
2030	4.27	29.4	41.5	0.09	0.83	7.70	8.53	0.78	1.92	2.70	—	16,282	16,282	0.33	1.46	16,754
2031	4.07	28.9	39.8	0.09	0.83	7.70	8.53	0.78	1.92	2.70	—	15,924	15,924	0.33	1.30	16,345
2032	3.84	28.5	38.3	0.09	0.83	7.70	8.53	0.78	1.92	2.70	—	15,569	15,569	0.33	1.23	15,966
2033	3.67	28.2	36.9	0.09	0.83	7.70	8.53	0.71	1.92	2.63	—	15,243	15,243	0.30	1.23	15,636
2034	81.0	1.28	4.76	< 0.005	0.07	1.01	1.08	0.06	0.24	0.30	—	1,112	1,112	0.03	0.01	1,119

Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	1.14	39.9	28.8	0.05	1.12	7.75	8.87	1.02	3.96	4.98	—	5,385	5,385	0.22	0.05	5,405
2027	1.41	48.9	35.9	0.06	1.36	7.75	8.87	1.23	3.96	4.98	—	6,696	6,696	0.27	0.06	6,720
2028	4.30	48.9	42.0	0.09	1.36	7.70	8.53	1.23	1.92	2.70	—	16,414	16,414	0.42	1.56	16,890
2029	4.13	30.9	40.1	0.09	0.83	7.70	8.53	0.78	1.92	2.70	—	16,082	16,082	0.42	1.56	16,558
2030	3.86	30.4	38.4	0.09	0.83	7.70	8.53	0.78	1.92	2.70	—	15,739	15,739	0.39	1.49	16,193
2031	3.67	29.8	36.7	0.09	0.83	7.70	8.53	0.78	1.92	2.70	—	15,390	15,390	0.37	1.49	15,844
2032	3.49	29.3	35.3	0.09	0.83	7.70	8.53	0.78	1.92	2.70	—	15,046	15,046	0.37	1.40	15,472
2033	3.40	29.0	34.2	0.09	0.83	7.70	8.53	0.71	1.92	2.63	—	14,727	14,727	0.35	1.23	15,104
2034	80.9	13.3	10.8	0.01	0.58	1.01	1.08	0.54	0.24	0.56	—	1,576	1,576	0.06	0.01	1,581
2035	80.9	1.33	4.04	< 0.005	0.07	1.01	1.08	0.06	0.24	0.30	—	999	999	0.03	0.01	1,004
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.81	28.2	20.3	0.03	0.79	5.48	6.27	0.72	2.80	3.52	—	3,806	3,806	0.15	0.03	3,820
2027	0.95	33.2	24.3	0.04	0.93	3.30	4.22	0.84	1.45	2.29	—	4,540	4,540	0.18	0.04	4,557
2028	2.30	27.0	28.1	0.06	0.74	4.33	5.07	0.68	1.22	1.90	—	9,097	9,097	0.25	0.70	9,318
2029	2.99	21.8	28.3	0.07	0.59	5.42	6.01	0.56	1.35	1.90	—	11,593	11,593	0.27	1.10	11,937
2030	2.79	21.4	27.2	0.07	0.59	5.42	6.01	0.56	1.35	1.90	—	11,346	11,346	0.27	1.05	11,673
2031	2.66	21.0	26.1	0.07	0.59	5.42	6.01	0.56	1.35	1.90	—	11,095	11,095	0.25	1.04	11,420
2032	2.53	20.8	25.1	0.07	0.59	5.43	6.02	0.56	1.35	1.91	—	10,877	10,877	0.25	0.88	11,153
2033	1.42	14.3	15.0	0.03	0.49	2.42	2.91	0.44	0.60	1.04	—	5,308	5,308	0.13	0.39	5,431
2034	45.6	2.72	3.95	< 0.005	0.12	0.57	0.69	0.12	0.13	0.25	—	817	817	0.03	0.01	821
2035	0.79	0.01	0.04	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	10.0	10.0	< 0.005	< 0.005	10.1
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.15	5.14	3.71	0.01	0.14	1.00	1.14	0.13	0.51	0.64	—	630	630	0.03	0.01	632
2027	0.17	6.06	4.43	0.01	0.17	0.60	0.77	0.15	0.26	0.42	—	752	752	0.03	0.01	754
2028	0.42	4.93	5.13	0.01	0.13	0.79	0.93	0.12	0.22	0.35	—	1,506	1,506	0.04	0.12	1,543

2029	0.54	3.98	5.17	0.01	0.11	0.99	1.10	0.10	0.25	0.35	—	1,919	1,919	0.04	0.18	1,976
2030	0.51	3.90	4.96	0.01	0.11	0.99	1.10	0.10	0.25	0.35	—	1,878	1,878	0.04	0.17	1,933
2031	0.49	3.83	4.75	0.01	0.11	0.99	1.10	0.10	0.25	0.35	—	1,837	1,837	0.04	0.17	1,891
2032	0.46	3.80	4.58	0.01	0.11	0.99	1.10	0.10	0.25	0.35	—	1,801	1,801	0.04	0.15	1,847
2033	0.26	2.60	2.73	0.01	0.09	0.44	0.53	0.08	0.11	0.19	—	879	879	0.02	0.07	899
2034	8.32	0.50	0.72	< 0.005	0.02	0.10	0.13	0.02	0.02	0.05	—	135	135	< 0.005	< 0.005	136
2035	0.14	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.66	1.66	< 0.005	< 0.005	1.67

2.3. Construction Emissions by Year, Mitigated

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

Year	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	1.15	39.9	28.9	0.05	1.12	7.75	8.87	1.02	3.96	4.98	—	5,396	5,396	0.22	0.05	5,415
2027	1.41	48.9	36.0	0.06	1.36	3.69	5.05	1.23	1.45	2.68	—	6,707	6,707	0.27	0.06	6,732
2028	4.95	48.9	45.8	0.09	1.36	7.70	8.53	1.23	1.92	2.70	—	16,981	16,981	0.35	1.54	17,483
2029	4.54	29.9	43.5	0.09	0.83	7.70	8.53	0.78	1.92	2.70	—	16,637	16,637	0.35	1.54	17,135
2030	4.27	29.4	41.5	0.09	0.83	7.70	8.53	0.78	1.92	2.70	—	16,282	16,282	0.33	1.46	16,754
2031	4.07	28.9	39.8	0.09	0.83	7.70	8.53	0.78	1.92	2.70	—	15,924	15,924	0.33	1.30	16,345
2032	3.84	28.5	38.3	0.09	0.83	7.70	8.53	0.78	1.92	2.70	—	15,569	15,569	0.33	1.23	15,966
2033	3.67	28.2	36.9	0.09	0.83	7.70	8.53	0.71	1.92	2.63	—	15,243	15,243	0.30	1.23	15,636
2034	81.0	1.28	4.76	< 0.005	0.07	1.01	1.08	0.06	0.24	0.30	—	1,112	1,112	0.03	0.01	1,119
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	1.14	39.9	28.8	0.05	1.12	7.75	8.87	1.02	3.96	4.98	—	5,385	5,385	0.22	0.05	5,405
2027	1.41	48.9	35.9	0.06	1.36	7.75	8.87	1.23	3.96	4.98	—	6,696	6,696	0.27	0.06	6,720
2028	4.30	48.9	42.0	0.09	1.36	7.70	8.53	1.23	1.92	2.70	—	16,414	16,414	0.42	1.56	16,890

2029	4.13	30.9	40.1	0.09	0.83	7.70	8.53	0.78	1.92	2.70	—	16,082	16,082	0.42	1.56	16,558
2030	3.86	30.4	38.4	0.09	0.83	7.70	8.53	0.78	1.92	2.70	—	15,739	15,739	0.39	1.49	16,193
2031	3.67	29.8	36.7	0.09	0.83	7.70	8.53	0.78	1.92	2.70	—	15,390	15,390	0.37	1.49	15,844
2032	3.49	29.3	35.3	0.09	0.83	7.70	8.53	0.78	1.92	2.70	—	15,046	15,046	0.37	1.40	15,472
2033	3.40	29.0	34.2	0.09	0.83	7.70	8.53	0.71	1.92	2.63	—	14,727	14,727	0.35	1.23	15,104
2034	80.9	13.3	10.8	0.01	0.58	1.01	1.08	0.54	0.24	0.56	—	1,576	1,576	0.06	0.01	1,581
2035	80.9	1.33	4.04	< 0.005	0.07	1.01	1.08	0.06	0.24	0.30	—	999	999	0.03	0.01	1,004
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.81	28.2	20.3	0.03	0.79	5.48	6.27	0.72	2.80	3.52	—	3,806	3,806	0.15	0.03	3,820
2027	0.95	33.2	24.3	0.04	0.93	3.30	4.22	0.84	1.45	2.29	—	4,540	4,540	0.18	0.04	4,557
2028	2.30	27.0	28.1	0.06	0.74	4.33	5.07	0.68	1.22	1.90	—	9,097	9,097	0.25	0.70	9,318
2029	2.99	21.8	28.3	0.07	0.59	5.42	6.01	0.56	1.35	1.90	—	11,593	11,593	0.27	1.10	11,937
2030	2.79	21.4	27.2	0.07	0.59	5.42	6.01	0.56	1.35	1.90	—	11,346	11,346	0.27	1.05	11,673
2031	2.66	21.0	26.1	0.07	0.59	5.42	6.01	0.56	1.35	1.90	—	11,095	11,095	0.25	1.04	11,420
2032	2.53	20.8	25.1	0.07	0.59	5.43	6.02	0.56	1.35	1.91	—	10,877	10,877	0.25	0.88	11,153
2033	1.42	14.3	15.0	0.03	0.49	2.42	2.91	0.44	0.60	1.04	—	5,308	5,308	0.13	0.39	5,431
2034	45.6	2.72	3.95	< 0.005	0.12	0.57	0.69	0.12	0.13	0.25	—	817	817	0.03	0.01	821
2035	0.79	0.01	0.04	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	10.0	10.0	< 0.005	< 0.005	10.1
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.15	5.14	3.71	0.01	0.14	1.00	1.14	0.13	0.51	0.64	—	630	630	0.03	0.01	632
2027	0.17	6.06	4.43	0.01	0.17	0.60	0.77	0.15	0.26	0.42	—	752	752	0.03	0.01	754
2028	0.42	4.93	5.13	0.01	0.13	0.79	0.93	0.12	0.22	0.35	—	1,506	1,506	0.04	0.12	1,543
2029	0.54	3.98	5.17	0.01	0.11	0.99	1.10	0.10	0.25	0.35	—	1,919	1,919	0.04	0.18	1,976
2030	0.51	3.90	4.96	0.01	0.11	0.99	1.10	0.10	0.25	0.35	—	1,878	1,878	0.04	0.17	1,933
2031	0.49	3.83	4.75	0.01	0.11	0.99	1.10	0.10	0.25	0.35	—	1,837	1,837	0.04	0.17	1,891
2032	0.46	3.80	4.58	0.01	0.11	0.99	1.10	0.10	0.25	0.35	—	1,801	1,801	0.04	0.15	1,847
2033	0.26	2.60	2.73	0.01	0.09	0.44	0.53	0.08	0.11	0.19	—	879	879	0.02	0.07	899
2034	8.32	0.50	0.72	< 0.005	0.02	0.10	0.13	0.02	0.02	0.05	—	135	135	< 0.005	< 0.005	136

2035	0.14	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.66	1.66	< 0.005	< 0.005	1.67

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	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	147	85.1	559	1.43	3.13	117	120	3.06	29.7	32.8	1,206	171,425	172,631	129	6.94	178,109
Mit.	131	70.9	444	1.34	1.98	117	119	1.93	29.7	31.6	1,206	153,627	154,833	127	6.90	160,257
% Reduced	11%	17%	21%	6%	37%	—	1%	37%	—	3%	—	10%	10%	1%	1%	10%
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	129	91.7	406	1.33	3.05	117	120	3.00	29.7	32.7	1,206	161,179	162,385	129	7.38	167,840
Mit.	125	78.4	401	1.24	1.98	117	119	1.93	29.7	31.6	1,206	143,671	144,878	128	7.33	150,279
% Reduced	3%	14%	1%	6%	35%	—	1%	36%	—	3%	—	11%	11%	1%	1%	10%
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	134	77.9	443	1.27	2.30	113	115	2.25	28.6	30.9	1,206	149,642	150,848	129	7.00	156,244
Mit.	124	64.2	384	1.19	1.20	113	114	1.15	28.6	29.8	1,206	131,991	133,198	127	6.96	138,539
% Reduced	7%	18%	13%	7%	48%	—	1%	49%	—	4%	—	12%	12%	1%	1%	11%
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	24.4	14.2	80.9	0.23	0.42	20.6	21.0	0.41	5.23	5.64	200	24,775	24,975	21.3	1.16	25,868
Mit.	22.6	11.7	70.0	0.22	0.22	20.6	20.8	0.21	5.23	5.44	200	21,853	22,052	21.0	1.15	22,937
% Reduced	7%	18%	13%	7%	48%	—	1%	49%	—	4%	—	12%	12%	1%	1%	11%

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	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	70.0	57.0	438	1.25	0.87	117	118	0.82	29.7	30.5	—	127,931	127,931	4.21	6.25	130,073
Area	76.0	13.2	115	0.08	1.07	—	1.07	1.05	—	1.05	0.00	15,861	15,861	0.31	0.03	15,878
Energy	0.86	14.9	7.16	0.09	1.19	—	1.19	1.19	—	1.19	—	27,457	27,457	3.07	0.21	27,595
Water	—	—	—	—	—	—	—	—	—	—	185	176	361	19.0	0.45	972
Waste	—	—	—	—	—	—	—	—	—	—	1,021	0.00	1,021	102	0.00	3,573
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	18.7
Total	147	85.1	559	1.43	3.13	117	120	3.06	29.7	32.8	1,206	171,425	172,631	129	6.94	178,109
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	63.7	64.6	394	1.16	0.87	117	118	0.82	29.7	30.5	—	118,007	118,007	4.91	6.69	120,127
Area	65.0	12.2	5.21	0.08	0.99	—	0.99	0.99	—	0.99	0.00	15,539	15,539	0.29	0.03	15,555
Energy	0.86	14.9	7.16	0.09	1.19	—	1.19	1.19	—	1.19	—	27,457	27,457	3.07	0.21	27,595
Water	—	—	—	—	—	—	—	—	—	—	185	176	361	19.0	0.45	972
Waste	—	—	—	—	—	—	—	—	—	—	1,021	0.00	1,021	102	0.00	3,573
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	18.7
Total	129	91.7	406	1.33	3.05	117	120	3.00	29.7	32.7	1,206	161,179	162,385	129	7.38	167,840
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	63.1	59.8	381	1.16	0.85	113	114	0.80	28.6	29.4	—	118,360	118,360	4.46	6.33	120,432
Area	69.9	3.24	55.1	0.02	0.26	—	0.26	0.25	—	0.25	0.00	3,650	3,650	0.07	0.01	3,654
Energy	0.86	14.9	7.16	0.09	1.19	—	1.19	1.19	—	1.19	—	27,457	27,457	3.07	0.21	27,595
Water	—	—	—	—	—	—	—	—	—	—	185	176	361	19.0	0.45	972
Waste	—	—	—	—	—	—	—	—	—	—	1,021	0.00	1,021	102	0.00	3,573

Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	18.7
Total	134	77.9	443	1.27	2.30	113	115	2.25	28.6	30.9	1,206	149,642	150,848	129	7.00	156,244
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	11.5	10.9	69.6	0.21	0.16	20.6	20.8	0.15	5.23	5.37	—	19,596	19,596	0.74	1.05	19,939
Area	12.8	0.59	10.1	< 0.005	0.05	—	0.05	0.05	—	0.05	0.00	604	604	0.01	< 0.005	605
Energy	0.16	2.71	1.31	0.02	0.22	—	0.22	0.22	—	0.22	—	4,546	4,546	0.51	0.03	4,569
Water	—	—	—	—	—	—	—	—	—	—	30.7	29.1	59.8	3.15	0.08	161
Waste	—	—	—	—	—	—	—	—	—	—	169	0.00	169	16.9	0.00	592
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.10
Total	24.4	14.2	80.9	0.23	0.42	20.6	21.0	0.41	5.23	5.64	200	24,775	24,975	21.3	1.16	25,868

2.6. Operations Emissions by Sector, Mitigated

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

Sector	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	70.0	57.0	438	1.25	0.87	117	118	0.82	29.7	30.5	—	127,931	127,931	4.21	6.25	130,073
Area	61.3	12.2	5.21	0.08	0.99	—	0.99	0.99	—	0.99	0.00	15,539	15,539	0.29	0.03	15,555
Energy	0.09	1.62	1.36	0.01	0.12	—	0.12	0.12	—	0.12	—	9,980	9,980	1.47	0.16	10,065
Water	—	—	—	—	—	—	—	—	—	—	185	176	361	19.0	0.45	972
Waste	—	—	—	—	—	—	—	—	—	—	1,021	0.00	1,021	102	0.00	3,573
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	18.7
Total	131	70.9	444	1.34	1.98	117	119	1.93	29.7	31.6	1,206	153,627	154,833	127	6.90	160,257
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	63.7	64.6	394	1.16	0.87	117	118	0.82	29.7	30.5	—	118,007	118,007	4.91	6.69	120,127
Area	61.3	12.2	5.21	0.08	0.99	—	0.99	0.99	—	0.99	0.00	15,539	15,539	0.29	0.03	15,555

Energy	0.09	1.62	1.36	0.01	0.12	—	0.12	0.12	—	0.12	—	9,949	9,949	1.47	0.16	10,034
Water	—	—	—	—	—	—	—	—	—	—	185	176	361	19.0	0.45	972
Waste	—	—	—	—	—	—	—	—	—	—	1,021	0.00	1,021	102	0.00	3,573
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	18.7
Total	125	78.4	401	1.24	1.98	117	119	1.93	29.7	31.6	1,206	143,671	144,878	128	7.33	150,279
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	63.1	59.8	381	1.16	0.85	113	114	0.80	28.6	29.4	—	118,360	118,360	4.46	6.33	120,432
Area	60.7	2.75	1.17	0.02	0.22	—	0.22	0.22	—	0.22	0.00	3,491	3,491	0.07	0.01	3,495
Energy	0.09	1.62	1.36	0.01	0.12	—	0.12	0.12	—	0.12	—	9,965	9,965	1.47	0.16	10,049
Water	—	—	—	—	—	—	—	—	—	—	185	176	361	19.0	0.45	972
Waste	—	—	—	—	—	—	—	—	—	—	1,021	0.00	1,021	102	0.00	3,573
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	18.7
Total	124	64.2	384	1.19	1.20	113	114	1.15	28.6	29.8	1,206	131,991	133,198	127	6.96	138,539
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	11.5	10.9	69.6	0.21	0.16	20.6	20.8	0.15	5.23	5.37	—	19,596	19,596	0.74	1.05	19,939
Area	11.1	0.50	0.21	< 0.005	0.04	—	0.04	0.04	—	0.04	0.00	578	578	0.01	< 0.005	579
Energy	0.02	0.30	0.25	< 0.005	0.02	—	0.02	0.02	—	0.02	—	1,650	1,650	0.24	0.03	1,664
Water	—	—	—	—	—	—	—	—	—	—	30.7	29.1	59.8	3.15	0.08	161
Waste	—	—	—	—	—	—	—	—	—	—	169	0.00	169	16.9	0.00	592
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.10
Total	22.6	11.7	70.0	0.22	0.22	20.6	20.8	0.21	5.23	5.44	200	21,853	22,052	21.0	1.15	22,937

3. Construction Emissions Details

3.1. Site Preparation (2026) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e

Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.07	39.9	28.3	0.05	1.12	—	1.12	1.02	—	1.02	—	5,298	5,298	0.21	0.04	5,316
Dust From Material Movement	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.07	39.9	28.3	0.05	1.12	—	1.12	1.02	—	1.02	—	5,298	5,298	0.21	0.04	5,316
Dust From Material Movement	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.76	28.2	20.0	0.03	0.79	—	0.79	0.72	—	0.72	—	3,743	3,743	0.15	0.03	3,756
Dust From Material Movement	—	—	—	—	—	5.42	5.42	—	2.78	2.78	—	—	—	—	—	—
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	5.14	3.65	0.01	0.14	—	0.14	0.13	—	0.13	—	620	620	0.03	0.01	622

Dust From Material Movement	—	—	—	—	—	0.99	0.99	—	0.51	0.51	—	—	—	—	—	—
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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.04	0.58	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	97.6	97.6	< 0.005	< 0.005	99.3
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.05	0.50	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	87.2	87.2	< 0.005	< 0.005	88.6
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
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.03	0.35	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	63.6	63.6	< 0.005	< 0.005	64.7
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
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	10.5	10.5	< 0.005	< 0.005	10.7
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
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

3.2. Site Preparation (2026) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.07	39.9	28.3	0.05	1.12	—	1.12	1.02	—	1.02	—	5,298	5,298	0.21	0.04	5,316
Dust From Material Movement	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.07	39.9	28.3	0.05	1.12	—	1.12	1.02	—	1.02	—	5,298	5,298	0.21	0.04	5,316
Dust From Material Movement	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.76	28.2	20.0	0.03	0.79	—	0.79	0.72	—	0.72	—	3,743	3,743	0.15	0.03	3,756
Dust From Material Movement	—	—	—	—	—	5.42	5.42	—	2.78	2.78	—	—	—	—	—	—
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.14	5.14	3.65	0.01	0.14	—	0.14	0.13	—	0.13	—	620	620	0.03	0.01	622
Dust From Material Movement	—	—	—	—	—	0.99	0.99	—	0.51	0.51	—	—	—	—	—	—
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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.04	0.58	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	97.6	97.6	< 0.005	< 0.005	99.3
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.05	0.50	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	87.2	87.2	< 0.005	< 0.005	88.6
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
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.03	0.35	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	63.6	63.6	< 0.005	< 0.005	64.7
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
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	10.5	10.5	< 0.005	< 0.005	10.7
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
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

3.3. Site Preparation (2027) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.07	39.9	28.3	0.05	1.12	—	1.12	1.02	—	1.02	—	5,298	5,298	0.21	0.04	5,316
Dust From Material Movement	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.18	6.63	4.71	0.01	0.19	—	0.19	0.17	—	0.17	—	881	881	0.04	0.01	884
Dust From Material Movement	—	—	—	—	—	1.28	1.28	—	0.66	0.66	—	—	—	—	—	—
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	1.21	0.86	< 0.005	0.03	—	0.03	0.03	—	0.03	—	146	146	0.01	< 0.005	146
Dust From Material Movement	—	—	—	—	—	0.23	0.23	—	0.12	0.12	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.04	0.46	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	85.5	85.5	< 0.005	< 0.005	86.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.08	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	14.7	14.7	< 0.005	< 0.005	14.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.43	2.43	< 0.005	< 0.005	2.47
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
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

3.4. Site Preparation (2027) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.07	39.9	28.3	0.05	1.12	—	1.12	1.02	—	1.02	—	5,298	5,298	0.21	0.04	5,316

Dust From Material Movement	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.18	6.63	4.71	0.01	0.19	—	0.19	0.17	—	0.17	—	881	881	0.04	0.01	884
Dust From Material Movement	—	—	—	—	—	1.28	1.28	—	0.66	0.66	—	—	—	—	—	—
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	1.21	0.86	< 0.005	0.03	—	0.03	0.03	—	0.03	—	146	146	0.01	< 0.005	146
Dust From Material Movement	—	—	—	—	—	0.23	0.23	—	0.12	0.12	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.04	0.46	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	85.5	85.5	< 0.005	< 0.005	86.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	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

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.08	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	14.7	14.7	< 0.005	< 0.005	14.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.43	2.43	< 0.005	< 0.005	2.47
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
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

3.5. Grading (2027) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.33	48.8	35.3	0.06	1.36	—	1.36	1.23	—	1.23	—	6,598	6,598	0.27	0.05	6,621
Dust From Material Movement	—	—	—	—	—	3.59	3.59	—	1.42	1.42	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.33	48.8	35.3	0.06	1.36	—	1.36	1.23	—	1.23	—	6,598	6,598	0.27	0.05	6,621

Dust From Material Movement	—	—	—	—	—	3.59	3.59	—	1.42	1.42	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.72	26.6	19.2	0.03	0.74	—	0.74	0.67	—	0.67	—	3,590	3,590	0.15	0.03	3,602
Dust From Material Movement	—	—	—	—	—	1.95	1.95	—	0.78	0.78	—	—	—	—	—	—
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	4.85	3.51	0.01	0.14	—	0.14	0.12	—	0.12	—	594	594	0.02	< 0.005	596
Dust From Material Movement	—	—	—	—	—	0.36	0.36	—	0.14	0.14	—	—	—	—	—	—
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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.04	0.61	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	109	109	< 0.005	< 0.005	111
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
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.07	0.05	0.53	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	97.7	97.7	< 0.005	< 0.005	99.3
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.02	0.28	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	54.9	54.9	< 0.005	< 0.005	55.8
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
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	9.09	9.09	< 0.005	< 0.005	9.24
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
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

3.6. Grading (2027) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.33	48.8	35.3	0.06	1.36	—	1.36	1.23	—	1.23	—	6,598	6,598	0.27	0.05	6,621
Dust From Material Movement	—	—	—	—	—	3.59	3.59	—	1.42	1.42	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	1.33	48.8	35.3	0.06	1.36	—	1.36	1.23	—	1.23	—	6,598	6,598	0.27	0.05	6,621
Dust From Material Movement	—	—	—	—	—	3.59	3.59	—	1.42	1.42	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.72	26.6	19.2	0.03	0.74	—	0.74	0.67	—	0.67	—	3,590	3,590	0.15	0.03	3,602
Dust From Material Movement	—	—	—	—	—	1.95	1.95	—	0.78	0.78	—	—	—	—	—	—
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	4.85	3.51	0.01	0.14	—	0.14	0.12	—	0.12	—	594	594	0.02	< 0.005	596
Dust From Material Movement	—	—	—	—	—	0.36	0.36	—	0.14	0.14	—	—	—	—	—	—
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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.04	0.61	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	109	109	< 0.005	< 0.005	111
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
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

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.05	0.53	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	97.7	97.7	< 0.005	< 0.005	99.3
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.02	0.28	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	54.9	54.9	< 0.005	< 0.005	55.8
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
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	9.09	9.09	< 0.005	< 0.005	9.24
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
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

3.7. Grading (2028) - 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	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.33	48.8	35.3	0.06	1.36	—	1.36	1.23	—	1.23	—	6,598	6,598	0.27	0.05	6,621
Dust From Material Movement	—	—	—	—	—	3.59	3.59	—	1.42	1.42	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.33	48.8	35.3	0.06	1.36	—	1.36	1.23	—	1.23	—	6,598	6,598	0.27	0.05	6,621
Dust From Material Movement	—	—	—	—	—	3.59	3.59	—	1.42	1.42	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.36	13.4	9.68	0.02	0.37	—	0.37	0.34	—	0.34	—	1,808	1,808	0.07	0.01	1,814
Dust From Material Movement	—	—	—	—	—	0.98	0.98	—	0.39	0.39	—	—	—	—	—	—
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	2.44	1.77	< 0.005	0.07	—	0.07	0.06	—	0.06	—	299	299	0.01	< 0.005	300
Dust From Material Movement	—	—	—	—	—	0.18	0.18	—	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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.04	0.56	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	107	107	< 0.005	< 0.005	109
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

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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.04	0.49	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	95.9	95.9	< 0.005	< 0.005	97.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.13	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	27.1	27.1	< 0.005	< 0.005	27.6
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
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.49	4.49	< 0.005	< 0.005	4.57
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
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

3.8. Grading (2028) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.33	48.8	35.3	0.06	1.36	—	1.36	1.23	—	1.23	—	6,598	6,598	0.27	0.05	6,621
Dust From Material Movement	—	—	—	—	—	3.59	3.59	—	1.42	1.42	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.33	48.8	35.3	0.06	1.36	—	1.36	1.23	—	1.23	—	6,598	6,598	0.27	0.05	6,621
Dust From Material Movement	—	—	—	—	—	3.59	3.59	—	1.42	1.42	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.36	13.4	9.68	0.02	0.37	—	0.37	0.34	—	0.34	—	1,808	1,808	0.07	0.01	1,814
Dust From Material Movement	—	—	—	—	—	0.98	0.98	—	0.39	0.39	—	—	—	—	—	—
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	2.44	1.77	< 0.005	0.07	—	0.07	0.06	—	0.06	—	299	299	0.01	< 0.005	300
Dust From Material Movement	—	—	—	—	—	0.18	0.18	—	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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.04	0.56	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	107	107	< 0.005	< 0.005	109
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

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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.04	0.49	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	95.9	95.9	< 0.005	< 0.005	97.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.13	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	27.1	27.1	< 0.005	< 0.005	27.6
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
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.49	4.49	< 0.005	< 0.005	4.57
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
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

3.9. Building Construction (2028) - 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	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.62	18.9	14.3	0.02	0.69	—	0.69	0.64	—	0.64	—	2,397	2,397	0.10	0.02	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.62	18.9	14.3	0.02	0.69	—	0.69	0.64	—	0.64	—	2,397	2,397	0.10	0.02	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.27	8.27	6.27	0.01	0.30	—	0.30	0.28	—	0.28	—	1,051	1,051	0.04	0.01	1,055
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	1.51	1.14	< 0.005	0.06	—	0.06	0.05	—	0.05	—	174	174	0.01	< 0.005	175
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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	4.06	1.80	28.5	0.00	0.00	5.07	5.07	0.00	1.19	1.19	—	5,413	5,413	0.16	0.22	5,500
Vendor	0.27	9.85	2.97	0.07	0.14	2.64	2.78	0.14	0.73	0.87	—	9,170	9,170	0.10	1.29	9,577
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	3.43	2.25	24.6	0.00	0.00	5.07	5.07	0.00	1.19	1.19	—	4,840	4,840	0.22	0.25	4,920
Vendor	0.25	10.5	3.07	0.07	0.14	2.64	2.78	0.14	0.73	0.87	—	9,177	9,177	0.10	1.29	9,565
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.53	0.88	10.7	0.00	0.00	2.18	2.18	0.00	0.51	0.51	—	2,190	2,190	0.09	0.11	2,227
Vendor	0.12	4.50	1.32	0.03	0.06	1.14	1.20	0.06	0.32	0.38	—	4,021	4,021	0.04	0.57	4,194
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

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.28	0.16	1.95	0.00	0.00	0.40	0.40	0.00	0.09	0.09	—	363	363	0.01	0.02	369
Vendor	0.02	0.82	0.24	0.01	0.01	0.21	0.22	0.01	0.06	0.07	—	666	666	0.01	0.09	694
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

3.10. Building Construction (2028) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.62	18.9	14.3	0.02	0.69	—	0.69	0.64	—	0.64	—	2,397	2,397	0.10	0.02	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.62	18.9	14.3	0.02	0.69	—	0.69	0.64	—	0.64	—	2,397	2,397	0.10	0.02	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.27	8.27	6.27	0.01	0.30	—	0.30	0.28	—	0.28	—	1,051	1,051	0.04	0.01	1,055
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	1.51	1.14	< 0.005	0.06	—	0.06	0.05	—	0.05	—	174	174	0.01	< 0.005	175

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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	4.06	1.80	28.5	0.00	0.00	5.07	5.07	0.00	1.19	1.19	—	5,413	5,413	0.16	0.22	5,500
Vendor	0.27	9.85	2.97	0.07	0.14	2.64	2.78	0.14	0.73	0.87	—	9,170	9,170	0.10	1.29	9,577
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	3.43	2.25	24.6	0.00	0.00	5.07	5.07	0.00	1.19	1.19	—	4,840	4,840	0.22	0.25	4,920
Vendor	0.25	10.5	3.07	0.07	0.14	2.64	2.78	0.14	0.73	0.87	—	9,177	9,177	0.10	1.29	9,565
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.53	0.88	10.7	0.00	0.00	2.18	2.18	0.00	0.51	0.51	—	2,190	2,190	0.09	0.11	2,227
Vendor	0.12	4.50	1.32	0.03	0.06	1.14	1.20	0.06	0.32	0.38	—	4,021	4,021	0.04	0.57	4,194
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.28	0.16	1.95	0.00	0.00	0.40	0.40	0.00	0.09	0.09	—	363	363	0.01	0.02	369
Vendor	0.02	0.82	0.24	0.01	0.01	0.21	0.22	0.01	0.06	0.07	—	666	666	0.01	0.09	694
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

3.11. Building Construction (2029) - 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	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.62	18.9	14.3	0.02	0.69	—	0.69	0.64	—	0.64	—	2,397	2,397	0.10	0.02	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.62	18.9	14.3	0.02	0.69	—	0.69	0.64	—	0.64	—	2,397	2,397	0.10	0.02	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.44	13.5	10.2	0.02	0.49	—	0.49	0.46	—	0.46	—	1,712	1,712	0.07	0.01	1,718
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	2.46	1.86	< 0.005	0.09	—	0.09	0.08	—	0.08	—	283	283	0.01	< 0.005	284
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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	3.65	1.59	26.4	0.00	0.00	5.07	5.07	0.00	1.19	1.19	—	5,311	5,311	0.16	0.22	5,397
Vendor	0.27	9.40	2.81	0.07	0.14	2.64	2.78	0.14	0.73	0.87	—	8,928	8,928	0.10	1.29	9,333
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	3.25	2.04	22.9	0.00	0.00	5.07	5.07	0.00	1.19	1.19	—	4,750	4,750	0.22	0.25	4,830
Vendor	0.25	10.0	2.91	0.07	0.14	2.64	2.78	0.14	0.73	0.87	—	8,935	8,935	0.10	1.29	9,323
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.36	1.30	16.1	0.00	0.00	3.56	3.56	0.00	0.83	0.83	—	3,502	3,502	0.13	0.16	3,557
Vendor	0.19	7.00	2.04	0.05	0.10	1.86	1.96	0.10	0.51	0.61	—	6,380	6,380	0.07	0.92	6,661
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.43	0.24	2.94	0.00	0.00	0.65	0.65	0.00	0.15	0.15	—	580	580	0.02	0.03	589
Vendor	0.03	1.28	0.37	0.01	0.02	0.34	0.36	0.02	0.09	0.11	—	1,056	1,056	0.01	0.15	1,103
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

3.12. Building Construction (2029) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.62	18.9	14.3	0.02	0.69	—	0.69	0.64	—	0.64	—	2,397	2,397	0.10	0.02	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.62	18.9	14.3	0.02	0.69	—	0.69	0.64	—	0.64	—	2,397	2,397	0.10	0.02	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.44	13.5	10.2	0.02	0.49	—	0.49	0.46	—	0.46	—	1,712	1,712	0.07	0.01	1,718
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	2.46	1.86	< 0.005	0.09	—	0.09	0.08	—	0.08	—	283	283	0.01	< 0.005	284
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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	3.65	1.59	26.4	0.00	0.00	5.07	5.07	0.00	1.19	1.19	—	5,311	5,311	0.16	0.22	5,397
Vendor	0.27	9.40	2.81	0.07	0.14	2.64	2.78	0.14	0.73	0.87	—	8,928	8,928	0.10	1.29	9,333
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	3.25	2.04	22.9	0.00	0.00	5.07	5.07	0.00	1.19	1.19	—	4,750	4,750	0.22	0.25	4,830
Vendor	0.25	10.0	2.91	0.07	0.14	2.64	2.78	0.14	0.73	0.87	—	8,935	8,935	0.10	1.29	9,323
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.36	1.30	16.1	0.00	0.00	3.56	3.56	0.00	0.83	0.83	—	3,502	3,502	0.13	0.16	3,557
Vendor	0.19	7.00	2.04	0.05	0.10	1.86	1.96	0.10	0.51	0.61	—	6,380	6,380	0.07	0.92	6,661
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.43	0.24	2.94	0.00	0.00	0.65	0.65	0.00	0.15	0.15	—	580	580	0.02	0.03	589
Vendor	0.03	1.28	0.37	0.01	0.02	0.34	0.36	0.02	0.09	0.11	—	1,056	1,056	0.01	0.15	1,103

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

3.13. Building Construction (2030) - 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	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.62	18.9	14.3	0.02	0.69	—	0.69	0.64	—	0.64	—	2,397	2,397	0.10	0.02	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.62	18.9	14.3	0.02	0.69	—	0.69	0.64	—	0.64	—	2,397	2,397	0.10	0.02	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.44	13.5	10.2	0.02	0.49	—	0.49	0.46	—	0.46	—	1,712	1,712	0.07	0.01	1,718
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	2.46	1.86	< 0.005	0.09	—	0.09	0.08	—	0.08	—	283	283	0.01	< 0.005	284
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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	3.45	1.41	24.5	0.00	0.00	5.07	5.07	0.00	1.19	1.19	—	5,214	5,214	0.13	0.22	5,297
Vendor	0.19	9.09	2.73	0.07	0.14	2.64	2.78	0.14	0.73	0.87	—	8,671	8,671	0.10	1.22	9,051
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	3.05	1.84	21.3	0.00	0.00	5.07	5.07	0.00	1.19	1.19	—	4,664	4,664	0.20	0.25	4,743
Vendor	0.18	9.65	2.75	0.07	0.14	2.64	2.78	0.14	0.73	0.87	—	8,678	8,678	0.10	1.22	9,045
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.21	1.15	15.0	0.00	0.00	3.56	3.56	0.00	0.83	0.83	—	3,438	3,438	0.13	0.16	3,493
Vendor	0.13	6.73	1.98	0.05	0.10	1.86	1.96	0.10	0.51	0.61	—	6,196	6,196	0.07	0.87	6,462
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.40	0.21	2.73	0.00	0.00	0.65	0.65	0.00	0.15	0.15	—	569	569	0.02	0.03	578
Vendor	0.02	1.23	0.36	0.01	0.02	0.34	0.36	0.02	0.09	0.11	—	1,026	1,026	0.01	0.14	1,070
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

3.14. Building Construction (2030) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.62	18.9	14.3	0.02	0.69	—	0.69	0.64	—	0.64	—	2,397	2,397	0.10	0.02	2,405

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.62	18.9	14.3	0.02	0.69	—	0.69	0.64	—	0.64	—	2,397	2,397	0.10	0.02	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.44	13.5	10.2	0.02	0.49	—	0.49	0.46	—	0.46	—	1,712	1,712	0.07	0.01	1,718
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	2.46	1.86	< 0.005	0.09	—	0.09	0.08	—	0.08	—	283	283	0.01	< 0.005	284
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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	3.45	1.41	24.5	0.00	0.00	5.07	5.07	0.00	1.19	1.19	—	5,214	5,214	0.13	0.22	5,297
Vendor	0.19	9.09	2.73	0.07	0.14	2.64	2.78	0.14	0.73	0.87	—	8,671	8,671	0.10	1.22	9,051
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	3.05	1.84	21.3	0.00	0.00	5.07	5.07	0.00	1.19	1.19	—	4,664	4,664	0.20	0.25	4,743
Vendor	0.18	9.65	2.75	0.07	0.14	2.64	2.78	0.14	0.73	0.87	—	8,678	8,678	0.10	1.22	9,045
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

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.21	1.15	15.0	0.00	0.00	3.56	3.56	0.00	0.83	0.83	—	3,438	3,438	0.13	0.16	3,493
Vendor	0.13	6.73	1.98	0.05	0.10	1.86	1.96	0.10	0.51	0.61	—	6,196	6,196	0.07	0.87	6,462
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.40	0.21	2.73	0.00	0.00	0.65	0.65	0.00	0.15	0.15	—	569	569	0.02	0.03	578
Vendor	0.02	1.23	0.36	0.01	0.02	0.34	0.36	0.02	0.09	0.11	—	1,026	1,026	0.01	0.14	1,070
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

3.15. Building Construction (2031) - 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	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.62	18.9	14.3	0.02	0.69	—	0.69	0.64	—	0.64	—	2,397	2,397	0.10	0.02	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.62	18.9	14.3	0.02	0.69	—	0.69	0.64	—	0.64	—	2,397	2,397	0.10	0.02	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.44	13.5	10.2	0.02	0.49	—	0.49	0.46	—	0.46	—	1,712	1,712	0.07	0.01	1,718

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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	2.46	1.86	< 0.005	0.09	—	0.09	0.08	—	0.08	—	283	283	0.01	< 0.005	284
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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	3.25	1.37	22.9	0.00	0.00	5.07	5.07	0.00	1.19	1.19	—	5,125	5,125	0.13	0.07	5,160
Vendor	0.19	8.71	2.58	0.07	0.14	2.64	2.78	0.14	0.73	0.87	—	8,401	8,401	0.10	1.22	8,779
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.87	1.64	19.8	0.00	0.00	5.07	5.07	0.00	1.19	1.19	—	4,585	4,585	0.18	0.25	4,664
Vendor	0.18	9.27	2.67	0.07	0.14	2.64	2.78	0.14	0.73	0.87	—	8,408	8,408	0.10	1.22	8,775
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.08	1.01	14.0	0.00	0.00	3.56	3.56	0.00	0.83	0.83	—	3,380	3,380	0.11	0.16	3,434
Vendor	0.13	6.51	1.87	0.05	0.10	1.86	1.96	0.10	0.51	0.61	—	6,003	6,003	0.07	0.87	6,268
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.38	0.18	2.55	0.00	0.00	0.65	0.65	0.00	0.15	0.15	—	560	560	0.02	0.03	569
Vendor	0.02	1.19	0.34	0.01	0.02	0.34	0.36	0.02	0.09	0.11	—	994	994	0.01	0.14	1,038
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

3.16. Building Construction (2031) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.62	18.9	14.3	0.02	0.69	—	0.69	0.64	—	0.64	—	2,397	2,397	0.10	0.02	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.62	18.9	14.3	0.02	0.69	—	0.69	0.64	—	0.64	—	2,397	2,397	0.10	0.02	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.44	13.5	10.2	0.02	0.49	—	0.49	0.46	—	0.46	—	1,712	1,712	0.07	0.01	1,718
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	2.46	1.86	< 0.005	0.09	—	0.09	0.08	—	0.08	—	283	283	0.01	< 0.005	284
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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	3.25	1.37	22.9	0.00	0.00	5.07	5.07	0.00	1.19	1.19	—	5,125	5,125	0.13	0.07	5,160
Vendor	0.19	8.71	2.58	0.07	0.14	2.64	2.78	0.14	0.73	0.87	—	8,401	8,401	0.10	1.22	8,779

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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.87	1.64	19.8	0.00	0.00	5.07	5.07	0.00	1.19	1.19	—	4,585	4,585	0.18	0.25	4,664
Vendor	0.18	9.27	2.67	0.07	0.14	2.64	2.78	0.14	0.73	0.87	—	8,408	8,408	0.10	1.22	8,775
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.08	1.01	14.0	0.00	0.00	3.56	3.56	0.00	0.83	0.83	—	3,380	3,380	0.11	0.16	3,434
Vendor	0.13	6.51	1.87	0.05	0.10	1.86	1.96	0.10	0.51	0.61	—	6,003	6,003	0.07	0.87	6,268
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.38	0.18	2.55	0.00	0.00	0.65	0.65	0.00	0.15	0.15	—	560	560	0.02	0.03	569
Vendor	0.02	1.19	0.34	0.01	0.02	0.34	0.36	0.02	0.09	0.11	—	994	994	0.01	0.14	1,038
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

3.17. Building Construction (2032) - 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	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.62	18.9	14.3	0.02	0.69	—	0.69	0.64	—	0.64	—	2,397	2,397	0.10	0.02	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.62	18.9	14.3	0.02	0.69	—	0.69	0.64	—	0.64	—	2,397	2,397	0.10	0.02	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.44	13.5	10.2	0.02	0.49	—	0.49	0.46	—	0.46	—	1,717	1,717	0.07	0.01	1,723
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	2.47	1.87	< 0.005	0.09	—	0.09	0.08	—	0.08	—	284	284	0.01	< 0.005	285
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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	3.03	1.19	21.5	0.00	0.00	5.07	5.07	0.00	1.19	1.19	—	5,034	5,034	0.13	0.07	5,068
Vendor	0.19	8.40	2.50	0.07	0.14	2.64	2.78	0.14	0.73	0.87	—	8,138	8,138	0.10	1.15	8,493
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.70	1.44	18.5	0.00	0.00	5.07	5.07	0.00	1.19	1.19	—	4,504	4,504	0.18	0.22	4,576
Vendor	0.18	8.97	2.59	0.07	0.14	2.64	2.78	0.14	0.73	0.87	—	8,144	8,144	0.10	1.15	8,491
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.95	1.00	13.1	0.00	0.00	3.57	3.57	0.00	0.84	0.84	—	3,330	3,330	0.11	0.05	3,350
Vendor	0.13	6.30	1.82	0.05	0.10	1.86	1.96	0.10	0.52	0.61	—	5,831	5,831	0.07	0.82	6,080
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

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.36	0.18	2.38	0.00	0.00	0.65	0.65	0.00	0.15	0.15	—	551	551	0.02	0.01	555
Vendor	0.02	1.15	0.33	0.01	0.02	0.34	0.36	0.02	0.09	0.11	—	965	965	0.01	0.14	1,007
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

3.18. Building Construction (2032) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.62	18.9	14.3	0.02	0.69	—	0.69	0.64	—	0.64	—	2,397	2,397	0.10	0.02	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.62	18.9	14.3	0.02	0.69	—	0.69	0.64	—	0.64	—	2,397	2,397	0.10	0.02	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.44	13.5	10.2	0.02	0.49	—	0.49	0.46	—	0.46	—	1,717	1,717	0.07	0.01	1,723
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	2.47	1.87	< 0.005	0.09	—	0.09	0.08	—	0.08	—	284	284	0.01	< 0.005	285

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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	3.03	1.19	21.5	0.00	0.00	5.07	5.07	0.00	1.19	1.19	—	5,034	5,034	0.13	0.07	5,068
Vendor	0.19	8.40	2.50	0.07	0.14	2.64	2.78	0.14	0.73	0.87	—	8,138	8,138	0.10	1.15	8,493
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.70	1.44	18.5	0.00	0.00	5.07	5.07	0.00	1.19	1.19	—	4,504	4,504	0.18	0.22	4,576
Vendor	0.18	8.97	2.59	0.07	0.14	2.64	2.78	0.14	0.73	0.87	—	8,144	8,144	0.10	1.15	8,491
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.95	1.00	13.1	0.00	0.00	3.57	3.57	0.00	0.84	0.84	—	3,330	3,330	0.11	0.05	3,350
Vendor	0.13	6.30	1.82	0.05	0.10	1.86	1.96	0.10	0.52	0.61	—	5,831	5,831	0.07	0.82	6,080
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.36	0.18	2.38	0.00	0.00	0.65	0.65	0.00	0.15	0.15	—	551	551	0.02	0.01	555
Vendor	0.02	1.15	0.33	0.01	0.02	0.34	0.36	0.02	0.09	0.11	—	965	965	0.01	0.14	1,007
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

3.19. Building Construction (2033) - 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	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.62	18.9	14.3	0.02	0.69	—	0.69	0.64	—	0.64	—	2,397	2,397	0.10	0.02	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.62	18.9	14.3	0.02	0.69	—	0.69	0.64	—	0.64	—	2,397	2,397	0.10	0.02	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.20	5.95	4.51	0.01	0.22	—	0.22	0.20	—	0.20	—	755	755	0.03	0.01	758
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	1.09	0.82	< 0.005	0.04	—	0.04	0.04	—	0.04	—	125	125	0.01	< 0.005	125
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.85	1.14	20.2	0.00	0.00	5.07	5.07	0.00	1.19	1.19	—	4,961	4,961	0.11	0.07	4,993
Vendor	0.19	8.16	2.42	0.07	0.14	2.64	2.78	0.07	0.73	0.80	—	7,885	7,885	0.10	1.15	8,238
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	2.61	1.41	17.4	0.00	0.00	5.07	5.07	0.00	1.19	1.19	—	4,439	4,439	0.16	0.07	4,463
Vendor	0.18	8.73	2.51	0.07	0.14	2.64	2.78	0.07	0.73	0.80	—	7,892	7,892	0.10	1.15	8,236
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.84	0.37	5.39	0.00	0.00	1.57	1.57	0.00	0.37	0.37	—	1,443	1,443	0.04	0.02	1,452
Vendor	0.06	2.68	0.77	0.02	0.04	0.82	0.86	0.02	0.23	0.25	—	2,485	2,485	0.03	0.36	2,595
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.15	0.07	0.98	0.00	0.00	0.29	0.29	0.00	0.07	0.07	—	239	239	0.01	< 0.005	240
Vendor	0.01	0.49	0.14	< 0.005	0.01	0.15	0.16	< 0.005	0.04	0.05	—	411	411	0.01	0.06	430
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

3.20. Building Construction (2033) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.62	18.9	14.3	0.02	0.69	—	0.69	0.64	—	0.64	—	2,397	2,397	0.10	0.02	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.62	18.9	14.3	0.02	0.69	—	0.69	0.64	—	0.64	—	2,397	2,397	0.10	0.02	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.20	5.95	4.51	0.01	0.22	—	0.22	0.20	—	0.20	—	755	755	0.03	0.01	758
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	1.09	0.82	< 0.005	0.04	—	0.04	0.04	—	0.04	—	125	125	0.01	< 0.005	125
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.85	1.14	20.2	0.00	0.00	5.07	5.07	0.00	1.19	1.19	—	4,961	4,961	0.11	0.07	4,993
Vendor	0.19	8.16	2.42	0.07	0.14	2.64	2.78	0.07	0.73	0.80	—	7,885	7,885	0.10	1.15	8,238
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.61	1.41	17.4	0.00	0.00	5.07	5.07	0.00	1.19	1.19	—	4,439	4,439	0.16	0.07	4,463
Vendor	0.18	8.73	2.51	0.07	0.14	2.64	2.78	0.07	0.73	0.80	—	7,892	7,892	0.10	1.15	8,236
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.84	0.37	5.39	0.00	0.00	1.57	1.57	0.00	0.37	0.37	—	1,443	1,443	0.04	0.02	1,452
Vendor	0.06	2.68	0.77	0.02	0.04	0.82	0.86	0.02	0.23	0.25	—	2,485	2,485	0.03	0.36	2,595
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.15	0.07	0.98	0.00	0.00	0.29	0.29	0.00	0.07	0.07	—	239	239	0.01	< 0.005	240
Vendor	0.01	0.49	0.14	< 0.005	0.01	0.15	0.16	< 0.005	0.04	0.05	—	411	411	0.01	0.06	430

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

3.21. Paving (2033) - 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	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.50	13.3	10.6	0.01	0.58	—	0.58	0.54	—	0.54	—	1,511	1,511	0.06	0.01	1,516
Paving	0.28	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.50	13.3	10.6	0.01	0.58	—	0.58	0.54	—	0.54	—	1,511	1,511	0.06	0.01	1,516
Paving	0.28	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.20	5.26	4.19	0.01	0.23	—	0.23	0.22	—	0.22	—	597	597	0.02	< 0.005	599
Paving	0.11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.96	0.76	< 0.005	0.04	—	0.04	0.04	—	0.04	—	98.9	98.9	< 0.005	< 0.005	99.2

Paving	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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.02	0.30	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	73.7	73.7	< 0.005	< 0.005	74.2
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
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.02	0.26	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	65.9	65.9	< 0.005	< 0.005	66.3
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.10	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	26.9	26.9	< 0.005	< 0.005	27.1
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
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	4.45	4.45	< 0.005	< 0.005	4.48
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
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

3.22. Paving (2033) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.50	13.3	10.6	0.01	0.58	—	0.58	0.54	—	0.54	—	1,511	1,511	0.06	0.01	1,516
Paving	0.28	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.50	13.3	10.6	0.01	0.58	—	0.58	0.54	—	0.54	—	1,511	1,511	0.06	0.01	1,516
Paving	0.28	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.20	5.26	4.19	0.01	0.23	—	0.23	0.22	—	0.22	—	597	597	0.02	< 0.005	599
Paving	0.11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.96	0.76	< 0.005	0.04	—	0.04	0.04	—	0.04	—	98.9	98.9	< 0.005	< 0.005	99.2
Paving	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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.02	0.30	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	73.7	73.7	< 0.005	< 0.005	74.2

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
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.02	0.26	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	65.9	65.9	< 0.005	< 0.005	66.3
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.10	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	26.9	26.9	< 0.005	< 0.005	27.1
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
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	4.45	4.45	< 0.005	< 0.005	4.48
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
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

3.23. Paving (2034) - 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	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.50	13.3	10.6	0.01	0.58	—	0.58	0.54	—	0.54	—	1,511	1,511	0.06	0.01	1,516
Paving	0.28	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	1.98	1.58	< 0.005	0.09	—	0.09	0.08	—	0.08	—	225	225	0.01	< 0.005	225
Paving	0.04	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.36	0.29	< 0.005	0.02	—	0.02	0.01	—	0.01	—	37.2	37.2	< 0.005	< 0.005	37.3
Paving	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.02	0.24	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	65.0	65.0	< 0.005	< 0.005	65.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	9.98	9.98	< 0.005	< 0.005	10.0
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
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.65	1.65	< 0.005	< 0.005	1.66

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
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

3.24. Paving (2034) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.50	13.3	10.6	0.01	0.58	—	0.58	0.54	—	0.54	—	1,511	1,511	0.06	0.01	1,516
Paving	0.28	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	1.98	1.58	< 0.005	0.09	—	0.09	0.08	—	0.08	—	225	225	0.01	< 0.005	225
Paving	0.04	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.36	0.29	< 0.005	0.02	—	0.02	0.01	—	0.01	—	37.2	37.2	< 0.005	< 0.005	37.3
Paving	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.02	0.24	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	65.0	65.0	< 0.005	< 0.005	65.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	9.98	9.98	< 0.005	< 0.005	10.0
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
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.65	1.65	< 0.005	< 0.005	1.66
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
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

3.25. Architectural Coating (2034) - 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	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	1.09	0.96	< 0.005	0.07	—	0.07	0.06	—	0.06	—	134	134	0.01	< 0.005	134
Architectural Coatings	80.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	1.09	0.96	< 0.005	0.07	—	0.07	0.06	—	0.06	—	134	134	0.01	< 0.005	134
Architectural Coatings	80.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.61	0.54	< 0.005	0.04	—	0.04	0.03	—	0.03	—	75.0	75.0	< 0.005	< 0.005	75.3
Architectural Coatings	45.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.11	0.10	< 0.005	0.01	—	0.01	0.01	—	0.01	—	12.4	12.4	< 0.005	< 0.005	12.5
Architectural Coatings	8.24	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.54	0.19	3.80	0.00	0.00	1.01	1.01	0.00	0.24	0.24	—	979	979	0.02	0.01	985
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

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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.49	0.25	3.23	0.00	0.00	1.01	1.01	0.00	0.24	0.24	—	876	876	0.03	0.01	881
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
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.28	0.13	1.80	0.00	0.00	0.56	0.56	0.00	0.13	0.13	—	508	508	0.02	0.01	511
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
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.02	0.33	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	84.1	84.1	< 0.005	< 0.005	84.5
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
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

3.26. Architectural Coating (2034) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	1.09	0.96	< 0.005	0.07	—	0.07	0.06	—	0.06	—	134	134	0.01	< 0.005	134
Architectural Coatings	80.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	1.09	0.96	< 0.005	0.07	—	0.07	0.06	—	0.06	—	134	134	0.01	< 0.005	134
Architectural Coatings	80.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.61	0.54	< 0.005	0.04	—	0.04	0.03	—	0.03	—	75.0	75.0	< 0.005	< 0.005	75.3
Architectural Coatings	45.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.11	0.10	< 0.005	0.01	—	0.01	0.01	—	0.01	—	12.4	12.4	< 0.005	< 0.005	12.5
Architectural Coatings	8.24	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.54	0.19	3.80	0.00	0.00	1.01	1.01	0.00	0.24	0.24	—	979	979	0.02	0.01	985
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
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

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.49	0.25	3.23	0.00	0.00	1.01	1.01	0.00	0.24	0.24	—	876	876	0.03	0.01	881
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
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.28	0.13	1.80	0.00	0.00	0.56	0.56	0.00	0.13	0.13	—	508	508	0.02	0.01	511
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
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.02	0.33	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	84.1	84.1	< 0.005	< 0.005	84.5
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00
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

3.27. Architectural Coating (2035) - 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	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	1.09	0.96	< 0.005	0.07	—	0.07	0.06	—	0.06	—	134	134	0.01	< 0.005	134
Architectural Coatings	80.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.31	1.31	< 0.005	< 0.005	1.31
Architectural Coatings	0.79	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.22	0.22	< 0.005	< 0.005	0.22
Architectural Coatings	0.14	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.48	0.24	3.07	0.00	0.00	1.01	1.01	0.00	0.24	0.24	—	865	865	0.03	0.01	870
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
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.74	8.74	< 0.005	< 0.005	8.79
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
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

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.45	1.45	< 0.005	< 0.005	1.45
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
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

3.28. Architectural Coating (2035) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	1.09	0.96	< 0.005	0.07	—	0.07	0.06	—	0.06	—	134	134	0.01	< 0.005	134
Architectural Coatings	80.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.31	1.31	< 0.005	< 0.005	1.31
Architectural Coatings	0.79	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.22	0.22	< 0.005	< 0.005	0.22
Architectural Coatings	0.14	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.48	0.24	3.07	0.00	0.00	1.01	1.01	0.00	0.24	0.24	—	865	865	0.03	0.01	870
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
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.74	8.74	< 0.005	< 0.005	8.79
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
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.45	1.45	< 0.005	< 0.005	1.45
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
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

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	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	15.0	12.1	92.2	0.26	0.18	24.5	24.6	0.17	6.20	6.37	—	26,735	26,735	0.90	1.32	27,186
Apartments Low Rise	11.9	9.51	72.7	0.21	0.14	19.3	19.4	0.14	4.89	5.02	—	21,084	21,084	0.71	1.04	21,440
Regional Shopping Center	38.4	31.6	243	0.70	0.48	65.5	66.0	0.46	16.6	17.0	—	71,412	71,412	2.32	3.47	72,602
Elementary School	4.67	3.85	29.6	0.09	0.06	7.98	8.04	0.06	2.02	2.08	—	8,700	8,700	0.28	0.42	8,845
City Park	0.00	0.00	0.00	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	0.00	0.00
Total	70.0	57.0	438	1.25	0.87	117	118	0.82	29.7	30.5	—	127,931	127,931	4.21	6.25	130,073
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	13.7	13.7	83.4	0.24	0.18	24.5	24.6	0.17	6.20	6.37	—	24,664	24,664	1.05	1.41	25,111
Apartments Low Rise	10.8	10.8	65.8	0.19	0.14	19.3	19.4	0.14	4.89	5.02	—	19,452	19,452	0.83	1.11	19,804
Regional Shopping Center	34.9	35.8	218	0.64	0.48	65.5	66.0	0.46	16.6	17.0	—	65,867	65,867	2.71	3.71	67,044
Elementary School	4.25	4.36	26.6	0.08	0.06	7.98	8.04	0.06	2.02	2.08	—	8,024	8,024	0.33	0.45	8,168

City Park	0.00	0.00	0.00	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	0.00	0.00
Total	63.7	64.6	394	1.16	0.87	117	118	0.82	29.7	30.5	—	118,007	118,007	4.91	6.69	120,127
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	2.52	2.35	15.0	0.05	0.03	4.39	4.42	0.03	1.11	1.14	—	4,177	4,177	0.16	0.23	4,250
Apartments Low Rise	1.99	1.86	11.8	0.04	0.03	3.46	3.49	0.02	0.88	0.90	—	3,294	3,294	0.13	0.18	3,352
Regional Shopping Center	6.44	6.17	39.4	0.12	0.09	11.8	11.8	0.08	2.98	3.06	—	11,155	11,155	0.42	0.59	11,349
Elementary School	0.56	0.54	3.42	0.01	0.01	1.02	1.03	0.01	0.26	0.27	—	971	971	0.04	0.05	988
City Park	0.00	0.00	0.00	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	0.00	0.00
Total	11.5	10.9	69.6	0.21	0.16	20.6	20.8	0.15	5.23	5.37	—	19,596	19,596	0.74	1.05	19,939

4.1.2. Mitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	15.0	12.1	92.2	0.26	0.18	24.5	24.6	0.17	6.20	6.37	—	26,735	26,735	0.90	1.32	27,186

Apartments	11.9	9.51	72.7	0.21	0.14	19.3	19.4	0.14	4.89	5.02	—	21,084	21,084	0.71	1.04	21,440
Regional Shopping Center	38.4	31.6	243	0.70	0.48	65.5	66.0	0.46	16.6	17.0	—	71,412	71,412	2.32	3.47	72,602
Elementary School	4.67	3.85	29.6	0.09	0.06	7.98	8.04	0.06	2.02	2.08	—	8,700	8,700	0.28	0.42	8,845
City Park	0.00	0.00	0.00	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	0.00	0.00
Total	70.0	57.0	438	1.25	0.87	117	118	0.82	29.7	30.5	—	127,931	127,931	4.21	6.25	130,073
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	13.7	13.7	83.4	0.24	0.18	24.5	24.6	0.17	6.20	6.37	—	24,664	24,664	1.05	1.41	25,111
Apartments Low Rise	10.8	10.8	65.8	0.19	0.14	19.3	19.4	0.14	4.89	5.02	—	19,452	19,452	0.83	1.11	19,804
Regional Shopping Center	34.9	35.8	218	0.64	0.48	65.5	66.0	0.46	16.6	17.0	—	65,867	65,867	2.71	3.71	67,044
Elementary School	4.25	4.36	26.6	0.08	0.06	7.98	8.04	0.06	2.02	2.08	—	8,024	8,024	0.33	0.45	8,168
City Park	0.00	0.00	0.00	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	0.00	0.00
Total	63.7	64.6	394	1.16	0.87	117	118	0.82	29.7	30.5	—	118,007	118,007	4.91	6.69	120,127
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Single Family Housing	2.52	2.35	15.0	0.05	0.03	4.39	4.42	0.03	1.11	1.14	—	4,177	4,177	0.16	0.23	4,250
Apartments Low Rise	1.99	1.86	11.8	0.04	0.03	3.46	3.49	0.02	0.88	0.90	—	3,294	3,294	0.13	0.18	3,352
Regional Shopping Center	6.44	6.17	39.4	0.12	0.09	11.8	11.8	0.08	2.98	3.06	—	11,155	11,155	0.42	0.59	11,349
Elementary School	0.56	0.54	3.42	0.01	0.01	1.02	1.03	0.01	0.26	0.27	—	971	971	0.04	0.05	988
City Park	0.00	0.00	0.00	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	0.00	0.00
Total	11.5	10.9	69.6	0.21	0.16	20.6	20.8	0.15	5.23	5.37	—	19,596	19,596	0.74	1.05	19,939

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	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	3,855	3,855	0.62	0.08	3,893
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	2,208	2,208	0.36	0.04	2,230
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	2,465	2,465	0.40	0.05	2,489

Elementa School	—	—	—	—	—	—	—	—	—	—	—	202	202	0.03	< 0.005	204
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	8,729	8,729	1.41	0.17	8,816
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	3,855	3,855	0.62	0.08	3,893
Apartmen ts Low Rise	—	—	—	—	—	—	—	—	—	—	—	2,208	2,208	0.36	0.04	2,230
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	2,465	2,465	0.40	0.05	2,489
Elementa ry School	—	—	—	—	—	—	—	—	—	—	—	202	202	0.03	< 0.005	204
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	8,729	8,729	1.41	0.17	8,816
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	638	638	0.10	0.01	645
Apartmen ts Low Rise	—	—	—	—	—	—	—	—	—	—	—	366	366	0.06	0.01	369

Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	408	408	0.07	0.01	412
Elementary School	—	—	—	—	—	—	—	—	—	—	—	33.4	33.4	0.01	< 0.005	33.7
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	1,445	1,445	0.23	0.03	1,460

4.2.2. Electricity Emissions By Land Use - Mitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	3,664	3,664	0.59	0.07	3,701
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	2,053	2,053	0.33	0.04	2,073
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	2,161	2,161	0.35	0.04	2,182
Elementary School	—	—	—	—	—	—	—	—	—	—	—	173	173	0.03	< 0.005	175
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	8,052	8,052	1.30	0.16	8,131

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	3,653	3,653	0.59	0.07	3,689
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	2,041	2,041	0.33	0.04	2,061
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	2,154	2,154	0.35	0.04	2,176
Elementary School	—	—	—	—	—	—	—	—	—	—	—	172	172	0.03	< 0.005	174
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	8,020	8,020	1.30	0.16	8,100
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	606	606	0.10	0.01	612
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	339	339	0.05	0.01	342
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	357	357	0.06	0.01	361
Elementary School	—	—	—	—	—	—	—	—	—	—	—	28.6	28.6	< 0.005	< 0.005	28.9
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00

Total	—	—	—	—	—	—	—	—	—	—	—	1,330	1,330	0.22	0.03	1,344

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	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.42	7.25	3.09	0.05	0.59	—	0.59	0.59	—	0.59	—	9,203	9,203	0.81	0.02	9,229
Apartments Low Rise	0.33	5.61	2.39	0.04	0.45	—	0.45	0.45	—	0.45	—	7,124	7,124	0.63	0.01	7,144
Regional Shopping Center	0.06	1.10	0.92	0.01	0.08	—	0.08	0.08	—	0.08	—	1,311	1,311	0.12	< 0.005	1,314
Elementary School	0.05	0.91	0.77	0.01	0.07	—	0.07	0.07	—	0.07	—	1,089	1,089	0.10	< 0.005	1,092
City Park	0.00	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	0.86	14.9	7.16	0.09	1.19	—	1.19	1.19	—	1.19	—	18,727	18,727	1.66	0.04	18,779
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.42	7.25	3.09	0.05	0.59	—	0.59	0.59	—	0.59	—	9,203	9,203	0.81	0.02	9,229
Apartments Low Rise	0.33	5.61	2.39	0.04	0.45	—	0.45	0.45	—	0.45	—	7,124	7,124	0.63	0.01	7,144

Regional Shopping Center	0.06	1.10	0.92	0.01	0.08	—	0.08	0.08	—	0.08	—	1,311	1,311	0.12	< 0.005	1,314
Elementary School	0.05	0.91	0.77	0.01	0.07	—	0.07	0.07	—	0.07	—	1,089	1,089	0.10	< 0.005	1,092
City Park	0.00	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	0.86	14.9	7.16	0.09	1.19	—	1.19	1.19	—	1.19	—	18,727	18,727	1.66	0.04	18,779
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.08	1.32	0.56	0.01	0.11	—	0.11	0.11	—	0.11	—	1,524	1,524	0.13	< 0.005	1,528
Apartments Low Rise	0.06	1.02	0.44	0.01	0.08	—	0.08	0.08	—	0.08	—	1,180	1,180	0.10	< 0.005	1,183
Regional Shopping Center	0.01	0.20	0.17	< 0.005	0.02	—	0.02	0.02	—	0.02	—	217	217	0.02	< 0.005	218
Elementary School	0.01	0.17	0.14	< 0.005	0.01	—	0.01	0.01	—	0.01	—	180	180	0.02	< 0.005	181
City Park	0.00	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	0.16	2.71	1.31	0.02	0.22	—	0.22	0.22	—	0.22	—	3,100	3,100	0.27	0.01	3,109

4.2.4. Natural Gas Emissions By Land Use - Mitigated

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

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	0.00
Apartments Low Rise	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	0.00
Regional Shopping Center	0.05	0.88	0.74	0.01	0.07	—	0.07	0.07	—	0.07	—	1,054	1,054	0.09	< 0.005	1,057
Elementary School	0.04	0.73	0.62	< 0.005	0.06	—	0.06	0.06	—	0.06	—	875	875	0.08	< 0.005	877
City Park	0.00	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	0.09	1.62	1.36	0.01	0.12	—	0.12	0.12	—	0.12	—	1,929	1,929	0.17	< 0.005	1,934
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	0.00
Apartments Low Rise	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	0.00
Regional Shopping Center	0.05	0.88	0.74	0.01	0.07	—	0.07	0.07	—	0.07	—	1,054	1,054	0.09	< 0.005	1,057
Elementary School	0.04	0.73	0.62	< 0.005	0.06	—	0.06	0.06	—	0.06	—	875	875	0.08	< 0.005	877
City Park	0.00	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	0.09	1.62	1.36	0.01	0.12	—	0.12	0.12	—	0.12	—	1,929	1,929	0.17	< 0.005	1,934
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	0.00
Apartments Low Rise	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	0.00
Regional Shopping Center	0.01	0.16	0.14	< 0.005	0.01	—	0.01	0.01	—	0.01	—	175	175	0.02	< 0.005	175
Elementary School	0.01	0.13	0.11	< 0.005	0.01	—	0.01	0.01	—	0.01	—	145	145	0.01	< 0.005	145
City Park	0.00	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	0.02	0.30	0.25	< 0.005	0.02	—	0.02	0.02	—	0.02	—	319	319	0.03	< 0.005	320

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	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.72	12.2	5.21	0.08	0.99	—	0.99	0.99	—	0.99	0.00	15,539	15,539	0.29	0.03	15,555

Consumer Products	59.7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	4.59	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	11.1	0.99	109	0.01	0.08	—	0.08	0.06	—	0.06	—	322	322	0.01	< 0.005	323
Total	76.0	13.2	115	0.08	1.07	—	1.07	1.05	—	1.05	0.00	15,861	15,861	0.31	0.03	15,878
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.72	12.2	5.21	0.08	0.99	—	0.99	0.99	—	0.99	0.00	15,539	15,539	0.29	0.03	15,555
Consumer Products	59.7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	4.59	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	65.0	12.2	5.21	0.08	0.99	—	0.99	0.99	—	0.99	0.00	15,539	15,539	0.29	0.03	15,555
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.03	0.50	0.21	< 0.005	0.04	—	0.04	0.04	—	0.04	0.00	578	578	0.01	< 0.005	579
Consumer Products	10.9	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.84	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	1.00	0.09	9.84	< 0.005	0.01	—	0.01	0.01	—	0.01	—	26.3	26.3	< 0.005	< 0.005	26.4
Total	12.8	0.59	10.1	< 0.005	0.05	—	0.05	0.05	—	0.05	0.00	604	604	0.01	< 0.005	605

4.3.2. Mitigated

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

Source	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.72	12.2	5.21	0.08	0.99	—	0.99	0.99	—	0.99	0.00	15,539	15,539	0.29	0.03	15,555
Consumer Products	59.7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.92	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	61.3	12.2	5.21	0.08	0.99	—	0.99	0.99	—	0.99	0.00	15,539	15,539	0.29	0.03	15,555
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.72	12.2	5.21	0.08	0.99	—	0.99	0.99	—	0.99	0.00	15,539	15,539	0.29	0.03	15,555
Consumer Products	59.7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.92	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	61.3	12.2	5.21	0.08	0.99	—	0.99	0.99	—	0.99	0.00	15,539	15,539	0.29	0.03	15,555
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.03	0.50	0.21	< 0.005	0.04	—	0.04	0.04	—	0.04	0.00	578	578	0.01	< 0.005	579
Consumer Products	10.9	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.17	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	11.1	0.50	0.21	< 0.005	0.04	—	0.04	0.04	—	0.04	0.00	578	578	0.01	< 0.005	579

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	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	58.2	55.4	114	5.98	0.14	306
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	63.4	60.3	124	6.51	0.16	333
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	59.3	56.4	116	6.09	0.15	311
Elementary School	—	—	—	—	—	—	—	—	—	—	4.18	3.98	8.16	0.43	0.01	21.9
City Park	—	—	—	—	—	—	—	—	—	—	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	—	—	—	—	—	—	—	—	—	—	185	176	361	19.0	0.45	972
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	58.2	55.4	114	5.98	0.14	306
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	63.4	60.3	124	6.51	0.16	333

Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	59.3	56.4	116	6.09	0.15	311
Elementary School	—	—	—	—	—	—	—	—	—	—	4.18	3.98	8.16	0.43	0.01	21.9
City Park	—	—	—	—	—	—	—	—	—	—	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	—	—	—	—	—	—	—	—	—	—	185	176	361	19.0	0.45	972
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	9.64	9.17	18.8	0.99	0.02	50.6
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	10.5	9.99	20.5	1.08	0.03	55.1
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	9.81	9.33	19.1	1.01	0.02	51.5
Elementary School	—	—	—	—	—	—	—	—	—	—	0.69	0.66	1.35	0.07	< 0.005	3.63
City Park	—	—	—	—	—	—	—	—	—	—	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	—	—	—	—	—	—	—	—	—	—	30.7	29.1	59.8	3.15	0.08	161

4.4.2. Mitigated

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

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	58.2	55.4	114	5.98	0.14	306
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	63.4	60.3	124	6.51	0.16	333
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	59.3	56.4	116	6.09	0.15	311
Elementary School	—	—	—	—	—	—	—	—	—	—	4.18	3.98	8.16	0.43	0.01	21.9
City Park	—	—	—	—	—	—	—	—	—	—	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	—	—	—	—	—	—	—	—	—	—	185	176	361	19.0	0.45	972
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	58.2	55.4	114	5.98	0.14	306
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	63.4	60.3	124	6.51	0.16	333
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	59.3	56.4	116	6.09	0.15	311
Elementary School	—	—	—	—	—	—	—	—	—	—	4.18	3.98	8.16	0.43	0.01	21.9
City Park	—	—	—	—	—	—	—	—	—	—	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	—	—	—	—	—	—	—	—	—	—	185	176	361	19.0	0.45	972
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	9.64	9.17	18.8	0.99	0.02	50.6
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	10.5	9.99	20.5	1.08	0.03	55.1
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	9.81	9.33	19.1	1.01	0.02	51.5
Elementary School	—	—	—	—	—	—	—	—	—	—	0.69	0.66	1.35	0.07	< 0.005	3.63
City Park	—	—	—	—	—	—	—	—	—	—	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	—	—	—	—	—	—	—	—	—	—	30.7	29.1	59.8	3.15	0.08	161

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	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	375	0.00	375	37.5	0.00	1,313

Apartmen Low Rise	—	—	—	—	—	—	—	—	—	—	320	0.00	320	32.0	0.00	1,121
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	236	0.00	236	23.6	0.00	827
Elementa ry School	—	—	—	—	—	—	—	—	—	—	88.5	0.00	88.5	8.85	0.00	310
City Park	—	—	—	—	—	—	—	—	—	—	0.45	0.00	0.45	0.05	0.00	1.58
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	1,021	0.00	1,021	102	0.00	3,573
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	375	0.00	375	37.5	0.00	1,313
Apartmen ts Low Rise	—	—	—	—	—	—	—	—	—	—	320	0.00	320	32.0	0.00	1,121
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	236	0.00	236	23.6	0.00	827
Elementa ry School	—	—	—	—	—	—	—	—	—	—	88.5	0.00	88.5	8.85	0.00	310
City Park	—	—	—	—	—	—	—	—	—	—	0.45	0.00	0.45	0.05	0.00	1.58
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	1,021	0.00	1,021	102	0.00	3,573
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Single Family Housing	—	—	—	—	—	—	—	—	—	—	62.2	0.00	62.2	6.21	0.00	217
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	53.1	0.00	53.1	5.30	0.00	186
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	39.1	0.00	39.1	3.91	0.00	137
Elementary School	—	—	—	—	—	—	—	—	—	—	14.7	0.00	14.7	1.46	0.00	51.3
City Park	—	—	—	—	—	—	—	—	—	—	0.07	0.00	0.07	0.01	0.00	0.26
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	169	0.00	169	16.9	0.00	592

4.5.2. Mitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	375	0.00	375	37.5	0.00	1,313
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	320	0.00	320	32.0	0.00	1,121
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	236	0.00	236	23.6	0.00	827
Elementary School	—	—	—	—	—	—	—	—	—	—	88.5	0.00	88.5	8.85	0.00	310

City Park	—	—	—	—	—	—	—	—	—	—	0.45	0.00	0.45	0.05	0.00	1.58
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	1,021	0.00	1,021	102	0.00	3,573
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	375	0.00	375	37.5	0.00	1,313
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	320	0.00	320	32.0	0.00	1,121
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	236	0.00	236	23.6	0.00	827
Elementary School	—	—	—	—	—	—	—	—	—	—	88.5	0.00	88.5	8.85	0.00	310
City Park	—	—	—	—	—	—	—	—	—	—	0.45	0.00	0.45	0.05	0.00	1.58
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	1,021	0.00	1,021	102	0.00	3,573
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	62.2	0.00	62.2	6.21	0.00	217
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	53.1	0.00	53.1	5.30	0.00	186
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	39.1	0.00	39.1	3.91	0.00	137

Elementary	—	—	—	—	—	—	—	—	—	—	14.7	0.00	14.7	1.46	0.00	51.3
City Park	—	—	—	—	—	—	—	—	—	—	0.07	0.00	0.07	0.01	0.00	0.26
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	169	0.00	169	16.9	0.00	592

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	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.10
Elementary School	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.29
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10.3
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.00
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	18.7
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Apartments	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.10
Elementary School	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.29
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10.3
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.00
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	18.7
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.01
Elementary School	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.05
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.71
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.33
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.10

4.6.2. Mitigated

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

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.10
Elementary School	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.29
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10.3
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.00
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	18.7
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.10
Elementary School	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.29
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10.3
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.00
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	18.7
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Apartments	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.01
Elementary School	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.05
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.71
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.33
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.10

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	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.7.2. Mitigated

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

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

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

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

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

4.8.2. Mitigated

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

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

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

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

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

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9.2. Mitigated

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

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

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

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

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

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

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

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

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

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

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

—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

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

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

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

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

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

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

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

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

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

Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description

Site Preparation	Site Preparation	1/5/2026	3/26/2027	5.00	320	—
Grading	Grading	3/29/2027	5/19/2028	5.00	300	—
Building Construction	Building Construction	5/22/2028	6/10/2033	5.00	1,320	—
Paving	Paving	6/13/2033	3/17/2034	5.00	200	—
Architectural Coating	Architectural Coating	3/20/2034	1/5/2035	5.00	210	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Rubber Tired Dozers	Diesel	Tier 2	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Back hoes	Diesel	Tier 2	4.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Tier 2	2.00	8.00	36.0	0.38
Grading	Graders	Diesel	Tier 2	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Tier 2	1.00	8.00	367	0.40
Grading	Scrapers	Diesel	Tier 2	2.00	8.00	423	0.48
Grading	Tractors/Loaders/Back hoes	Diesel	Tier 2	2.00	8.00	84.0	0.37
Building Construction	Cranes	Diesel	Tier 2	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Tier 2	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Tier 2	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Back hoes	Diesel	Tier 2	3.00	7.00	84.0	0.37
Building Construction	Welders	Diesel	Tier 2	1.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Tier 2	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Tier 2	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Tier 2	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Tier 2	1.00	6.00	37.0	0.48

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Rubber Tired Dozers	Diesel	Tier 2	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Back hoes	Diesel	Tier 2	4.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Tier 2	2.00	8.00	36.0	0.38
Grading	Graders	Diesel	Tier 2	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Tier 2	1.00	8.00	367	0.40
Grading	Scrapers	Diesel	Tier 2	2.00	8.00	423	0.48
Grading	Tractors/Loaders/Back hoes	Diesel	Tier 2	2.00	8.00	84.0	0.37
Building Construction	Cranes	Diesel	Tier 2	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Tier 2	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Tier 2	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Back hoes	Diesel	Tier 2	3.00	7.00	84.0	0.37
Building Construction	Welders	Diesel	Tier 2	1.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Tier 2	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Tier 2	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Tier 2	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Tier 2	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	7.10	LDA,LDT1,LDT2
Site Preparation	Vendor	—	12.8	HHDT,MHDT

Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	7.10	LDA,LDT1,LDT2
Grading	Vendor	—	12.8	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	1,010	7.10	LDA,LDT1,LDT2
Building Construction	Vendor	246	12.8	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	7.10	LDA,LDT1,LDT2
Paving	Vendor	—	12.8	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	202	7.10	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	12.8	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	7.10	LDA,LDT1,LDT2
Site Preparation	Vendor	—	12.8	HHDT,MHDT

Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	7.10	LDA,LDT1,LDT2
Grading	Vendor	—	12.8	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	1,010	7.10	LDA,LDT1,LDT2
Building Construction	Vendor	246	12.8	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	7.10	LDA,LDT1,LDT2
Paving	Vendor	—	12.8	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	202	7.10	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	12.8	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

Control Strategies Applied	PM10 Reduction	PM2.5 Reduction
Water unpaved roads twice daily	55%	55%

Limit vehicle speeds on unpaved roads to 25 mph	44%	44%

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	4,639,964	1,546,655	739,278	246,426	55,931

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Site Preparation	0.00	0.00	480	0.00	—
Grading	0.00	0.00	900	0.00	—
Paving	0.00	0.00	0.00	0.00	29.5

5.6.2. Construction Earthmoving Control Strategies

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

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Single Family Housing	8.13	0%
Apartments Low Rise	—	0%
Regional Shopping Center	0.00	0%
Elementary School	0.00	0%

City Park	0.00	0%
Other Asphalt Surfaces	21.4	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2026	0.00	204	0.03	< 0.005
2027	0.00	204	0.03	< 0.005
2028	0.00	204	0.03	< 0.005
2029	0.00	204	0.03	< 0.005
2030	0.00	204	0.03	< 0.005
2031	0.00	204	0.03	< 0.005
2032	0.00	204	0.03	< 0.005
2033	0.00	204	0.03	< 0.005
2034	0.00	204	0.03	< 0.005
2035	0.00	204	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Single Family Housing	5,303	5,303	5,303	1,935,693	34,689	34,689	34,689	12,661,341
Apartments Low Rise	4,182	4,182	4,182	1,526,579	27,357	27,357	27,357	9,985,333
Regional Shopping Center	13,416	13,416	13,416	4,896,727	92,842	92,842	92,842	33,887,220
Elementary School	1,634	0.00	0.00	426,111	11,311	0.00	0.00	2,948,854
City Park	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

5.9.2. Mitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Single Family Housing	5,303	5,303	5,303	1,935,693	34,689	34,689	34,689	12,661,341
Apartments Low Rise	4,182	4,182	4,182	1,526,579	27,357	27,357	27,357	9,985,333
Regional Shopping Center	13,416	13,416	13,416	4,896,727	92,842	92,842	92,842	33,887,220
Elementary School	1,634	0.00	0.00	426,111	11,311	0.00	0.00	2,948,854
City Park	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

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

Hearth Type	Unmitigated (number)
Apartments Low Rise	—
Wood Fireplaces	0
Gas Fireplaces	369
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	369
Conventional Wood Stoves	0
Catalytic Wood Stoves	0

Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0
Single Family Housing	—
Wood Fireplaces	0
Gas Fireplaces	369
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	402
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0

5.10.1.2. Mitigated

Hearth Type	Unmitigated (number)
Apartments Low Rise	—
Wood Fireplaces	0
Gas Fireplaces	369
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	369
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0
Single Family Housing	—
Wood Fireplaces	0
Gas Fireplaces	369

Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	402
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0

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)
4639963.5	1,546,655	739,278	246,426	55,931

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.10.4. Landscape Equipment - Mitigated

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

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)

Single Family Housing	6,897,777	204	0.0330	0.0040	28,717,292
Apartments Low Rise	3,951,576	204	0.0330	0.0040	22,230,179
Regional Shopping Center	4,409,985	204	0.0330	0.0040	4,089,370
Elementary School	360,695	204	0.0330	0.0040	3,396,939
City Park	0.00	204	0.0330	0.0040	0.00
Other Asphalt Surfaces	0.00	204	0.0330	0.0040	0.00

5.11.2. Mitigated

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

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Single Family Housing	6,536,764	204	0.0330	0.0040	0.00
Apartments Low Rise	3,651,609	204	0.0330	0.0040	0.00
Regional Shopping Center	3,854,662	204	0.0330	0.0040	3,289,853
Elementary School	308,162	204	0.0330	0.0040	2,729,023
City Park	0.00	204	0.0330	0.0040	0.00
Other Asphalt Surfaces	0.00	204	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Single Family Housing	30,388,977	0.00
Apartments Low Rise	33,106,690	0.00
Regional Shopping Center	30,933,352	0.00
Elementary School	2,181,816	0.00
City Park	0.00	0.00
Other Asphalt Surfaces	0.00	0.00

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Single Family Housing	30,388,977	0.00
Apartments Low Rise	33,106,690	0.00
Regional Shopping Center	30,933,352	0.00
Elementary School	2,181,816	0.00
City Park	0.00	0.00
Other Asphalt Surfaces	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Single Family Housing	697	—
Apartments Low Rise	595	—
Regional Shopping Center	438	—
Elementary School	164	—
City Park	0.84	—
Other Asphalt Surfaces	0.00	—

5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Single Family Housing	697	—
Apartments Low Rise	595	—
Regional Shopping Center	438	—
Elementary School	164	—
City Park	0.84	—

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
Apartments Low Rise	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Apartments Low Rise	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
Elementary School	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Elementary School	Stand-alone retail refrigerators and freezers	R-134a	1,430	< 0.005	1.00	0.00	1.00
Single Family Housing	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Single Family Housing	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
Regional Shopping Center	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Regional Shopping Center	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00
Elementary School	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
Elementary School	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0
City Park	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0

City Park	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00

5.14.2. Mitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Apartments Low Rise	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Apartments Low Rise	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
Elementary School	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Elementary School	Stand-alone retail refrigerators and freezers	R-134a	1,430	< 0.005	1.00	0.00	1.00
Single Family Housing	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Single Family Housing	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
Regional Shopping Center	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Regional Shopping Center	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00
Elementary School	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
Elementary School	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0
City Park	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0

City Park	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

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

5.15.2. Mitigated

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

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

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

5.17. User Defined

Equipment Type	Fuel Type

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

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

5.18.2.2. Mitigated

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

8. User Changes to Default Data

Screen	Justification

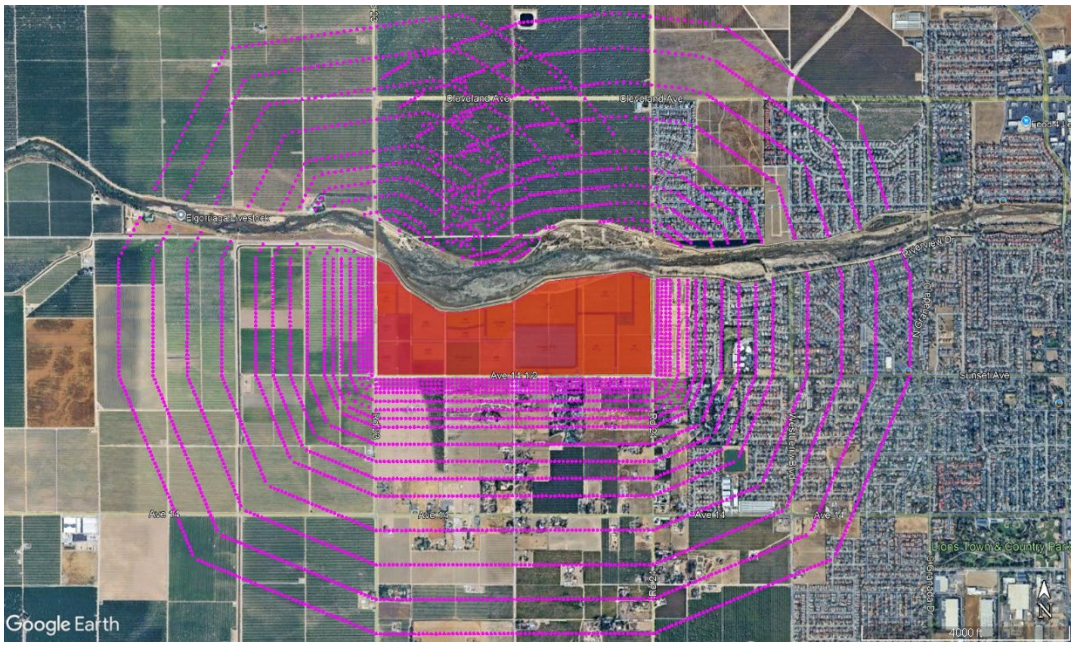
Land Use	Project is proposing the following development on a 198.91 acre project area: - 738 single family units - A total of 804 multifamily units (assumes to be low rise apartments consistent with traffic study) - A total of 417,609 sq ft of commercial mixed use (modeled as regional shopping center consistent with traffic study) - An elementary school for ~900 students - A total of 9.74 acres of open space - The rest of the project area (~21.4 acres) are assumed to be part of internal roads and paved areas
Operations: Hearths	Assume no wood burning hearths
Construction: Off-Road Equipment	Default construction equipment with Tier 2
Construction: Construction Phases	The proposed project is assumed to start construction in January 2026 and be fully built by 2035 (consistent with the traffic study). In addition, this analysis assumes no demolition.
Operations: Vehicle Data	Based on the trip generation, the proposed project would generate a total of 24,536 primary trips. Trip generation assumed 5% reduction for internal capture and a 15% reduction for pass-by trips. Trip rate = 5,303 trips / 738 units = 7.186 Trip rate = 4,183/ 804 units = 5.202 Trip rate = 13,416 trips / 417.6 = 32.125 Trip rate = 1,634 trips /900 students = 1.816
Operations: Architectural Coatings	Project would comply with Rule 4601 for VOC limits

APPENDIX B

HRA MODEL SNAPSHOTS AND OUTPUT

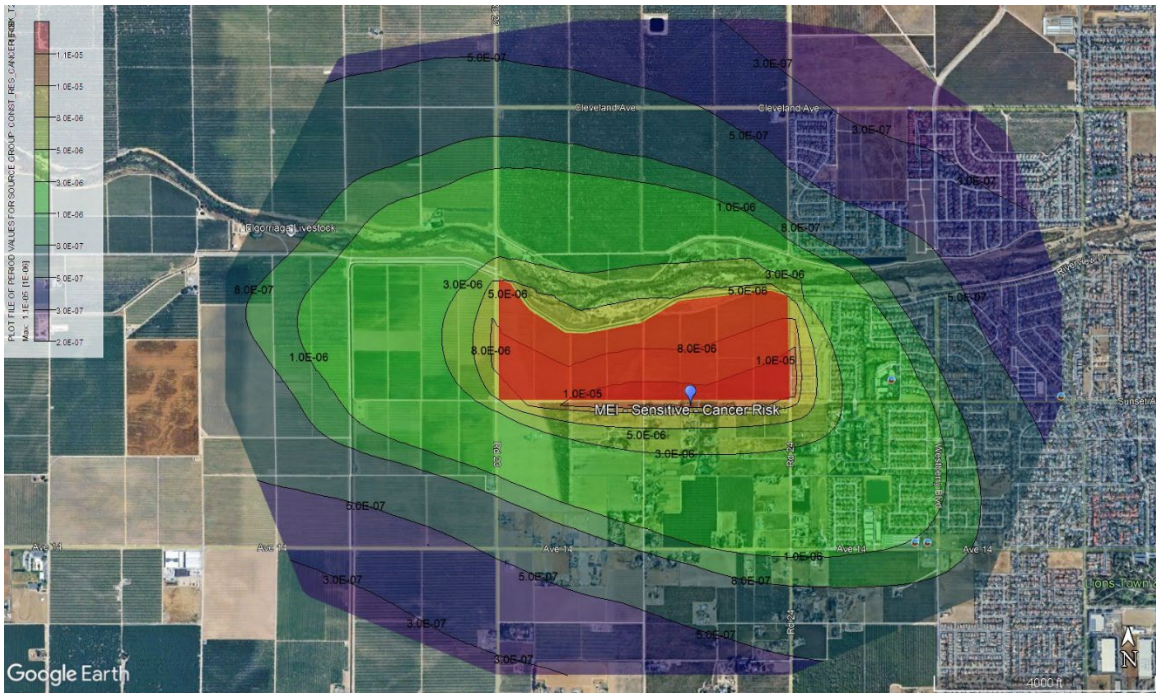
Project Location

Receptor Grid

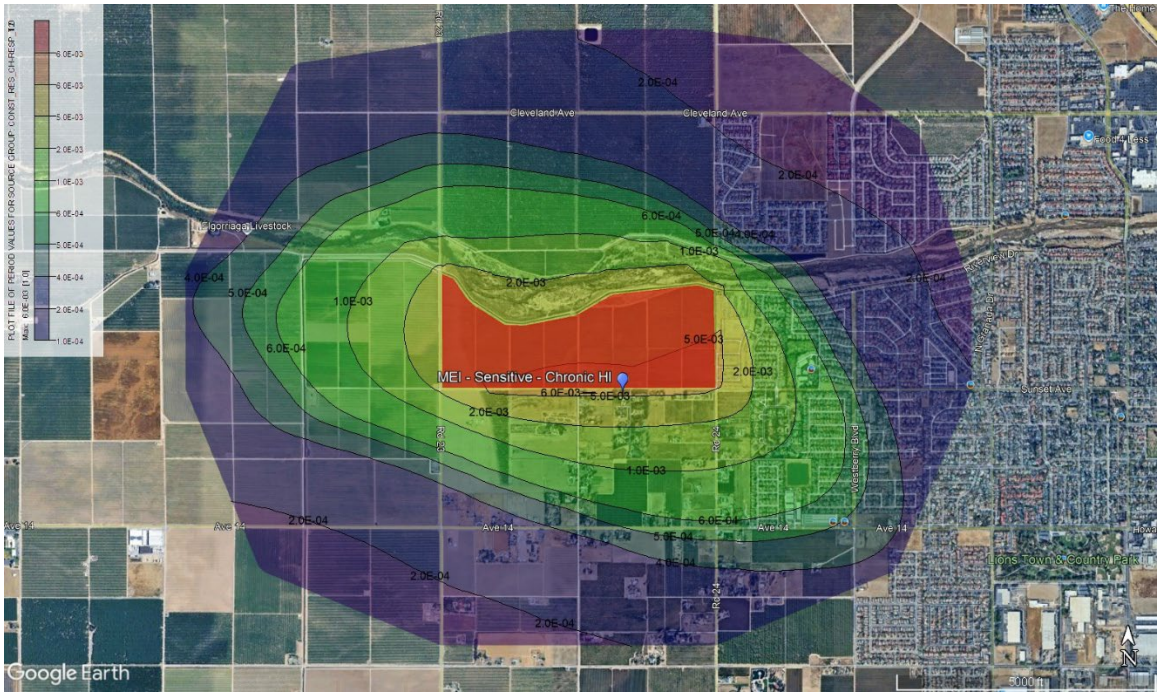


Tier 2 Unmitigated Construction Health Risk to Sensitive Receptors

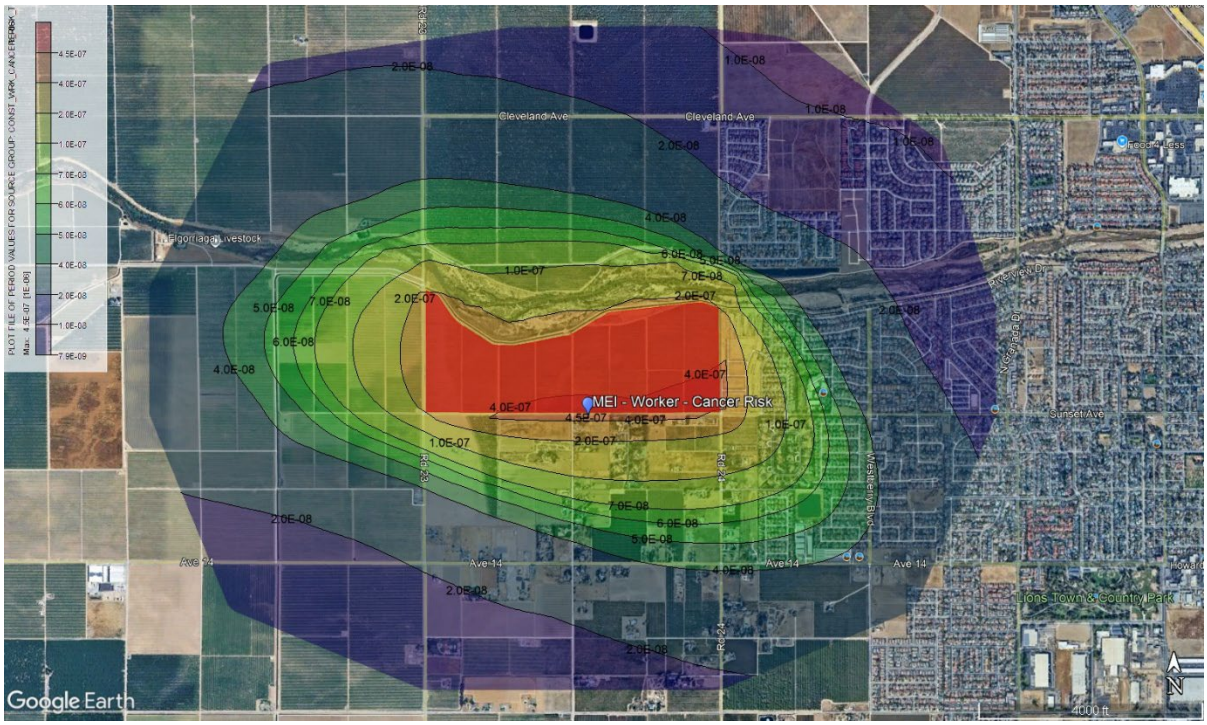
Construction Cancer Risk – Sensitive Receptor



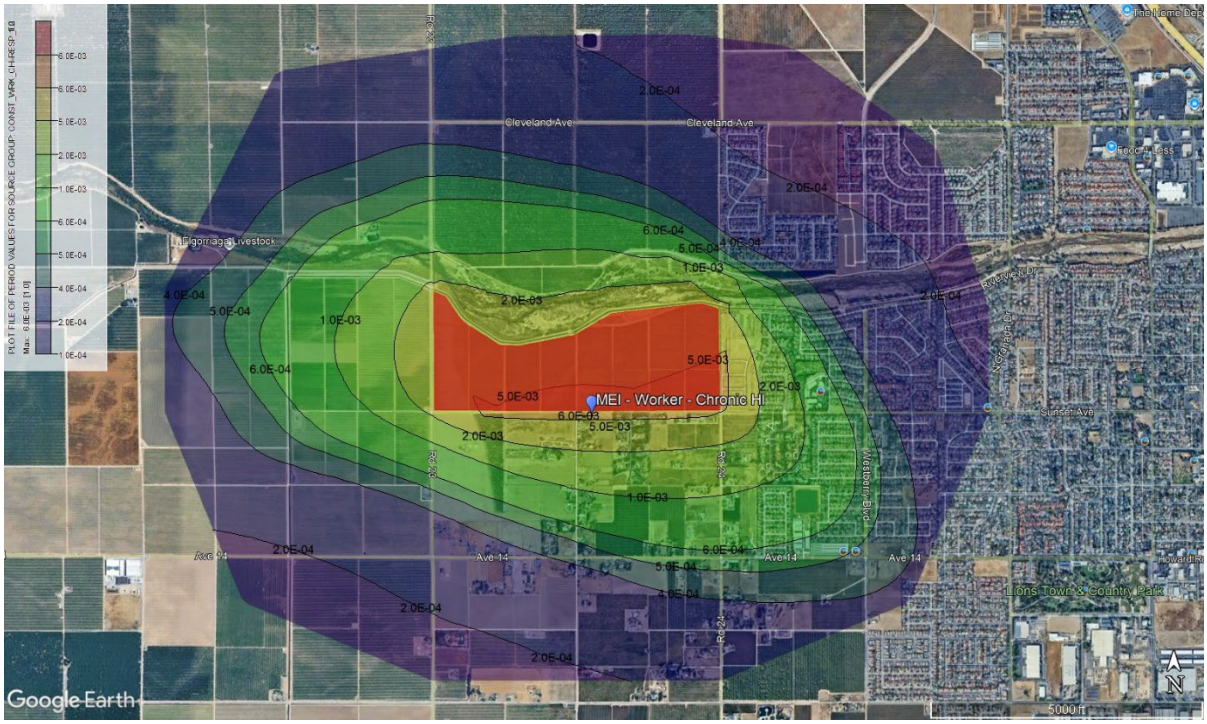
Construction Chronic Health Index – Sensitive Receptor



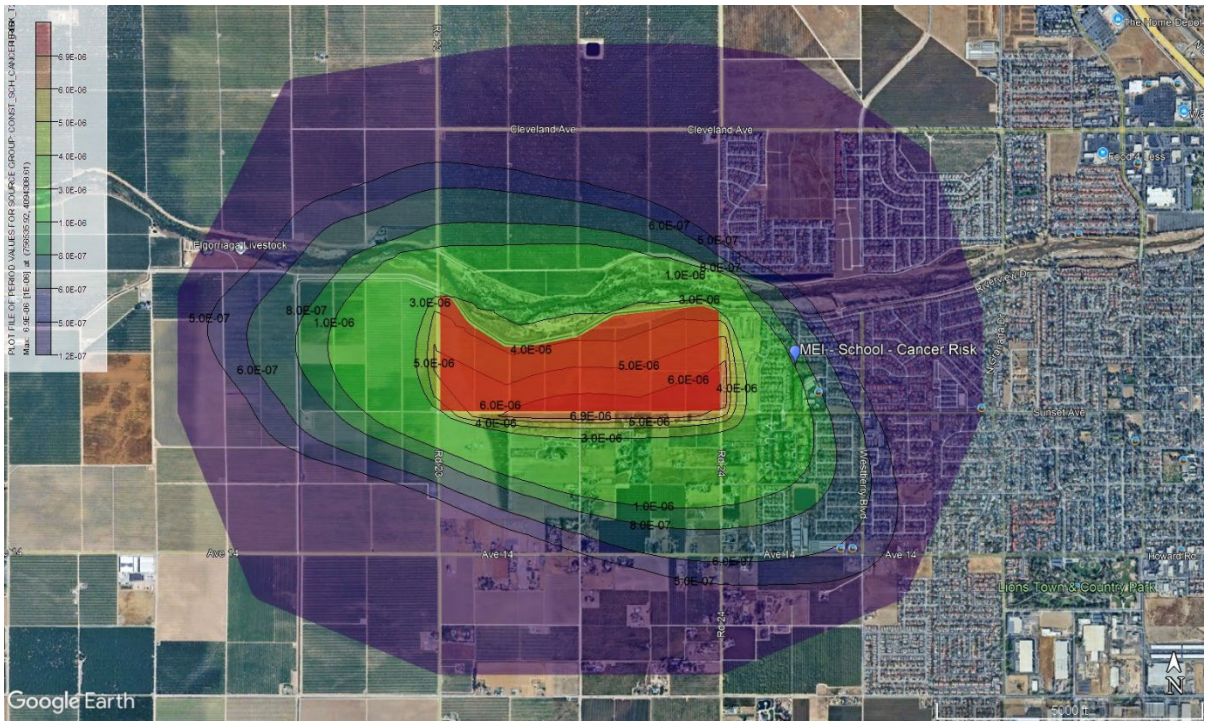
Construction Cancer Risk – Worker Receptor



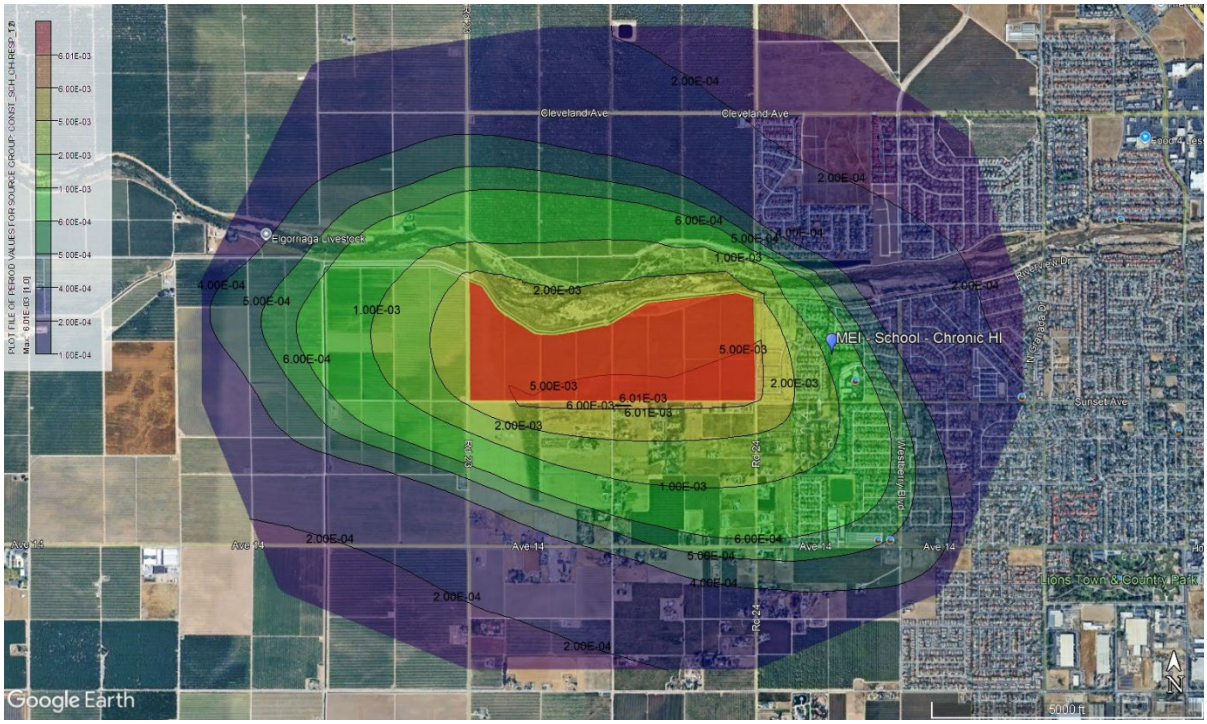
Construction Chronic Health Index – Worker Receptor



Construction Cancer Risk – School Receptor



Construction Chronic Health Index – School Receptor



Construction MEI (Sensitive) - Cancer Risk (in a Million) HARP Rec #: 1404 X: 756709.66 Y: 4094313.99			
T2	T3	T4i	T4f
11.32	9.61	1.70	1.36
MEI (Sensitive) - Chronic Hazard Index HARP Rec #: 1404 X: 756709.66 Y: 4094313.99			
T2	T3	T4i	T4f
5.95E-03	5.38E-03	1.04E-03	8.35E-04
MEI (Sensitive) - Acute Hazard Index HARP Rec #: NA X: NA Y: NA			
T2	T3	T4i	T4f
0.00E+00	0.00E+00	0.00E+00	0.00E+00
MEI (Sensitive) - PM 2.5 HARP Rec #: 1 X: 0 Y: 0			
T2	T3	T4i	T4f
0.000	0.000	0.000	0.000

Construction MEI (Worker) - Cancer Risk (in a Million) HARP Rec #: 1411 X: 756535.92 Y: 4094308.61			
T2	T3	T4i	T4f
0.46	0.37	0.09	0.07
MEI (Worker) - Chronic Hazard Index HARP Rec #: 1411 X: 756535.92 Y: 4094308.61			
T2	T3	T4i	T4f
6.01E-03	5.44E-03	1.05E-03	8.43E-04
MEI (Worker) - Acute Hazard Index HARP Rec #: NA X: NA Y: NA			
T2	T3	T4i	T4f
0.00E+00	0.00E+00	0.00E+00	0.00E+00
MEI (Worker) - PM 2.5 HARP Rec #: 1 X: 0 Y: 0			
T2	T3	T4i	T4f
0.000	0.000	0.000	0.000

Construction MEI (School) - Cancer Risk (in a Million) HARP Rec #: 915 X: 757673.23 Y: 4094629.89			
T2	T3	T4i	T4f
1.05	0.85	0.22	0.17
MEI (School) - Chronic Hazard Index HARP Rec #: 915 X: 757673.23 Y: 4094629.89			
T2	T3	T4i	T4f
9.18E-04	8.30E-04	1.60E-04	1.29E-04
MEI (School) - Acute Hazard Index HARP Rec #: NA X: NA Y: NA			
T2	T3	T4i	T4f
0.00E+00	0.00E+00	0.00E+00	0.00E+00
MEI (School) - PM 2.5 HARP Rec #: 1 X: 0 Y: 0			
T2	T3	T4i	T4f
0.0000	0.0000	0.0000	0.0000

Description	Receptor Type	Model Type	UTM X	UTM Y	Latitude	Longitude
Construction	Sensitive	Cancer Risk	756709.66	4094313.99	36.95994057	-120.1166981
Construction	Sensitive	Chronic HI	756709.66	4094313.99	36.95994057	-120.1166981
Construction	Sensitive	Acute HI	0	0		
Construction	Sensitive	PM 2.5	0.00	0.00		
Construction	School	Cancer Risk	757673.23	4094629.89	36.96252141	-120.1057803
Construction	School	Chronic HI	757673.23	4094629.89	36.96252141	-120.1057803
Construction	School	Acute HI	0	0		
Construction	School	PM 2.5	0.00	0.00		
Construction	Worker	Cancer Risk	756535.92	4094308.61	36.95993948	-120.1186491
Construction	Worker	Chronic HI	756535.92	4094308.61	36.95993948	-120.1186491

General AERMOD Input Parameters			
Project Boundary			
	Based on site plan		
Project Elevation Data			
	Source	**Lakes Environmental**	
	Link	http://www.webgis.com/terraindata.html	
	Evel Data Descr.	**7.5 min DEM**	
Project Receptor Grid			
	Telescoping Grid	Spacing (m)	Distance (m)
	Grid 1	**25**	**100**
	Grid 2	**50**	**200**
	Grid 3	**100**	**400**
	Grid 4	**200**	**800**
	Comments	**Receptors on roads or paring lot areas have been removed.**	
Meteorological Dataset			
	Location	**Madera Airport**	
	Provided By	**LSA**	
	Years	**2020 - 2024**	
	Elevation (m)	**77**	
	Link		
Construction Modeling Specific Inputs			
AERMOD Input Options			
	Regulatory Options	**Default**	
	Pollutant Type	**Other**	
	Averaging Period	**Period & Hourly**	
	Dispersion Coefficient	**Rural**	
	County	**Madera Airport**	
	Urban Grouping / Pop	**N**	
	# of Worker Receptors	**4,175**	
	# of Sensitive Receptors		
	# of School Receptors		
Construction Area Parameters			
	Source Type	**Polygon Area**	
	Project Area (m^2)	**776,223.90**	
	Ht. of Source (m)	**3.048**	

General HARP Input Parameters		
Construction		
Sensitive Receptors		
Sensitive Scenario Parameters		
	Starting Age	**3rd Trimester**
	Age Range	**3rd Trimester - 10 Year**
	Receptor Type	**Individual Resident**
	Assessment Type	**Cancer / Chronic / Acute**
	Exposure Duration	**1**
	Intake Rate	**OEHHA Derived Method**
	Comments	**Each year of construction is modeled separately and the impact to each receptor is summed to estimate the total exposure from construction emissions. Additionally, the starting age is increased for each year of construction.**
Sensitive Pathway Parameters		
	Pathways	**SJVAPCD Mandatory minimum Pathways**
	Deposition Rate	**0.02**
	TAH < 16 yrs	**Y**
	TAH ≥ 16 yrs	**Y**
Worker Receptors		
Worker Scenario Parameters		
	Starting Age	**16**
	Age Range	**16 - 26**
	Receptor Type	**Worker**
	Assessment Type	**Cancer / Chronic / Acute**
	Exposure Duration	**1**
	Intake Rate	**OEHHA Derived Method**
	Comments	**Each year of construction is modeled separately and the impact to each receptor is summed to estimate the total exposure from construction emissions. Additionally, the starting age is increased for each year of construction.**
Worker Pathway Parameters		
	Pathways	**OEHHA minimum Pathways**
	Deposition Rate	**0.02**
	TAH < 16 yrs	**N**
	TAH ≥ 16 yrs	**N**

		T2													T3													T4i													T4f												
														919												8.52E-07																										1.66E-07	
														1.05E-06																																								
								915	757673.23	#########																																													
		Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Yr 10	Yr 11	Total

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	T2											T3										T4i										T4f									
	919																																								
	915	757673.23	4094629.89																																						
	7.82E-04	9.18E-04	7.29E-04	5.86E-04	5.86E-04	5.86E-04	5.87E-04	4.85E-04	1.22E-04	6.38E-07	6.58E-04	8.30E-04	6.19E-04	4.55E-04	4.55E-04	4.55E-04	4.56E-04	3.54E-04	9.43E-05	6.41E-07	6.98E-05	1.15E-04	1.47E-04	1.60E-04	1.60E-04	1.60E-04	1.60E-04	1.04E-04	2.97E-05	2.96E-07	6.98E-05	8.33E-05	1.13E-04	1.29E-04	1.29E-04	1.29E-04	1.29E-04	6.78E-05	5.46E-06	2.17E-08
	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Yr 10	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Yr 10	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Yr 10	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Yr 10
1	755862.69	4095159.78	9.07E-04	1.07E-03	8.46E-04	6.80E-04	6.80E-04	6.80E-04	6.82E-04	5.63E-04	1.41E-04	7.41E-07	7.64E-04	9.63E-04	7.19E-04	5.28E-04	5.28E-04	5.29E-04	4.11E-04	1.10E-04	7.45E-07	8.10E-05	1.33E-04	1.71E-04	1.85E-04	1.85E-04	1.85E-04	1.86E-04	1.21E-04	3.45E-05	3.44E-07	8.10E-05	9.67E-05	1.31E-04	1.49E-04	1.49E-04	1.49E-04	1.50E-04	7.87E-05	6.34E-06	2.52E-08
2	755835.67	4095174.83	8.78E-04	1.03E-03	8.19E-04	6.58E-04	6.58E-04	6.58E-04	6.60E-04	5.45E-04	1.37E-04	7.17E-07	7.40E-04	9.33E-04	6.96E-04	5.11E-04	5.11E-04	5.11E-04	3.98E-04	1.06E-04	7.20E-07	7.84E-05	1.29E-04	1.66E-04	1.80E-04	1.80E-04	1.80E-04	1.80E-04	1.17E-04	3.34E-05	3.33E-07	7.84E-05	9.36E-05	1.27E-04	1.45E-04	1.45E-04	1.45E-04	1.45E-04	7.62E-05	6.14E-06	2.44E-08
3	755808.65	4095189.89	8.51E-04	9.99E-04	7.93E-04	6.37E-04	6.37E-04	6.37E-04	6.39E-04	5.28E-04	1.33E-04	6.95E-07	7.17E-04	9.03E-04	6.74E-04	4.95E-04	4.95E-04	4.95E-04	4.96E-04	3.86E-04	1.03E-04	6.98E-07	7.59E-05	1.25E-04	1.60E-04	1.74E-04	1.74E-04	1.74E-04	1.74E-04	1.13E-04	3.23E-05	3.22E-07	7.59E-05	9.07E-05	1.23E-04	1.40E-04	1.40E-04	1.40E-04	1.41E-04	7.38E-05	5.94E-06	2.37E-08
4	755889.5	4095141.16	9.47E-04	1.11E-03	8.83E-04	7.10E-04	7.10E-04	7.10E-04	7.12E-04	5.87E-04	1.48E-04	7.73E-07	7.98E-04	1.01E-03	7.50E-04	5.51E-04	5.51E-04	5.51E-04	5.53E-04	4.29E-04	1.14E-04	7.77E-07	8.45E-05	1.39E-04	1.79E-04	1.94E-04	1.94E-04	1.94E-04	1.94E-04	1.26E-04	3.60E-05	3.59E-07	8.45E-05	1.01E-04	1.37E-04	1.56E-04	1.56E-04	1.56E-04	1.56E-04	8.21E-05	6.61E-06	2.63E-08
5	755894.33	4095198.39	8.38E-04	9.84E-04	7.82E-04	6.28E-04	6.28E-04	6.28E-04	6.30E-04	5.20E-04	1.31E-04	6.85E-07	7.06E-04	8.90E-04	6.64E-04	4.88E-04	4.88E-04	4.88E-04	4.89E-04	3.80E-04	1.01E-04	6.87E-07	7.48E-05	1.23E-04	1.58E-04	1.71E-04	1.71E-04	1.71E-04	1.72E-04	1.12E-04	3.18E-05	3.18E-07	7.48E-05	8.93E-05	1.21E-04	1.38E-04	1.38E-04	1.38E-04	1.38E-04	7.27E-05	5.85E-06	2.33E-08
6	755866.53	4095213.88	8.12E-04	9.53E-04	7.57E-04	6.08E-04	6.08E-04	6.08E-04	6.10E-04	5.04E-04	1.27E-04	6.63E-07	6.84E-04	8.62E-04	6.43E-04	4.73E-04	4.73E-04	4.74E-04	4.74E-04	3.68E-04	9.80E-05	6.66E-07	7.25E-05	1.19E-04	1.53E-04	1.66E-04	1.66E-04	1.66E-04	1.66E-04	1.08E-04	3.08E-05	3.08E-07	7.25E-05	8.65E-05	1.17E-04	1.34E-04	1.34E-04	1.34E-04	1.34E-04	7.04E-05	5.67E-06	2.26E-08
7	755838.74	4095229.37	7.87E-04	9.24E-04	7.34E-04	5.90E-04	5.90E-04	5.90E-04	5.91E-04	4.88E-04	1.23E-04	6.43E-07	6.63E-04	8.36E-04	6.23E-04	4.58E-04	4.58E-04	4.58E-04	4.59E-04	3.57E-04	9.50E-05	6.46E-07	7.03E-05	1.15E-04	1.48E-04	1.61E-04	1.61E-04	1.61E-04	1.61E-04	1.05E-04	2.99E-05	2.98E-07	7.03E-05	8.39E-05	1.13E-04	1.30E-04	1.30E-04	1.30E-04	1.30E-04	6.83E-05	5.50E-06	2.19E-08
8	755921.52	4095179.56	8.73E-04	1.03E-03	8.14E-04	6.54E-04	6.54E-04	6.54E-04	6.56E-04	5.42E-04	1.36E-04	7.13E-07	7.36E-04	9.27E-04	6.92E-04	5.08E-04	5.08E-04	5.08E-04	5.10E-04	3.96E-04	1.05E-04	7.16E-07	7.79E-05	1.28E-04	1.65E-04	1.78E-04	1.78E-04	1.78E-04	1.79E-04	1.16E-04	3.32E-05	3.31E-07	7.79E-05	9.31E-05	1.26E-04	1.44E-04	1.44E-04	1.44E-04	1.44E-04	7.58E-05	6.10E-06	2.43E-08
9	755957.85	4095275.48	7.29E-04	8.56E-04	6.80E-04	5.46E-04	5.46E-04	5.46E-04	5.48E-04	4.52E-04	1.14E-04	5.95E-07	6.14E-04	7.74E-04	5.77E-04	4.24E-04	4.24E-04	4.24E-04	4.25E-04	3.30E-04	8.80E-05	5.98E-07	6.51E-05	1.07E-04	1.38E-04	1.49E-04	1.49E-04	1.49E-04	1.49E-04	9.72E-05	2.77E-05	2.76E-07	6.51E-05	7.77E-05	1.05E-04	1.20E-04	1.20E-04	1.20E-04	1.20E-04	6.32E-05	5.09E-06	2.03E-08
10	755929.03	4095291.54	7.07E-04	8.30E-04	6.59E-04	5.30E-04	5.30E-04	5.30E-04	5.31E-04	4.39E-04	1.10E-04	5.78E-07	5.96E-04	7.51E-04	5.60E-04	4.12E-04	4.12E-04	4.12E-04	4.13E-04	3.20E-04	8.53E-05	5.80E-07	6.31E-05	1.04E-04	1.33E-04	1.45E-04	1.45E-04	1.45E-04	1.45E-04	9.42E-05	2.69E-05	2.68E-07	6.31E-05	7.54E-05	1.02E-04	1.16E-04	1.16E-04	1.16E-04	1.17E-04	6.13E-05	4.94E-06	1.97E-08
11	755900.2	4095307.6	6.87E-04	8.06E-04	6.40E-04	5.15E-04	5.15E-04	5.15E-04	5.16E-04	4.26E-04	1.07E-04	5.61E-07	5.79E-04	7.29E-04	5.44E-04	4.00E-04	4.00E-04	4.00E-04	4.01E-04	3.11E-04	8.29E-05	5.63E-07	6.13E-05	1.01E-04	1.30E-04	1.40E-04	1.40E-04	1.40E-04	1.40E-04	9.15E-05	2.61E-05	2.60E-07	6.13E-05	7.32E-05	9.90E-05	1.13E-04	1.13E-04	1.13E-04	1.13E-04	5.96E-05	4.80E-06	1.91E-08
12	755871.38	4095323.66	6.67E-04	7.83E-04	6.22E-04	5.00E-04	5.00E-04	5.00E-04	5.01E-04	4.14E-04	1.04E-04	5.45E-07	5.62E-04	7.08E-04	5.28E-04	3.88E-04	3.88E-04	3.88E-04	3.89E-04	3.02E-04	8.05E-05	5.47E-07	5.95E-05	9.78E-05	1.26E-04	1.36E-04	1.36E-04	1.36E-04	1.37E-04	8.89E-05	2.53E-05	2.53E-07	5.95E-05	7.11E-05	9.62E-05	1.10E-04	1.10E-04	1.10E-04	1.10E-04	5.79E-05	4.66E-06	1.85E-08
13	755985.56	4095256.36	7.58E-04	8.90E-04	7.07E-04	5.68E-04	5.68E-04	5.68E-04	5.69E-04	4.70E-04	1.18E-04	6.19E-07	6.38E-04	8.04E-04	6.00E-04	4.41E-04	4.41E-04	4.41E-04	4.42E-04	3.43E-04	9.15E-05	6.21E-07	6.76E-05	1.11E-04	1.43E-04	1.55E-04	1.55E-04	1.55E-04	1.55E-04	1.01E-04	2.88E-05	2.87E-07	6.76E-05	8.08E-05	1.09E-04	1.25E-04	1.25E-04	1.25E-04	1.25E-04	6.57E-05	5.29E-06	2.11E-08
14	756021.57	4095352.47	6.40E-04	7.51E-04	5.97E-04	4.79E-04	4.79E-04	4.79E-04	4.81E-04	3.97E-04	9.97E-05	5.23E-07	5.39E-04	6.79E-04	5.07E-04	3.72E-04	3.72E-04	3.72E-04	3.73E-04	2.90E-04	7.72E-05	5.25E-07	5.71E-05	9.38E-05	1.21E-04	1.31E-04	1.31E-04	1.31E-04	1.31E-04	8.53E-05	2.43E-05	2.42E-07	5.71E-05	6.82E-05	9.22E-05	1.05E-04	1.05E-04	1.05E-04	1.06E-04	5.55E-05	4.47E-06	1.78E-08
15	755992.09	4095368.89	6.21E-04	7.30E-04	5.79E-04	4.66E-04	4.66E-04	4.66E-04	4.67E-04	3.86E-04	9.69E-05	5.08E-07	5.24E-04	6.60E-04	4.92E-04	3.62E-04	3.62E-04	3.62E-04	3.63E-04	2.82E-04	7.50E-05	5.10E-07	5.55E-05	9.11E-05	1.17E-04	1.27E-04	1.27E-04	1.27E-04	1.27E-04	8.28E-05	2.36E-05	2.35E-07	5.55E-05	6.62E-05	8.96E-05	1.02E-04	1.02E-04	1.02E-04	1.03E-04	5.39E-05	4.34E-06	1.73E-08
16	755962.61	4095385.32	6.04E-04	7.10E-04	5.64E-04	4.53E-04	4.53E-04	4.53E-04	4.54E-04	3.75E-04	9.42E-05	4.94E-07	5.09E-04	6.42E-04	4.79E-04	3.52E-04	3.52E-04	3.52E-04	3.53E-04	2.74E-04	7.30E-05	4.96E-07	5.40E-05	8.86E-05	1.14E-04	1.24E-04	1.24E-04	1.24E-04	1.24E-04	8.06E-05	2.30E-05	2.29E-07	5.40E-05	6.44E-05	8.71E-05	9.96E-05	9.96E-05	9.96E-05	9.98E-05	5.24E-05	4.22E-06	1.68E-08
17	755933.13	4095401.75	5.89E-04	6.91E-04	5.49E-04	4.41E-04	4.41E-04	4.41E-04	4.42E-04	3.65E-04	9.17E-05	4.81E-07	4.96E-04	6.25E-04	4.66E-04	3.43E-04	3.43E-04	3.43E-04	3.43E-04	2.67E-04	7.10E-05	4.83E-07	5.25E-05	8.63E-05	1.11E-04	1.20E-04	1.20E-04	1.20E-04	1.21E-04	7.84E-05	2.24E-05	2.23E-07	5.25E-05	6.27E-05	8.48E-05	9.69E-05	9.69E-05	9.69E-05	9.72E-05	5.11E-05	4.11E-06	1.64E-08
18	755903.65	4095418.17	5.73E-04	6.73E-04	5.34E-04	4.29E-04	4.29E-04	4.29E-04	4.31E-04	3.56E-04	8.93E-05	4.68E-07	4.83E-04	6.09E-04	4.54E-04	3.34E-04	3.34E-04	3.34E-04	3.34E-04	2.60E-04	6.92E-05	4.70E-07	5.12E-05	8.40E-05	1.08E-04	1.17E-04	1.17E-04	1.17E-04	1.17E-04	7.64E-05	2.18E-05	2.17E-07	5.12E-05	6.11E-05	8.26E-05	9.44E-05	9.44E-05	9.44E-05	9.47E-05	4.97E-05	4.00E-06	1.59E-08
19	756049.61	4095333.17	6.63E-04	7.79E-04	6.18E-04	4.97E-04	4.97E-04	4.97E-04	4.98E-04	4.11E-04	1.03E-04	5.42E-07	5.59E-04	7.04E-04	5.25E-04	3.86E-04	3.86E-04	3.86E-04	3.87E-04	3.01E-04	8.00E-05	5.44E-07	5.92E-05	9.72E-05	1.25E-04	1.36E-04	1.36E-04	1.36E-04	1.36E-04	8.84E-05	2.52E-05	2.51E-07	5.92E-05	7.07E-05	9.56E-05	1.09E-04	1.09E-04	1.09E-04	1.10E-04	5.75E-05	4.63E-06	1.84E-08
20	756085.38	4095429.4	5.60E-04	6.58E-04	5.22E-04	4.20E-04	4.20E-04	4.20E-04	4.21E-04	3.48E-04	8.73E-05	4.58E-07	4.72E-04	5.95E-04	4.44E-04	3.26E-04	3.26E-04	3.26E-04	3.27E-04	2.54E-04	6.76E-05	4.60E-07	5.00E-05	8.21E-05	1.06E-04	1.15E-04	1.15E-04	1.15E-04	1.15E-04	7.47E-05	2.13E-05	2.12E-07	5.00E-05	5.97E-05	8.08E-05	9.23E-05	9.23E-05	9.23E-05	9.25E-05	4.86E-05	3.91E-06	1.56E-08
21	756055.45	4095446.08	5.45E-04	6.40E-04	5.09E-04	4.09E-04	4.09E-04	4.09E-04	4.10E-04	3.38E-04	8.50E-05	4.45E-07	4.59E-04	5.79E-04	4.32E-04	3.17E-04	3.17E-04	3.17E-04	3.18E-04	2.47E-04	6.58E-05	4.47E-07	4.87E-05	7.99E-05	1.03E-04	1.11E-04	1.11E-04	1.11E-04	1.12E-04	7.27E-05	2.07E-05	2.07E-07	4.87E-05	5.81E-05	7.86E-05	8.98E-05	8.98E-05	8.98E-05	9.01E-05	4.73E-05	3.81E-06	1.52E-08
22	756025.52	4095462.75	5.31E-04	6.24E-04	4.96E-04	3.98E-04	3.98E-04	3.98E-04	3.99E-04	3.30E-04	8.28E-05	4.34E-07	4.48E-04	5.64E-04	4.21E-04	3.09E-04	3.09E-04	3.09E-04	3.10E-04	2.41E-04	6.42E-05	4.36E-07	4.74E-05	7.79E-05	1.00E-04	1.09E-04	1.09E-04	1.09E-04	1.09E-04	7.08E-05	2.02E-05	2.01E-07	4.74E-05	5.67E-05	7.66E-05	8.75E-05	8.75E-05	8.75E-05	8.78E-05	4.61E-05	3.71E-06	1.48E-08
23	755995.58	4095479.43	5.19E-04	6.09E-04	4.84E-04	3.89E-04	3.89E-04	3.89E-04	3.90E-04	3.22E-04	8.08E-05	4.24E-07	4.37E-04	5.51E-04	4.11E-04	3.02E-04	3.02E-04	3.02E-04	3.03E-04	2.35E-04	6.26E-05	4.25E-07	4.63E-05	7.60E-05	9.78E-05	1.06E-04	1.06E-04	1.06E-04	1.06E-04	6.91E-05	1.97E-05	1.96E-07	4.63E-05	5.53E-05	7.48E-05	8.54E-05	8.54E-05	8.54E-05	8.57E-05	4.50E-05	3.62E-06	1.44E-08
24	755965.65	4095496.11	5.06E-04	5.95E-04	4.72E-04	3.79E-04	3.79E-04	3.79E-04	3.80E-04	3.14E-04	7.89E-05	4.14E-07	4.27E-04	5.38E-04	4.01E-04	2.95E-04	2.95E-04	2.95E-04	2.95E-04	2.29E-04	6.11E-05	4.15E-07	4.52E-05	7.42E-05	9.55E-05	1.04E-04	1.04E-04	1.04E-04	1.04E-04	6.75E-05	1.92E-05	1.92E-07	4.52E-05	5.40E-05	7.30E-05	8.34E-05	8.34E-05	8.34E-05	8.36E-05	4.39E-05	3.54E-06	1.41E-08
25	755935.72	4095512.79	4.94E-04	5.80E-04	4.61E-04	3.70E-04	3.70E-04	3.70E-04	3.72E-04	3.07E-04	7.71E-05	4.04E-07	4.17E-04	5.25E-04	3.92E-04	2.88E-04	2.88E-04	2.88E-04	2.88E-04	2.24E-04	5.97E-05	4.06E-07	4.41E-05	7.25E-05	9.33E-05	1.01E-04	1.01E-04	1.01E-04	1.01E-04	6.59E-05	1.88E-05	1.87E-07	4.41E-05	5.27E-05	7.13E-05	8.14E-05	8.14E-05	8.14E-05	8.17E-05	4.29E-05	3.45E-06	1.37E-08
26	756113.65	4095409.97	5.79E-04	6.80E-04	5.40E-04	4.34E-04	4.34E-04	4.34E-04	4.35E-04	3.59E-04	9.03E-05	4.73E-07	4.88E-04	6.15E-04	4.59E-04	3.37E-04	3.37E-04	3.37E-04	3.38E-04	2.62E-04	6.99E-05	4.75E-07	5.17E-05	8.49E-05	1.09E-04	1.18E-04	1.18E-04	1.18E-04	1.19E-04	7.72E-05	2.20E-05	2.19E-07	5.17E-05	6.17E-05	8.35E-05	9.54E-05	9.54E-05	9.54E-05	9.56E-05	5.02E-05	4.05E-06	1.61E-08
27	756150.2	4095505.77	4.89E-04	5.74E-04	4.56E-04	3.66E-04	3.66E-04	3.66E-04	3.67E-04	3.03E-04	7.62E-05	3.99E-07	4.12E-04	5.19E-04	3.87E-04	2.84E-04	2.84E-04	2.84E-04	2.85E-04	2.21E-04	5.90E-05	4.01E-07	4.36E-05	7.16E-05	9.22E-05	9.99E-05	9.99E-05	9.99E-05	9.99E-05	6.51E-05	1.86E-05	1.85E-07	4.36E-05	5.21E-05	7.04E-05	8.05E-05	8.05E-05	8.05E-05	8.07E-05	4.24E-05	3.41E-06	1.36E-08
28	756121.83	4095521.58	4.78E-04	5.61E-04	4.45E-04	3.58E-04	3.58E-04	3.58E-04	3.59E-04	2.96E-04	7.45E-05	3.90E-07	4.02E-04	5.07E-04	3.78E-04	2.78E-04	2.78E-04	2.78E-04	2.79E-04	2.17E-04	5.77E-05	3.92E-07	4.26E-05	7.00E-05	9.01E-05	9.76E-05	9.76E-05	9.76E-05	9.79E-05	6.37E-05	1.81E-05	1.81E-07	4.26E-05	5.09E-05	6.89E-05	7.87E-05	7.87E-05	7.87E-05	7.89E-05	4.14E-05	3.34E-06	1.33E-08
29	756093.45	4095537.39	4.67E-04	5.49E-04	4.36E-04	3.50E-04	3.50E-04	3.50E-04	3.51E-04	2.90E-04	7.28E-05	3.82E-07	3.94E-04	4.96E-04	3.70E-04	2.72E-04	2.72E-04	2.72E-04	2.73E-04	2.12E-04	5.64E-05	3.83E-07	4.17E-05	6.85E-05	8.82E-05	9.55E-05	9.55E-05	9.55E-05	9.58E-05	6.23E-05	1.78E-05	1.77E-07	4.17E-05	4.98E-05	6.74E-05	7.70E-05	7.70E-05	7.70E-05	7.72E-05	4.05E-05	3.26E-06	1.30E-08
30	756065.08	4095553.2	4.58E-04	5.37E-04	4.27E-04	3.43E-04	3.43E-04	3.43E-04	3.44E-04	2.84E-04	7.13E-05	3.74E-07	3.86E-04	4.86E-04	3.63E-04	2.66E-04	2.66E-04	2.66E-04	2.67E-04	2.07E-04	5.52E-05	3.75E-07	4.09E-05	6.71E-05	8.64E-05	9.36E-05	9.36E-05	9.36E-05	9.38E-05	6.10E-05	1.74E-05	1.73E-07	4.09E-05	4.88E-05	6.60E-05	7.54E-05	7.54E-05	7.54E-05	7.56E-05	3.97E-05	3.20E-06	1.27E-08
31	756036.71	4095569.01	4.49E-04	5.27E-04	4.18E-04	3.36E-04	3.36E-04	3.36E-04	3.37E-04	2.78E-04	6.99E-05	3.66E-07	3.78E-04	4.76E-04	3.55E-04	2.61E-04	2.61E-04	2.61E-04	2.62E-04	2.03E-04	5.42E-05	3.68E-07	4.00E-05	6.58E-05	8.46E-05	9.17E-05	9.17E-05	9.17E-05	9.19E-05	5.98E-05	1.70E-05	1.70E-07	4.00E-05	4.78E-05	6.47E-05	7.39E-05	7.39E-05	7.39E-05	7.41E-05	3.89E-05	3.13E-06	1.25E-08
32	756008.33	4095584.81	4.40E-04	5.16E-04	4.10E-04	3.29E-04	3.29E-04	3.29E-04	3.30E-04	2.73E-04	6.85E-05	3.59E-07	3.70E-04	4.67E-04	3.48E-04	2.56E-04	2.56E-04	2.56E-04	2.57E-04	1.99E-04	5.31E-05	3.61E-07	3.92E-05	6.44E-05	8.29E-05	8.99E-05	8.99E-05	8.99E-05	9.01E-05	5.86E-05	1.67E-05	1.67E-07	3.92E-05	4.69E-05	6.34E-05	7.24E-05	7.24E-05	7.24E-05	7.26E-05	3.81E-05	3.07E-06	1.22E-08
33	755979.96	4095600.62	4.31E-04	5.06E-04	4.02E-04	3.23E-04	3.23E-04	3.23E-04	3.24E-04	2.67E-04	6.72E-05	3.52E-07	3.63E-04	4.58E-04	3.41E-04	2.51E-04	2.51E-04	2.51E-04	2.52E-04	1.95E-04	5.20E-05	3.54E-07	3.85E-05	6.32E-05	8.13E-05	8.81E-05	8.81E-05	8.81E-05	8.84E-05	5.75E-05	1.64E-05	1.63E-07	3.85E-05	4.60E-05	6.22E-05	7.10E-05	7.10E-05	7.10E-05	7.12E-05	3.74E-05	3.01E-06	1.20E-08
34	755951.59	4095616.43	4.23E-04	4.96E-04	3.94E-04	3.17E-04	3.17E-04	3.17E-04	3.18E-04	2.62E-04	6.59E-05	3.45E-07	3.56E-04	4.49E-04	3.35E-04	2.46E-04	2.46E-04	2.46E-04	2.47E-04	1.92E-04	5.10E-05	3.47E-07	3.77E-05	6.20E-05	7.98E-05	8.64E-05	8.64E-05	8.64E-05	8.67E-05	5.64E-05	1.61E-05	1.60E-07	3.77E-05	4.51E-05	6.10E-05	6.96E-05	6.96E-05	6.96E-05	6.98E-05	3.67E-05	2.95E-06	1.18E-08
35	756177.69	4095486.77	5.03E-04	5.91E-04	4.69E-04	3.77E-04	3.77E-04	3.77E-04	3.78E-04	3.12E-04	7.84E-05	4.11E-07	4.24E-04	5.34E-04	3.98E-04	2.93E-04	2.93E-04	2.93E-04	2.94E-04	2.28E-04	6.07E-05	4.13E-07	4.49E-05	7.37E-05	9.49E-05	1.03E-04	1.03E-04	1.03E-04	1.03E-04	6.71E-05	1.91E-05	1.91E-07	4.49E-05	5.36E-05	7.25E-05	8.29E-05	8.29E-05	8.29E-05	8.31E-05	4.36E-05	3.51E-06	1.40E-08
36	756277.88	4095659.6	3.71E-04	4.35E-04	3.46E-04	2.78E-04	2.78E-04	2.78E-04	2.79E-04	2.30E-04	5.78E-05	3.03E-07	3.12E-04	3.94E-04	2.94E-04	2.16E-04	2.16E-04	2.16E-04	2.16E-04	1.68E-04	4.48E-05	3.04E-07	3.31E-05	5.44E-05	7.00E-05	7.58E-05	7.58E-05	7.58E-05	7.60E-05	4.94E-05	1.41E-05	1.41E-07	3.31E-05	3.95E-05	5.35E-05	6.11E-05	6.11E-05	6.11E-05	6.13E-05	3.22E-05	2.59E-06	1.03E-08
37	756248.69	4095675.86	3.64E-04	4.28E-04	3.40E-04	2.73E-04	2.73E-04	2.73E-04	2.74E-04	2.26E-04	5.68E-05	2.98E-07	3.07E-04	3.87E-04	2.89E-04	2.12E-04	2.12E-04	2.12E-04	2.13E-04	1.65E-04	4.40E-05	2.99E-07	3.25E-05	5.34E-05	6.88E-05	7.45E-05	7.45E-05	7.45E-05	7.47E-05	4.86E-05	1.38E-05	1.38E-07	3.25E-05	3.88E-05	5.25E-05	6.00E-05	6.00E-05	6.00E-05	6.02E-05	3.16E-05	2.55E-06	1.01E-08
38	756219.51	4095692.12	3.58E-04	4.21E-04	3.34E-04	2.69E-04	2.69E-04	2.69E-04	2.69E-04	2.22E-04	5.59E-05	2.93E-07	3.02E-04	3.81E-04	2.84E-04	2.09E-04	2.09E-04	2.09E-04	2.09E-04	1.62E-04	4.33E-05	2.94E-07	3.20E-05	5.25E-05	6.76E-05	7.32E-05	7.32E-05	7.32E-05	7.34E-05	4.78E-05	1.36E-05	1.36E-07	3.20E-05	3.82E-05	5.17E-05	5.90E-05	5.90E-05	5.90E-05	5.92E-05	3.11E-05	2.50E-06	9.96E-09
39	756190.33	4095708.38	3.52E-04	4.14E-04	3.29E-04	2.64E-04	2.64E-04	2.64E-04	2.65E-04	2.19E-04	5.49E-05	2.88E-07	2.97E-04	3.74E-04	2.79E-04	2.05E-04	2.05E-04	2.05E-04	2.06E-04	1.60E-04	4.25E-05	2.89E-07	3.15E-05	5.17E-05	6.65E-05	7.20E-05	7.20E-05	7.20E-05	7.22E-05	4.70E-05	1.34E-05	1.34E-07	3.15E-05	3.76E-05	5.08E-05	5.81E-05	5.81E-05	5.81E-05	5.82E-05	3.06E-05	2.46E-06	9.80E-09
40	756161.14	4095724.64	3.47E-04	4.07E-04	3.23E-04	2.60E-04	2.60E-04	2.60E-04	2.61E-04	2.15E-04	5.41E-05	2.83E-07	2.92E-04	3.68E-04	2.75E-04	2.02E-04	2.02E-04	2.02E-04	2.02E-04	1.57E-04	4.19E-05	2.84E-07	3.09E-05	5.08E-05	6.54E-05	7.09E-05	7.09E-05	7.09E-05

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	T2												1408	T3											9.61E-06	T4i											1.70E-06	T4f											1.36E-06
													1.13E-05																																				
												1404	4094313.99																																				
	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Yr 10	Total	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Yr 10	Total	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Yr 10	Total	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Yr 10	Total
1	755862.69	4095159.78	6.86E-07	7.44E-07	1.19E-07	9.53E-08	9.53E-08	9.55E-08	7.89E-08	1.98E-08	1.04E-10	2.03E-06		5.78E-07	6.72E-07	1.01E-07	7.40E-08	7.40E-08	7.40E-08	7.42E-08	5.76E-08	1.53E-08	1.04E-10	1.72E-06	6.12E-08	9.28E-08	2.40E-08	2.60E-08	2.60E-08	2.60E-08	2.61E-08	1.69E-08	4.83E-09	4.82E-11	3.04E-07	6.12E-08	6.75E-08	1.83E-08	2.09E-08	2.09E-08	2.09E-08	2.10E-08	1.10E-08	8.88E-10	3.53E-12	2.43E-07
2	755835.67	4095174.83	6.64E-07	7.20E-07	1.15E-07	9.22E-08	9.22E-08	9.25E-08	7.63E-08	1.92E-08	1.01E-10	1.96E-06		5.59E-07	6.51E-07	9.75E-08	7.16E-08	7.16E-08	7.16E-08	7.18E-08	5.58E-08	1.49E-08	1.01E-10	1.67E-06	5.92E-08	8.99E-08	2.32E-08	2.52E-08	2.52E-08	2.52E-08	2.52E-08	1.64E-08	4.68E-09	4.66E-11	2.94E-07	5.92E-08	6.54E-08	1.77E-08	2.03E-08	2.03E-08	2.03E-08	2.03E-08	1.07E-08	8.60E-10	3.42E-12	2.35E-07
3	755808.65	4095189.89	6.43E-07	6.97E-07	1.11E-07	8.93E-08	8.93E-08	8.93E-08	8.96E-08	7.39E-08	1.86E-08	9.74E-11	1.90E-06	5.42E-07	6.31E-07	9.44E-08	6.94E-08	6.94E-08	6.94E-08	6.96E-08	5.40E-08	1.44E-08	9.78E-11	1.61E-06	5.74E-08	8.70E-08	2.25E-08	2.44E-08	2.44E-08	2.44E-08	2.44E-08	1.59E-08	4.53E-09	4.52E-11	2.85E-07	5.74E-08	6.33E-08	1.72E-08	1.96E-08	1.96E-08	1.96E-08	1.97E-08	1.03E-08	8.33E-10	3.31E-12	2.28E-07
4	755889.5	4095141.16	7.16E-07	7.76E-07	1.24E-07	9.94E-08	9.94E-08	9.94E-08	9.97E-08	8.23E-08	2.07E-08	1.08E-10	2.12E-06	6.03E-07	7.02E-07	1.05E-07	7.72E-08	7.72E-08	7.72E-08	7.74E-08	6.01E-08	1.60E-08	1.09E-10	1.80E-06	6.39E-08	9.69E-08	2.50E-08	2.71E-08	2.71E-08	2.71E-08	2.72E-08	1.77E-08	5.04E-09	5.03E-11	3.17E-07	6.39E-08	7.05E-08	1.91E-08	2.19E-08	2.19E-08	2.19E-08	2.19E-08	1.15E-08	9.27E-10	3.69E-12	2.53E-07
5	755894.33	4095198.39	6.33E-07	6.87E-07	1.10E-07	8.80E-08	8.80E-08	8.80E-08	8.82E-08	7.29E-08	1.83E-08	9.59E-11	1.87E-06	5.34E-07	6.21E-07	9.30E-08	6.84E-08	6.84E-08	6.84E-08	6.85E-08	5.32E-08	1.42E-08	9.63E-11	1.59E-06	5.65E-08	8.57E-08	2.22E-08	2.40E-08	2.40E-08	2.40E-08	2.41E-08	1.57E-08	4.46E-09	4.45E-11	2.81E-07	5.65E-08	6.24E-08	1.69E-08	1.93E-08	1.93E-08	1.93E-08	1.94E-08	1.02E-08	8.20E-10	3.27E-12	2.24E-07
6	755866.53	4095213.88	6.14E-07	6.65E-07	1.06E-07	8.52E-08	8.52E-08	8.52E-08	8.55E-08	7.06E-08	1.77E-08	9.26E-11	1.81E-06	5.17E-07	6.02E-07	9.01E-08	6.62E-08	6.62E-08	6.62E-08	6.64E-08	5.16E-08	1.37E-08	9.33E-11	1.54E-06	5.48E-08	8.31E-08	2.15E-08	2.33E-08	2.33E-08	2.33E-08	2.34E-08	1.52E-08	4.32E-09	4.31E-11	2.72E-07	5.48E-08	6.04E-08	1.64E-08	1.87E-08	1.87E-08	1.87E-08	1.88E-08	9.87E-09	7.95E-10	3.16E-12	2.17E-07
7	755838.74	4095229.37	5.95E-07	6.45E-07	1.03E-07	8.26E-08	8.26E-08	8.26E-08	8.29E-08	6.84E-08	1.72E-08	9.01E-11	1.76E-06	5.01E-07	5.83E-07	8.74E-08	6.42E-08	6.42E-08	6.42E-08	6.44E-08	5.00E-08	1.33E-08	9.05E-11	1.49E-06	5.31E-08	8.05E-08	2.08E-08	2.25E-08	2.25E-08	2.25E-08	2.26E-08	1.47E-08	4.19E-09	4.18E-11	2.64E-07	5.31E-08	5.86E-08	1.59E-08	1.82E-08	1.82E-08	1.82E-08	1.82E-08	9.57E-09	7.70E-10	3.07E-12	2.11E-07
8	755921.52	4095179.56	6.60E-07	7.16E-07	1.14E-07	9.17E-08	9.17E-08	9.17E-08	9.19E-08	7.59E-08	1.91E-08	9.99E-11	1.95E-06	5.56E-07	6.47E-07	9.69E-08	7.12E-08	7.12E-08	7.12E-08	7.14E-08	5.55E-08	1.48E-08	1.00E-10	1.66E-06	5.89E-08	8.93E-08	2.31E-08	2.50E-08	2.50E-08	2.50E-08	2.51E-08	1.63E-08	4.65E-09	4.64E-11	2.92E-07	5.89E-08	6.50E-08	1.76E-08	2.02E-08	2.02E-08	2.02E-08	2.02E-08	1.06E-08	8.55E-10	3.40E-12	2.34E-07
9	755957.85	4095275.48	5.51E-07	5.97E-07	9.52E-08	7.65E-08	7.65E-08	7.65E-08	7.67E-08	6.34E-08	1.59E-08	8.34E-11	1.63E-06	4.64E-07	5.40E-07	8.09E-08	5.95E-08	5.95E-08	5.95E-08	5.96E-08	4.63E-08	1.23E-08	8.38E-11	1.38E-06	4.92E-08	7.46E-08	1.93E-08	2.09E-08	2.09E-08	2.09E-08	2.09E-08	1.36E-08	3.88E-09	3.87E-11	2.44E-07	4.92E-08	5.42E-08	1.47E-08	1.68E-08	1.68E-08	1.68E-08	1.69E-08	8.86E-09	7.14E-10	2.84E-12	1.95E-07
10	755929.03	4095291.54	5.34E-07	5.79E-07	9.24E-08	7.42E-08	7.42E-08	7.42E-08	7.44E-08	6.15E-08	1.54E-08	8.09E-11	1.58E-06	4.50E-07	5.24E-07	7.85E-08	5.77E-08	5.77E-08	5.77E-08	5.78E-08	4.49E-08	1.20E-08	8.13E-11	1.34E-06	4.77E-08	7.23E-08	1.87E-08	2.03E-08	2.03E-08	2.03E-08	2.03E-08	1.32E-08	3.76E-09	3.75E-11	2.37E-07	4.77E-08	5.26E-08	1.43E-08	1.63E-08	1.63E-08	1.63E-08	1.64E-08	8.59E-09	6.92E-10	2.75E-12	1.89E-07
11	755900.2	4095307.6	5.19E-07	5.63E-07	8.97E-08	7.21E-08	7.21E-08	7.21E-08	7.23E-08	5.97E-08	1.50E-08	7.86E-11	1.53E-06	4.37E-07	5.09E-07	7.62E-08	5.60E-08	5.60E-08	5.60E-08	5.62E-08	4.36E-08	1.16E-08	7.89E-11	1.30E-06	4.63E-08	7.03E-08	1.82E-08	1.97E-08	1.97E-08	1.97E-08	1.98E-08	1.28E-08	3.66E-09	3.65E-11	2.30E-07	4.63E-08	5.11E-08	1.39E-08	1.58E-08	1.58E-08	1.58E-08	1.59E-08	8.35E-09	6.72E-10	2.68E-12	1.84E-07
12	755871.38	4095323.66	5.04E-07	5.47E-07	8.71E-08	7.00E-08	7.00E-08	7.00E-08	7.02E-08	5.80E-08	1.46E-08	7.63E-11	1.49E-06	4.25E-07	4.94E-07	7.40E-08	5.44E-08	5.44E-08	5.44E-08	5.45E-08	4.24E-08	1.13E-08	7.67E-11	1.26E-06	4.50E-08	6.82E-08	1.76E-08	1.91E-08	1.91E-08	1.91E-08	1.92E-08	1.25E-08	3.55E-09	3.54E-11	2.23E-07	4.50E-08	4.96E-08	1.35E-08	1.54E-08	1.54E-08	1.54E-08	1.54E-08	8.11E-09	6.53E-10	2.60E-12	1.78E-07
13	755985.56	4095256.36	5.73E-07	6.21E-07	9.90E-08	7.96E-08	7.96E-08	7.96E-08	7.98E-08	6.59E-08	1.65E-08	8.67E-11	1.69E-06	4.82E-07	5.62E-07	8.41E-08	6.18E-08	6.18E-08	6.18E-08	6.20E-08	4.81E-08	1.28E-08	8.71E-11	1.44E-06	5.11E-08	7.75E-08	2.00E-08	2.17E-08	2.17E-08	2.18E-08	2.18E-08	1.42E-08	4.03E-09	4.02E-11	2.54E-07	5.11E-08	5.64E-08	1.56E-08	1.75E-08	1.75E-08	1.75E-08	1.75E-08	9.21E-09	7.42E-10	2.95E-12	2.03E-07
14	756025.47	4095352.47	4.84E-07	5.24E-07	8.36E-08	6.72E-08	6.72E-08	6.72E-08	6.74E-08	5.56E-08	1.39E-08	7.32E-11	1.41E-06	4.07E-07	4.74E-07	7.10E-08	5.22E-08	5.22E-08	5.22E-08	5.23E-08	4.06E-08	1.08E-08	7.35E-11	1.21E-06	4.32E-08	6.55E-08	1.69E-08	1.83E-08	1.83E-08	1.84E-08	1.19E-08	3.41E-09	3.40E-11	2.14E-07	4.32E-08	4.76E-08	1.29E-08	1.48E-08	1.48E-08	1.48E-08	1.48E-08	7.78E-09	6.26E-10	2.49E-12	1.71E-07
15	755992.09	4095368.89	4.70E-07	5.09E-07	8.12E-08	6.52E-08	6.52E-08	6.52E-08	6.54E-08	5.40E-08	1.36E-08	7.11E-11	1.39E-06	3.96E-07	4.61E-07	6.90E-08	5.07E-08	5.07E-08	5.07E-08	5.08E-08	3.95E-08	1.05E-08	7.14E-11	1.18E-06	4.19E-08	6.36E-08	1.64E-08	1.78E-08	1.78E-08	1.78E-08	1.16E-08	3.31E-09	3.30E-11	2.08E-07	4.19E-08	4.62E-08	1.26E-08	1.43E-08	1.43E-08	1.43E-08	1.44E-08	7.55E-09	6.08E-10	2.42E-12	1.66E-07
16	755962.61	4095385.32	4.57E-07	4.95E-07	7.90E-08	6.35E-08	6.35E-08	6.35E-08	6.36E-08	5.25E-08	1.32E-08	6.92E-11	1.35E-06	3.85E-07	4.48E-07	6.71E-08	4.93E-08	4.93E-08	4.93E-08	4.94E-08	3.84E-08	1.02E-08	6.95E-11	1.15E-06	4.08E-08	6.18E-08	1.60E-08	1.73E-08	1.73E-08	1.73E-08	1.74E-08	1.13E-08	3.22E-09	3.21E-11	2.02E-07	4.08E-08	4.50E-08	1.22E-08	1.40E-08	1.40E-08	1.40E-08	1.40E-08	7.35E-09	5.92E-10	2.36E-12	1.62E-07
17	755933.13	4095401.75	4.45E-07	4.82E-07	7.69E-08	6.18E-08	6.18E-08	6.18E-08	6.20E-08	5.12E-08	1.29E-08	6.74E-11	1.32E-06	3.75E-07	4.36E-07	6.53E-08	4.80E-08	4.80E-08	4.80E-08	4.81E-08	3.74E-08	9.95E-09	6.76E-11	1.12E-06	3.97E-08	6.02E-08	1.56E-08	1.69E-08	1.69E-08	1.69E-08	1.69E-08	1.10E-08	3.13E-09	3.12E-11	1.97E-07	3.97E-08	4.38E-08	1.19E-08	1.36E-08	1.36E-08	1.36E-08	1.36E-08	7.15E-09	5.76E-10	2.29E-12	1.57E-07
18	755903.65	4095418.17	4.33E-07	4.70E-07	7.49E-08	6.02E-08	6.02E-08	6.02E-08	6.03E-08	4.98E-08	1.25E-08	5.56E-11	1.28E-06	3.65E-07	4.25E-07	6.36E-08	4.68E-08	4.68E-08	4.68E-08	4.69E-08	3.64E-08	9.69E-09	6.59E-11	1.09E-06	3.87E-08	5.86E-08	1.52E-08	1.64E-08	1.64E-08	1.64E-08	1.65E-08	1.07E-08	3.05E-09	3.04E-11	1.92E-07	3.87E-08	4.26E-08	1.16E-08	1.32E-08	1.32E-08	1.32E-08	1.33E-08	6.97E-09	5.61E-10	2.23E-12	1.53E-07
19	756049.61	4095333.17	5.01E-07	5.43E-07	8.66E-08	6.96E-08	6.96E-08	6.96E-08	6.98E-08	5.76E-08	1.45E-08	7.59E-11	1.48E-06	4.22E-07	4.91E-07	7.36E-08	5.41E-08	5.41E-08	5.41E-08	5.42E-08	4.21E-08	1.12E-08	7.62E-11	1.26E-06	4.47E-08	6.78E-08	1.75E-08	1.90E-08	1.90E-08	1.90E-08	1.90E-08	1.24E-08	3.53E-09	3.52E-11	2.22E-07	4.47E-08	4.93E-08	1.34E-08	1.53E-08	1.53E-08	1.53E-08	1.53E-08	8.06E-09	6.49E-10	2.58E-12	1.77E-07
20	756085.38	4095429.4	4.23E-07	4.59E-07	7.32E-08	5.88E-08	5.88E-08	5.88E-08	5.90E-08	4.87E-08	1.22E-08	6.41E-11	1.25E-06	3.57E-07	4.15E-07	6.22E-08	4.57E-08	4.57E-08	4.57E-08	4.58E-08	3.56E-08	9.48E-09	6.44E-11	1.06E-06	3.78E-08	5.73E-08	1.48E-08	1.60E-08	1.60E-08	1.60E-08	1.61E-08	1.05E-08	2.98E-09	2.97E-11	1.88E-07	3.78E-08	4.17E-08	1.13E-08	1.29E-08	1.29E-08	1.29E-08	1.30E-08	6.81E-09	5.48E-10	2.18E-12	1.50E-07
21	756065.45	4095466.08	4.12E-07	4.47E-07	7.13E-08	5.73E-08	5.73E-08	5.73E-08	5.75E-08	4.74E-08	1.18E-08	6.24E-11	1.21E-06	3.47E-07	4.04E-07	6.05E-08	4.45E-08	4.45E-08	4.45E-08	4.46E-08	3.47E-08	9.22E-09	6.27E-11	1.03E-06	3.68E-08	5.58E-08	1.44E-08	1.56E-08	1.56E-08	1.56E-08	1.57E-08	1.02E-08	2.90E-09	2.89E-11	1.83E-07	3.68E-08	4.06E-08	1.10E-08	1.25E-08	1.25E-08	1.25E-08	1.26E-08	6.63E-09	5.34E-10	2.12E-12	1.46E-07
22	756025.52	4095462.75	4.02E-07	4.36E-07	6.94E-08	5.58E-08	5.58E-08	5.58E-08	5.60E-08	4.62E-08	1.16E-08	6.08E-11	1.19E-06	3.38E-07	3.94E-07	5.90E-08	4.34E-08	4.34E-08	4.34E-08	4.35E-08	3.37E-08	8.99E-09	6.11E-11	1.01E-06	3.59E-08	5.44E-08	1.40E-08	1.52E-08	1.52E-08	1.52E-08	1.53E-08	9.93E-09	2.83E-09	2.82E-11	1.78E-07	3.59E-08	3.95E-08	1.07E-08	1.23E-08	1.23E-08	1.23E-08	1.23E-08	6.46E-09	5.20E-10	2.07E-12	1.42E-07
23	755995.58	4095479.43	3.92E-07	4.25E-07	6.78E-08	5.45E-08	5.45E-08	5.45E-08	5.46E-08	4.51E-08	1.13E-08	5.94E-11	1.16E-06	3.30E-07	3.84E-07	5.76E-08	4.23E-08	4.23E-08	4.23E-08	4.24E-08	3.29E-08	8.77E-09	5.96E-11	9.83E-07	3.50E-08	5.31E-08	1.37E-08	1.49E-08	1.49E-08	1.49E-08	1.49E-08	9.69E-09	2.76E-09	2.75E-11	1.74E-07	3.50E-08	3.86E-08	1.05E-08	1.20E-08	1.20E-08	1.20E-08	1.20E-08	6.30E-09	5.08E-10	2.02E-12	1.39E-07
24	755965.65	4095496.11	3.83E-07	4.15E-07	6.62E-08	5.32E-08	5.32E-08	5.32E-08	5.33E-08	4.40E-08	1.11E-08	5.80E-11	1.13E-06	3.22E-07	3.75E-07	5.62E-08	4.13E-08	4.13E-08	4.13E-08	4.14E-08	3.22E-08	8.56E-09	5.82E-11	9.60E-07	3.42E-08	5.18E-08	1.34E-08	1.45E-08	1.45E-08	1.45E-08	1.45E-08	9.46E-09	2.70E-09	2.69E-11	1.70E-07	3.42E-08	3.77E-08	1.02E-08	1.17E-08	1.17E-08	1.17E-08	1.17E-08	6.16E-09	4.96E-10	1.97E-12	1.35E-07
25	755935.72	4095512.79	3.74E-07	4.05E-07	6.46E-08	5.19E-08	5.19E-08	5.19E-08	5.21E-08	4.30E-08	1.08E-08	5.66E-11	1.11E-06	3.15E-07	3.66E-07	5.49E-08	4.03E-08	4.03E-08	4.03E-08	4.04E-08	3.14E-08	8.36E-09	5.68E-11	9.37E-07	3.34E-08	5.06E-08	1.31E-08	1.42E-08	1.42E-08	1.42E-08	1.42E-08	9.23E-09	2.63E-09	2.62E-11	1.66E-07	3.34E-08	3.68E-08	9.99E-09	1.14E-08	1.14E-08	1.14E-08	1.14E-08	6.01E-09	4.84E-10	1.93E-12	1.32E-07
26	756113.65	4095409.97	4.38E-07	4.75E-07	7.57E-08	6.08E-08	6.08E-08	6.08E-08	6.10E-08	5.03E-08	1.26E-08	6.63E-11	1.29E-06	3.69E-07	4.29E-07	6.43E-08	4.72E-08	4.72E-08	4.72E-08	4.73E-08	3.68E-08	9.79E-09	6.65E-11	1.10E-06	3.91E-08	5.92E-08	1.53E-08	1.66E-08	1.66E-08	1.66E-08	1.66E-08	1.08E-08	3.08E-09	3.07E-11	1.94E-07	3.91E-08	4.31E-08	1.17E-08	1.34E-08	1.34E-08	1.34E-08	1.34E-08	7.04E-09	5.67E-10	2.26E-12	1.55E-07
27	756150.2	4095505.77	3.69E-07	4.00E-07	6.38E-08	5.13E-08	5.13E-08	5.13E-08	5.14E-08	4.25E-08	1.07E-08	5.59E-11	1.09E-06	3.11E-07	3.62E-07	5.42E-08	3.99E-08	3.99E-08	3.99E-08	3.99E-08	3.10E-08	8.26E-09	5.61E-11	9.26E-07	3.30E-08	5.00E-08	1.29E-08	1.40E-08	1.40E-08	1.40E-08	1.40E-08	9.12E-09	2.60E-09	2.59E-11	1.64E-07	3.30E-08	3.64E-08	9.87E-09	1.13E-08	1.13E-08	1.13E-08	1.13E-08	5.94E-09	4.78E-10	1.90E-12	1.31E-07
28	756121.83	4095521.58	3.61E-07	3.92E-07	6.24E-08	5.02E-08	5.02E-08	5.02E-08	5.03E-08	4.15E-08	1.04E-08	5.47E-11	1.07E-06	3.04E-07	3.54E-07	5.30E-08	3.90E-08	3.90E-08	3.90E-08	3.91E-08	3.03E-08	8.08E-09	5.49E-11	9.06E-07	3.22E-08	4.89E-08	1.26E-08	1.37E-08	1.37E-08	1.37E-08	1.37E-08	8.92E-09	2.54E-09	2.54E-11	1.60E-07	3.22E-08	3.55E-08	9.65E-09	1.10E-08	1.10E-08	1.10E-08	1.11E-08	5.81E-09	4.68E-10	1.86E-12	1.28E-07
29	756183.45	4095537.39	3.53E-07	3.83E-07	6.11E-08	4.91E-08	4.91E-08	4.91E-08	4.92E-08	4.06E-08	1.02E-08	5.35E-11	1.04E-06	2.98E-07	3.46E-07	5.19E-08	3.81E-08	3.81E-08	3.81E-08	3.82E-08	2.97E-08	7.90E-09	5.37E-11	8.86E-07	3.15E-08	4.78E-08	1.24E-08	1.34E-08	1.34E-08	1.34E-08	1.34E-08	8.73E-09	2.49E-09	2.48E-11	1.56E-07	3.15E-08	3.48E-08	9.44E-09	1.08E-08	1.08E-08	1.08E-08	1.08E-08	5.68E-09	4.57E-10	1.82E-12	1.25E-07
30	756065.08	4095553.2	3.46E-07	3.75E-07	5.98E-08	4.81E-08	4.81E-08	4.81E-08	4.82E-08	3.98E-08	1.00E-08	5.24E-11	1.02E-06	2.91E-07	3.39E-07	5.08E-08	3.73E-08	3.73E-08	3.73E-08	3.74E-08	2.91E-08	7.74E-09	5.26E-11	8.68E-07	3.09E-08	4.68E-08	1.21E-08	1.31E-08	1.31E-08	1.31E-08	1.31E-08	8.55E-09	2.44E-09	2.43E-11	1.53E-07	3.09E-08	3.41E-08	9.25E-09	1.06E-08	1.06E-08	1.06E-08	1.06E-08	5.56E-09	4.48E-10	1.78E-12	1.22E-07
31	756036.71	4095569.01	3.39E-07	3.68E-07	5.86E-08	4.71E-08	4.71E-08	4.71E-08	4.72E-08	3.90E-08	9.80E-09	5.13E-11	1.00E-06	2.86E-07	3.33E-07	4.98E-08	3.66E-08	3.66E-08	3.66E-08	3.67E-08	2.85E-08	7.59E-09	5.16E-11	8.51E-07	3.03E-08	4.59E-08	1.19E-08	1.28E-08	1.28E-08	1.28E-08	1.29E-08	8.38E-09	2.39E-09	2.38E-11	1.50E-07	3.03E-08	3.34E-08	9.06E-09	1.04E-08	1.04E-08	1.04E-08	1.04E-08	5.45E-09	4.39E-10	1.75E-12	1.20E-07
32	756008.33	4095584.81	3.32E-07	3.60E-07	5.74E-08	4.62E-08	4.62E-08	4.62E-08	4.63E-08	3.82E-08	9.60E-09	5.03E-11	9.83E-07	2.80E-07	3.26E-07	4.88E-08	3.59E-08	3.59E-08	3.59E-08	3.60E-08	2.79E-08	7.44E-09	5.05E-11	8.34E-07	2.97E-08	4.50E-08	1.16E-08	1.26E-08	1.26E-08	1.26E-08	1.26E-08	8.21E-09	2.34E-09	2.33E-11	1.47E-07	2.97E-08	3.27E-08	8.88E-09	1.01E-08	1.01E-08	1.01E-08	1.02E-08	5.34E-09	4.30E-10	1.71E-12	1.18E-07
33	755979.96	4095600.62	3.26E-07	3.53E-07	5.63E-08	4.53E-08	4.53E-08	4.53E-08	4.54E-08	3.75E-08	9.42E-09	4.93E-11	9.64E-07	2.75E-07	3.20E-07	4.78E-08	3.52E-08	3.52E-08	3.52E-08	3.52E-08	2.74E-08	7.29E-09	4.95E-11	8.17E-07	2.91E-08	4.41E-08	1.14E-08	1.23E-08	1.23E-08	1.24E-08	8.05E-09	2.29E-09	2.29E-11	1.44E-07	2.91E-08	3.21E-08	8.71E-09	9.95E-09	9.95E-09	9.95E-09	9.98E-09	5.24E-09	4.22E-10	1.68E-12	1.15E-07
34	755951.59	4095616.43	3.20E-07	3.47E-07	5.52E-08	4.44E-08	4.44E-08	4.44E-08	4.45E-08	3.68E-08	9.23E-09	4.84E-11	9.45E-07	2.69E-07	3.13E-07	4.69E-08	3.45E-08	3.45E-08	3.45E-08	3.46E-08	2.69E-08	7.15E-09	4.86E-11	8.02E-07	2.85E-08	4.33E-08	1.12E-08	1.21E-08	1.21E-08	1.21E-08	1.21E-08	7.90E-09	2.25E-09	2.24E-11	1.42E-07	2.85E-08	3.15E-08	8.54E-09	9.76E-09	9.76E-09	9.78E-09	5.14E-09	4.14E-10	1.65E-12	1.13E-07
35	756177.69	4095486.77	3.80E-07	4.12E-07	6.57E-08	5.28E-08	5.28E-08	5.28E-08	5.30E-08	4.37E-08	1.10E-08	5.76E-11	1.12E-06	3.20E-07	3.73E-07	5.58E-08	4.10E-08	4.10E-08	4.10E-08	4.11E-08	3.19E-08	8.51E-09	5.78E-11	9.54E-07	3.39E-08	5.15E-08	1.33E-08	1.44E-08	1.44E-08	1.44E-08	1.44E-08	9.40E-09	2.68E-09	2.67E-11	1.68E-07	3.39E-08	3.74E-08	1.02E-08	1.16E-08	1.16E-08	1.16E-08	1.16E-08	6.11E-09	4.92E-10	1.96E-12	1.35E-07
36	756277.88	4095655.6	2.88E-07	3.04E-07	4.84E-08	3.98E-08	3.98E-08	3.98E-08	3.99E-08	3.30E-08	8.29E-09	4.35E-11	8.49E-07	2.36E-07	2.82E-07	4.21E-08	3.10E-08	3.10E-08	3.10E-08	3.10E-08	2.41E-08	6.42E-09	4.36E-11	7.20E-07	2.50E-08	4.07E-08	1.05E-08	1.14E-08	1.14E-08	1.14E-08	1.14E-08	7.42E-09	2.12E-09	2.11E-11	1.32E-07	2.50E-08	2.95E-08	8.06E-09	9.19E-09	9.19E-09	9.19E-09	9.21E-09	4.51E-09	3.89E-10	1.54E-12	1.06E-07
37	756248.69	4095675.86	2.75E-07	2.99E-07	4.76E-08	3.83E-08	3.83E-08	3.83E-08	3.84E-08	3.17E-08	7.96E-09	4.17E-11	8.15E-07	2.32E-07	2.70E-07	4.04E-08	2.97E-08	2.97E-08	2.97E-08	2.98E-08	2.31E-08	6.16E-09	4.19E-11	6.91E-07	2.46E-08	3.71E-08	9.61E-09	1.04E-08	1.04E-08	1.05E-08	6.81E-09	1.94E-09	1.93E-11	1.22E-07	2.46E-08	2.71E-08	7.36E-09	8.41E-09	8.41E-09	8.41E-09	8.43E-09	4.43E-09	3.57E-10	1.42E-12	9.75E-08
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	T2												T3												T4i												T4f											
			1408																																													
		1404	756709.66	4094313.99																																												
		5.07-03	5.95E-03	4.72E-03	3.80E-03	3.80E-03	3.80E-03	3.81E-03	3.14E-03	7.90E-04	4.14E-06	4.27E-03	5.38E-03	4.01E-03	2.95E-03	2.95E-03	2.95E-03	2.96E-03	2.30E-03	6.12E-04	4.16E-06	4.52E-04	7.43E-04	9.56E-04	1.04E-03	1.04E-03	1.04E-03	1.04E-03	6.75E-04	1.92E-04	1.92E-06	4.52E-04	5.40E-04	7.30E-04	8.35E-04	8.35E-04	8.35E-04	8.37E-04	4.40E-04	3.54E-05	1.41E-07
		Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Yr 10	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Yr 10	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Yr 10	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Yr 10
1	755862.69	4095159.78	9.07E-04	1.07E-03	8.46E-04	6.80E-04	6.80E-04	6.80E-04	6.82E-04	5.63E-04	1.41E-04	7.41E-07	7.64E-04	9.63E-04	7.19E-04	5.28E-04	5.28E-04	5.28E-04	5.29E-04	4.11E-04	1.10E-04	7.44E-07	8.10E-05	1.33E-04	1.71E-04	1.85E-04	1.85E-04	1.85E-04	1.86E-04	1.21E-04	3.45E-05	3.44E-07	8.10E-05	9.67E-05	1.31E-04	1.49E-04	1.49E-04	1.49E-04	1.50E-04	7.87E-05	6.34E-06	2.52E-08
2	755835.67	4095174.83	8.78E-04	1.03E-03	8.19E-04	6.58E-04	6.58E-04	6.58E-04	6.60E-04	5.45E-04	1.37E-04	7.17E-07	7.40E-04	9.33E-04	6.96E-04	5.11E-04	5.11E-04	5.11E-04	5.13E-04	3.98E-04	1.06E-04	7.20E-07	7.84E-05	1.29E-04	1.66E-04	1.80E-04	1.80E-04	1.80E-04	1.80E-04	1.17E-04	3.34E-05	3.33E-07	7.84E-05	9.36E-05	1.27E-04	1.45E-04	1.45E-04	1.45E-04	1.45E-04	7.62E-05	6.14E-06	2.44E-08
3	755808.65	4095189.89	8.51E-04	9.99E-04	7.93E-04	6.37E-04	6.37E-04	6.39E-04	5.28E-04	1.33E-04	6.95E-07	7.17E-04	9.03E-04	6.74E-04	4.95E-04	4.95E-04	4.95E-04	4.96E-04	3.86E-04	1.03E-04	6.98E-07	7.59E-05	1.25E-04	1.60E-04	1.74E-04	1.74E-04	1.74E-04	1.74E-04	1.13E-04	3.23E-05	3.22E-07	7.59E-05	9.07E-05	1.23E-04	1.40E-04	1.40E-04	1.40E-04	1.41E-04	7.38E-05	5.94E-06	2.37E-08
4	755889.5	4095141.16	9.47E-04	1.11E-03	8.83E-04	7.10E-04	7.10E-04	7.10E-04	7.12E-04	5.87E-04	1.48E-04	7.73E-07	7.98E-04	1.01E-03	7.50E-04	5.51E-04	5.51E-04	5.51E-04	5.53E-04	4.29E-04	1.14E-04	7.77E-07	8.45E-05	1.39E-04	1.79E-04	1.94E-04	1.94E-04	1.94E-04	1.94E-04	1.26E-04	3.60E-05	3.59E-07	8.45E-05	1.01E-04	1.37E-04	1.56E-04	1.56E-04	1.56E-04	1.56E-04	8.21E-05	6.61E-06	2.63E-08
5	755894.33	4095198.39	8.38E-04	9.84E-04	7.82E-04	6.28E-04	6.28E-04	6.30E-04	5.20E-04	1.31E-04	6.85E-07	7.06E-04	8.90E-04	6.64E-04	4.88E-04	4.88E-04	4.88E-04	4.89E-04	3.80E-04	1.01E-04	6.87E-07	7.48E-05	1.23E-04	1.58E-04	1.71E-04	1.71E-04	1.71E-04	1.72E-04	1.12E-04	3.18E-05	3.18E-07	7.48E-05	8.93E-05	1.21E-04	1.38E-04	1.38E-04	1.38E-04	1.38E-04	7.27E-05	5.85E-06	2.33E-08
6	755866.53	4095213.88	8.12E-04	9.53E-04	7.57E-04	6.08E-04	6.08E-04	6.08E-04	6.10E-04	5.04E-04	1.27E-04	6.63E-07	6.84E-04	8.62E-04	6.43E-04	4.73E-04	4.73E-04	4.73E-04	4.74E-04	3.68E-04	9.80E-05	6.66E-07	7.25E-05	1.19E-04	1.53E-04	1.66E-04	1.66E-04	1.66E-04	1.66E-04	1.08E-04	3.08E-05	3.08E-07	7.25E-05	8.65E-05	1.17E-04	1.34E-04	1.34E-04	1.34E-04	1.34E-04	7.04E-05	5.67E-06	2.26E-08
7	755838.74	4095229.37	7.87E-04	9.24E-04	7.34E-04	5.90E-04	5.90E-04	5.90E-04	5.91E-04	4.88E-04	1.23E-04	6.43E-07	6.63E-04	8.36E-04	6.23E-04	4.58E-04	4.58E-04	4.58E-04	4.59E-04	3.57E-04	9.50E-05	6.46E-07	7.03E-05	1.15E-04	1.48E-04	1.61E-04	1.61E-04	1.61E-04	1.61E-04	1.05E-04	2.99E-05	2.98E-07	7.03E-05	8.39E-05	1.13E-04	1.30E-04	1.30E-04	1.30E-04	1.30E-04	6.83E-05	5.50E-06	2.19E-08
8	755921.52	4095179.56	8.73E-04	1.03E-03	8.14E-04	6.54E-04	6.54E-04	6.54E-04	6.56E-04	5.42E-04	1.36E-04	7.13E-07	7.36E-04	9.27E-04	6.92E-04	5.08E-04	5.08E-04	5.08E-04	5.10E-04	3.96E-04	1.05E-04	7.16E-07	7.79E-05	1.28E-04	1.65E-04	1.78E-04	1.78E-04	1.78E-04	1.79E-04	1.16E-04	3.32E-05	3.31E-07	7.79E-05	9.31E-05	1.26E-04	1.44E-04	1.44E-04	1.44E-04	1.44E-04	7.58E-05	6.10E-06	2.43E-08
9	755957.85	4095275.48	7.29E-04	8.56E-04	6.80E-04	5.46E-04	5.46E-04	5.46E-04	5.48E-04	4.52E-04	1.14E-04	5.95E-07	6.14E-04	7.74E-04	5.77E-04	4.24E-04	4.24E-04	4.24E-04	4.25E-04	3.30E-04	8.80E-05	5.98E-07	6.51E-05	1.07E-04	1.38E-04	1.49E-04	1.49E-04	1.49E-04	1.49E-04	9.72E-05	2.77E-05	2.76E-07	6.51E-05	7.77E-05	1.05E-04	1.20E-04	1.20E-04	1.20E-04	1.20E-04	6.32E-05	5.09E-06	2.03E-08
10	755929.03	4095291.54	7.07E-04	8.30E-04	6.59E-04	5.30E-04	5.30E-04	5.30E-04	5.31E-04	4.39E-04	1.10E-04	5.78E-07	5.96E-04	7.51E-04	5.60E-04	4.12E-04	4.12E-04	4.12E-04	4.13E-04	3.20E-04	8.53E-05	5.80E-07	6.31E-05	1.04E-04	1.33E-04	1.45E-04	1.45E-04	1.45E-04	1.45E-04	9.42E-05	2.69E-05	2.68E-07	6.31E-05	7.54E-05	1.02E-04	1.16E-04	1.16E-04	1.16E-04	1.16E-04	6.13E-05	4.94E-06	1.97E-08
11	755900.2	4095307.6	6.87E-04	8.06E-04	6.40E-04	5.15E-04	5.15E-04	5.15E-04	5.16E-04	4.26E-04	1.07E-04	5.61E-07	5.79E-04	7.29E-04	5.44E-04	4.00E-04	4.00E-04	4.00E-04	4.01E-04	3.11E-04	8.29E-05	5.63E-07	6.13E-05	1.01E-04	1.30E-04	1.40E-04	1.40E-04	1.40E-04	1.41E-04	9.15E-05	2.61E-05	2.60E-07	6.13E-05	7.32E-05	9.90E-05	1.13E-04	1.13E-04	1.13E-04	1.13E-04	5.96E-05	4.80E-06	1.91E-08
12	755871.38	4095323.66	6.67E-04	7.83E-04	6.22E-04	5.00E-04	5.00E-04	5.00E-04	5.01E-04	4.14E-04	1.04E-04	5.45E-07	5.62E-04	7.08E-04	5.28E-04	3.88E-04	3.88E-04	3.88E-04	3.89E-04	3.02E-04	8.05E-05	5.47E-07	5.95E-05	9.78E-05	1.26E-04	1.36E-04	1.36E-04	1.36E-04	1.37E-04	8.89E-05	2.53E-05	2.53E-07	5.95E-05	7.11E-05	9.62E-05	1.10E-04	1.10E-04	1.10E-04	1.10E-04	5.79E-05	4.66E-06	1.85E-08
13	755985.56	4095256.36	7.58E-04	8.90E-04	7.07E-04	5.68E-04	5.68E-04	5.68E-04	5.69E-04	4.70E-04	1.18E-04	6.19E-07	6.38E-04	8.04E-04	6.00E-04	4.41E-04	4.41E-04	4.41E-04	4.42E-04	3.43E-04	9.15E-05	6.21E-07	6.76E-05	1.11E-04	1.43E-04	1.55E-04	1.55E-04	1.55E-04	1.55E-04	1.01E-04	2.88E-05	2.87E-07	6.76E-05	8.08E-05	1.09E-04	1.25E-04	1.25E-04	1.25E-04	1.25E-04	6.57E-05	5.29E-06	2.11E-08
14	756021.57	4095352.47	6.40E-04	7.51E-04	5.97E-04	4.79E-04	4.79E-04	4.79E-04	4.81E-04	3.97E-04	9.97E-05	5.23E-07	5.39E-04	6.79E-04	5.07E-04	3.72E-04	3.72E-04	3.72E-04	3.73E-04	2.90E-04	7.72E-05	5.25E-07	5.71E-05	9.38E-05	1.21E-04	1.31E-04	1.31E-04	1.31E-04	1.31E-04	8.53E-05	2.43E-05	2.42E-07	5.71E-05	6.82E-05	9.22E-05	1.05E-04	1.05E-04	1.05E-04	1.05E-04	5.55E-05	4.47E-06	1.78E-08
15	756992.09	4095368.89	6.21E-04	7.30E-04	5.79E-04	4.66E-04	4.66E-04	4.66E-04	4.67E-04	3.86E-04	9.69E-05	5.08E-07	5.24E-04	6.60E-04	4.92E-04	3.62E-04	3.62E-04	3.62E-04	3.63E-04	2.82E-04	7.50E-05	5.10E-07	5.55E-05	9.11E-05	1.17E-04	1.27E-04	1.27E-04	1.27E-04	1.28E-04	8.28E-05	2.36E-05	2.35E-07	5.55E-05	6.62E-05	8.96E-05	1.02E-04	1.02E-04	1.02E-04	1.03E-04	5.39E-05	4.34E-06	1.73E-08
16	755962.61	4095385.32	6.04E-04	7.10E-04	5.64E-04	4.54E-04	4.53E-04	4.53E-04	4.54E-04	3.75E-04	9.47E-05	4.94E-07	5.09E-04	6.42E-04	4.79E-04	3.52E-04	3.67E-04	3.52E-04	3.53E-04	2.74E-04	7.30E-05	4.96E-07	5.40E-05	8.86E-05	1.14E-04	1.24E-04	1.24E-04	1.24E-04	8.08E-05	2.30E-05	2.29E-07	5.40E-05	6.44E-05	8.71E-05	9.96E-05	9.96E-05	9.96E-05	9.98E-05	5.24E-05	4.22E-06	1.68E-08
17	755933.13	4095401.75	5.89E-04	6.91E-04	5.49E-04	4.41E-04	4.41E-04	4.41E-04	4.42E-04	3.65E-04	9.17E-05	4.81E-07	4.96E-04	6.25E-04	4.66E-04	3.43E-04	3.43E-04	3.43E-04	3.43E-04	2.67E-04	7.10E-05	4.83E-07	5.25E-05	8.63E-05	1.11E-04	1.20E-04	1.20E-04	1.20E-04	1.21E-04	7.84E-05	2.24E-05	2.23E-07	5.25E-05	6.27E-05	8.48E-05	9.69E-05	9.69E-05	9.69E-05	9.72E-05	5.11E-05	4.11E-06	1.64E-08
18	755903.65	4095418.17	5.73E-04	6.73E-04	5.34E-04	4.29E-04	4.29E-04	4.29E-04	4.31E-04	3.56E-04	8.93E-05	4.68E-07	4.83E-04	6.09E-04	4.54E-04	3.34E-04	3.34E-04	3.34E-04	3.34E-04	2.60E-04	6.92E-05	4.70E-07	5.12E-05	8.40E-05	1.08E-04	1.17E-04	1.17E-04	1.17E-04	1.17E-04	7.64E-05	2.18E-05	2.17E-07	5.12E-05	6.11E-05	8.26E-05	9.44E-05	9.44E-05	9.44E-05	9.47E-05	4.97E-05	4.00E-06	1.59E-08
19	756049.61	4095333.17	6.63E-04	7.79E-04	6.18E-04	4.97E-04	4.97E-04	4.97E-04	4.98E-04	4.11E-04	1.03E-04	5.42E-07	5.59E-04	7.04E-04	5.25E-04	3.86E-04	3.86E-04	3.86E-04	3.87E-04	3.01E-04	8.00E-05	5.44E-07	5.92E-05	9.72E-05	1.25E-04	1.36E-04	1.36E-04	1.36E-04	1.36E-04	8.84E-05	2.52E-05	2.51E-07	5.92E-05	7.07E-05	9.56E-05	1.09E-04	1.09E-04	1.09E-04	1.10E-04	5.75E-05	4.63E-06	1.84E-08
20	756085.38	4095429.4	5.60E-04	6.58E-04	5.22E-04	4.20E-04	4.20E-04	4.20E-04	4.21E-04	3.48E-04	8.73E-05	4.58E-07	4.72E-04	5.95E-04	4.44E-04	3.26E-04	3.26E-04	3.26E-04	3.27E-04	2.54E-04	6.76E-05	4.60E-07	5.00E-05	8.21E-05	1.06E-04	1.15E-04	1.15E-04	1.15E-04	1.15E-04	7.47E-05	2.13E-05	2.12E-07	5.00E-05	5.97E-05	8.08E-05	9.23E-05	9.23E-05	9.23E-05	9.25E-05	4.86E-05	3.91E-06	1.56E-08
21	756055.45	4095446.08	5.45E-04	6.40E-04	5.09E-04	4.09E-04	4.09E-04	4.09E-04	4.10E-04	3.38E-04	8.50E-05	4.45E-07	4.59E-04	5.79E-04	4.32E-04	3.17E-04	3.17E-04	3.17E-04	3.18E-04	2.47E-04	6.58E-05	4.47E-07	4.87E-05	7.99E-05	1.03E-04	1.11E-04	1.11E-04	1.12E-04	1.12E-04	7.27E-05	2.07E-05	2.07E-07	4.87E-05	5.81E-05	7.86E-05	8.98E-05	8.98E-05	8.98E-05	9.01E-05	4.73E-05	3.81E-06	1.52E-08
22	756025.52	4095462.75	5.31E-04	6.24E-04	4.96E-04	3.98E-04	3.98E-04	3.98E-04	3.99E-04	3.30E-04	8.28E-05	4.34E-07	4.48E-04	5.64E-04	4.21E-04	3.09E-04	3.09E-04	3.09E-04	3.10E-04	2.41E-04	6.42E-05	4.36E-07	4.74E-05	7.79E-05	1.00E-04	1.09E-04	1.09E-04	1.09E-04	1.09E-04	7.08E-05	2.02E-05	2.01E-07	4.74E-05	5.67E-05	7.66E-05	8.75E-05	8.75E-05	8.75E-05	8.78E-05	4.61E-05	3.71E-06	1.48E-08
23	755995.58	4095479.43	5.19E-04	6.09E-04	4.84E-04	3.89E-04	3.89E-04	3.89E-04	3.90E-04	3.22E-04	8.08E-05	4.24E-07	4.37E-04	5.51E-04	4.11E-04	3.02E-04	3.02E-04	3.02E-04	3.03E-04	2.35E-04	6.26E-05	4.25E-07	4.63E-05	7.60E-05	9.78E-05	1.06E-04	1.06E-04	1.06E-04	1.06E-04	6.91E-05	1.97E-05	1.96E-07	4.63E-05	5.53E-05	7.48E-05	8.54E-05	8.54E-05	8.54E-05	8.57E-05	4.50E-05	3.62E-06	1.44E-08
24	755965.65	4095496.11	5.06E-04	5.95E-04	4.72E-04	3.79E-04	3.79E-04	3.79E-04	3.80E-04	3.14E-04	7.89E-05	4.14E-07	4.27E-04	5.38E-04	4.01E-04	2.95E-04	2.95E-04	2.95E-04	2.95E-04	2.29E-04	6.11E-05	4.15E-07	4.52E-05	7.42E-05	9.55E-05	1.04E-04	1.04E-04	1.04E-04	1.04E-04	6.75E-05	1.92E-05	1.92E-07	4.52E-05	5.40E-05	7.30E-05	8.34E-05	8.34E-05	8.34E-05	8.36E-05	4.39E-05	3.54E-06	1.41E-08
25	755935.72	4095512.79	4.94E-04	5.80E-04	4.61E-04	3.70E-04	3.70E-04	3.70E-04	3.72E-04	3.07E-04	7.71E-05	4.04E-07	4.17E-04	5.25E-04	3.92E-04	2.88E-04	2.88E-04	2.88E-04	2.89E-04	2.24E-04	5.97E-05	4.06E-07	4.41E-05	7.25E-05	9.33E-05	1.01E-04	1.01E-04	1.01E-04	1.01E-04	6.59E-05	1.88E-05	1.87E-07	4.41E-05	5.27E-05	7.13E-05	8.14E-05	8.14E-05	8.14E-05	8.17E-05	4.29E-05	3.45E-06	1.37E-08
26	756113.65	4095409.97	5.79E-04	6.80E-04	5.40E-04	4.34E-04	4.34E-04	4.34E-04	4.35E-04	3.59E-04	9.03E-05	4.73E-07	4.88E-04	6.15E-04	4.59E-04	3.37E-04	3.37E-04	3.38E-04	3.38E-04	2.62E-04	6.99E-05	4.75E-07	5.17E-05	8.49E-05	1.09E-04	1.18E-04	1.18E-04	1.18E-04	1.19E-04	7.72E-05	2.20E-05	2.19E-07	5.17E-05	6.17E-05	8.35E-05	9.54E-05	9.54E-05	9.54E-05	9.56E-05	5.02E-05	4.05E-06	1.61E-08
27	756150.2	4095505.77	4.89E-04	5.74E-04	4.56E-04	3.66E-04	3.66E-04	3.66E-04	3.67E-04	3.03E-04	7.62E-05	3.99E-07	4.12E-04	5.19E-04	3.87E-04	2.84E-04	2.84E-04	2.84E-04	2.85E-04	2.21E-04	5.90E-05	4.01E-07	4.36E-05	7.16E-05	9.22E-05	9.99E-05	9.99E-05	9.99E-05	9.99E-05	6.51E-05	1.86E-05	1.85E-07	4.36E-05	5.21E-05	7.04E-05	8.05E-05	8.05E-05	8.05E-05	8.07E-05	4.24E-05	3.41E-06	1.36E-08
28	756121.83	4095521.58	4.78E-04	5.61E-04	4.45E-04	3.58E-04	3.58E-04	3.58E-04	3.59E-04	2.96E-04	7.45E-05	3.90E-07	4.02E-04	5.07E-04	3.78E-04	2.78E-04	2.78E-04	2.78E-04	2.79E-04	2.17E-04	5.77E-05	3.92E-07	4.26E-05	7.00E-05	9.01E-05	9.76E-05	9.76E-05	9.76E-05	9.79E-05	6.37E-05	1.81E-05	1.81E-07	4.26E-05	5.09E-05	6.89E-05	7.87E-05	7.87E-05	7.87E-05	7.89E-05	4.14E-05	3.34E-06	1.33E-08
29	756093.45	4095537.39	4.67E-04	5.49E-04	4.36E-04	3.50E-04	3.50E-04	3.50E-04	3.51E-04	2.90E-04	7.28E-05	3.82E-07	3.94E-04	4.96E-04	3.70E-04	2.72E-04	2.72E-04	2.72E-04	2.73E-04	2.12E-04	5.64E-05	3.83E-07	4.17E-05	6.85E-05	8.82E-05	9.55E-05	9.55E-05	9.55E-05	9.58E-05	6.23E-05	1.78E-05	1.77E-07	4.17E-05	4.98E-05	6.74E-05	7.70E-05	7.70E-05	7.70E-05	7.72E-05	4.05E-05	3.26E-06	1.30E-08
30	756065.08	4095553.2	4.58E-04	5.37E-04	4.27E-04	3.43E-04	3.43E-04	3.43E-04	3.44E-04	2.84E-04	7.13E-05	3.74E-07	3.86E-04	4.86E-04	3.63E-04	2.66E-04	2.66E-04	2.66E-04	2.67E-04	2.07E-04	5.52E-05	3.75E-07	4.09E-05	6.71E-05	8.64E-05	9.36E-05	9.36E-05	9.36E-05	9.38E-05	6.10E-05	1.74E-05	1.73E-07	4.09E-05	4.88E-05	6.60E-05	7.54E-05	7.54E-05	7.54E-05	7.56E-05	3.97E-05	3.20E-06	1.27E-08
31	756036.71	4095569.01	4.49E-04	5.27E-04	4.18E-04	3.36E-04	3.36E-04	3.36E-04	3.37E-04	2.78E-04	6.99E-05	3.66E-07	3.78E-04	4.76E-04	3.55E-04	2.61E-04	2.61E-04	2.61E-04	2.62E-04	2.03E-04	5.42E-05	3.68E-07	4.00E-05	6.58E-05	8.46E-05	9.17E-05	9.17E-05	9.17E-05	9.19E-05	5.98E-05	1.70E-05	1.70E-07	4.00E-05	4.78E-05	6.47E-05	7.39E-05	7.39E-05	7.39E-05	7.41E-05	3.89E-05	3.13E-06	1.25E-08
32	756008.33	4095584.81	4.40E-04	5.16E-04	4.09E-04	3.29E-04	3.29E-04	3.29E-04	3.30E-04	2.72E-04	6.85E-05	3.59E-07	3.70E-04	4.67E-04	3.48E-04	2.56E-04	2.56E-04	2.56E-04	2.57E-04	1.99E-04	5.31E-05	3.60E-07	3.92E-05	6.44E-05	8.29E-05	8.99E-05	8.99E-05	8.99E-05	9.01E-05	5.86E-05	1.67E-05	1.67E-07	3.92E-05	4.69E-05	6.34E-05	7.24E-05	7.24E-05	7.24E-05	7.26E-05	3.81E-05	3.06E-06	1.22E-08
33	755979.96	4095600.62	4.31E-04	5.06E-04	4.02E-04	3.23E-04	3.23E-04	3.23E-04	3.24E-04	2.67E-04	6.72E-05	3.52E-07	3.63E-04	4.58E-04	3.41E-04	2.51E-04	2.51E-04	2.51E-04	2.52E-04	1.95E-04	5.20E-05	3.54E-07	3.85E-05	6.32E-05	8.13E-05	8.81E-05	8.81E-05	8.81E-05	8.84E-05	5.75E-05	1.64E-05	1.63E-07	3.85E-05	4.60E-05	6.22E-05	7.10E-05	7.10E-05	7.10E-05	7.12E-05	3.74E-05	3.01E-06	1.20E-08
34	755951.59	4095616.43	4.23E-04	4.96E-04	3.94E-04	3.17E-04	3.17E-04	3.17E-04	3.18E-04	2.62E-04	6.59E-05	3.45E-07	3.56E-04	4.49E-04	3.35E-04	2.46E-04	2.46E-04	2.46E-04	2.47E-04	1.92E-04	5.10E-05	3.47E-07	3.77E-05	6.20E-05	7.98E-05	8.64E-05	8.64E-05	8.64E-05	8.67E-05	5.64E-05	1.61E-05	1.60E-07	3.77E-05	4.51E-05	6.10E-05	6.96E-05	6.96E-05	6.96E-05	6.98E-05	3.67E-05	2.95E-06	1.18E-08
35	756177.69	4095486.77	5.03E-04	5.91E-04	4.69E-04	3.77E-04	3.77E-04	3.77E-04	3.78E-04	3.12E-04	7.84E-05	4.11E-07	4.24E-04	5.34E-04	3.98E-04	2.93E-04	2.93E-04	2.93E-04	2.94E-04	2.28E-04	6.07E-05	4.13E-07	4.49E-05	7.37E-05	9.49E-05	1.03E-04	1.03E-04	1.03E-04	1.03E-04	6.71E-05	1.91E-05	1.91E-07	4.49E-05	5.36E-05	7.25E-05	8.29E-05	8.29E-05	8.29E-05	8.31E-05	4.36E-05	3.51E-06	1.40E-08
36	756277.88	4095659.6	3.71E-04	4.35E-04	3.46E-04	2.78E-04	2.78E-04	2.78E-04	2.79E-04	2.30E-04	5.78E-05	3.03E-07	3.12E-04	3.94E-04	2.94E-04	2.16E-04	2.16E-04	2.16E-04	2.16E-04	1.68E-04	4.48E-05	3.04E-07	3.31E-05	5.44E-05	7.00E-05	7.58E-05	7.58E-05	7.58E-05	7.60E-05	4.94E-05	1.41E-05	1.41E-07	3.31E-05	3.95E-05	5.35E-05	6.11E-05	6.11E-05	6.11E-05	6.13E-05	3.22E-05	2.59E-06	1.03E-08
37	756248.69	4095675.86	3.64E-04	4.28E-04	3.40E-04	2.73E-04	2.73E-04	2.73E-04	2.74E-04	2.26E-04	5.68E-05	2.98E-07	3.07E-04	3.87E-04	2.89E-04	2.12E-04	2.12E-04	2.12E-04	2.13E-04	1.65E-04	4.40E-05	2.99E-07	3.25E-05	5.34E-05	6.88E-05	7.45E-05	7.45E-05	7.45E-05	7.47E-05	4.86E-05	1.38E-05	1.38E-07	3.25E-05	3.88E-05	5.25E-05	6.00E-05	6.00E-05	6.00E-05	6.02E-05	3.16E-05	2.55E-06	1.01E-08
38	756219.51	4095692.12	3.58E-04	4.21E-04	3.34E-04	2.69E-04	2.69E-04	2.69E-04	2.69E-04	2.22E-04	5.59E-05	2.93E-07	3.02E-04	3.81E-04	2.84E-04	2.09E-04	2.09E-04	2.09E-04	2.09E-04	1.62E-04	4.33E-05	2.94E-07	3.20E-05	5.25E-05	6.76E-05	7.32E-05	7.32E-05	7.32E-05	7.34E-05	4.78E-05	1.36E-05	1.36E-07	3.20E-05	3.82E-05	5.17E-05	5.90E-05	5.90E-05	5.90E-05	5.92E-05	3.11E-05	2.50E-06	9.96E-09
39	756190.33	4095708.38	3.52E-04	4.14E-04	3.29E-04	2.64E-04	2.64E-04	2.64E-04	2.65E-04	2.19E-04	5.49E-05	2.88E-07	2.97E-04	3.74E-04	2.79E-04	2.05E-04	2.05E-04	2.05E-04	2.06E-04	1.60E-04	4.25E-05	2.89E-07	3.15E-05	5.17E-05	6.65E-05	7.20E-05	7.20E-05	7.20E-05	7.22E-05	4.70E-05	1.34E-05	1.34E-07	3.15E-05	3.76E-05	5.08E-05	5.81E-05	5.81E-05	5.81E-05	5.82E-05	3.06E-05	2.46E-06	9.80E-09
40	756161.14	4095724.64	3.47E-04	4.07E-04	3.23E-04	2.60E-04	2.60E-04	2.60E-04	2.61E-04	2.15E-04	5.41E-05	2.83E-07	2.92E-04	3.68E-04	2.75E-04	2.02E-04	2.02E-04	2.02E-04	2.02E-04	1.57E-04	4.19E-05	2.84E-07	3.09E-05	5.08E-05	6.54E

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	T2												T3												T4i												T4f											
	1415																																															
	1411	756535.92	4094308.61																																													
	5.12-03	6.01-03	4.77-03	3.84-03	3.84-03	3.84-03	3.85-03	3.18-03	7.98-04	4.18-06	4.31-03	5.44-03	4.06-03	2.98-03	2.98-03	2.98-03	2.99-03	2.32-03	6.18-04	4.20-06	4.57-04	7.50-04	9.66-04	1.05-03	1.05-03	1.05-03	1.05-03	6.82-04	1.94-04	1.94-06	4.57-04	5.46-04	7.38-04	8.43-04	8.43-04	8.43-04	8.46-04	4.44-04	3.58-05	1.42-07
	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Yr 10	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Yr 10	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Yr 10	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Yr 10
1	755862.69	4095159.78	9.07E-04	1.07E-03	8.46E-04	6.80E-04	6.80E-04	6.80E-04	6.82E-04	5.63E-04	1.41E-04	7.41E-07	7.64E-04	9.63E-04	7.19E-04	5.28E-04	5.28E-04	5.28E-04	5.29E-04	4.11E-04	1.10E-04	7.44E-07	8.10E-05	1.33E-04	1.71E-04	1.85E-04	1.85E-04	1.85E-04	1.86E-04	1.21E-04	3.45E-05	3.44E-07	8.10E-05	9.67E-05	1.31E-04	1.49E-04	1.49E-04	1.49E-04	1.50E-04	7.87E-05	6.34E-06	2.52E-08
2	755835.67	4095174.83	8.78E-04	1.03E-03	8.19E-04	6.58E-04	6.58E-04	6.58E-04	6.60E-04	5.45E-04	1.37E-04	7.17E-07	7.40E-04	9.33E-04	6.96E-04	5.11E-04	5.11E-04	5.11E-04	5.13E-04	3.98E-04	1.06E-04	7.20E-07	7.84E-05	1.29E-04	1.66E-04	1.80E-04	1.80E-04	1.80E-04	1.80E-04	1.17E-04	3.34E-05	3.33E-07	7.84E-05	9.36E-05	1.27E-04	1.45E-04	1.45E-04	1.45E-04	1.45E-04	7.62E-05	6.14E-06	2.44E-08
3	755808.65	4095189.89	8.51E-04	9.99E-04	7.93E-04	6.37E-04	6.37E-04	6.39E-04	5.28E-04	1.33E-04	6.95E-07	7.17E-04	9.03E-04	6.74E-04	4.95E-04	4.95E-04	4.95E-04	4.96E-04	3.86E-04	1.03E-04	6.98E-07	7.59E-05	1.25E-04	1.60E-04	1.74E-04	1.74E-04	1.74E-04	1.74E-04	1.13E-04	3.23E-05	3.22E-07	7.59E-05	9.07E-05	1.23E-04	1.40E-04	1.40E-04	1.40E-04	1.41E-04	7.38E-05	5.94E-06	2.37E-08
4	755889.5	4095141.16	9.47E-04	1.11E-03	8.83E-04	7.10E-04	7.10E-04	7.10E-04	7.12E-04	5.87E-04	1.48E-04	7.73E-07	7.98E-04	1.01E-03	7.50E-04	5.51E-04	5.51E-04	5.51E-04	5.53E-04	4.29E-04	1.14E-04	7.77E-07	8.45E-05	1.39E-04	1.79E-04	1.94E-04	1.94E-04	1.94E-04	1.94E-04	1.26E-04	3.60E-05	3.59E-07	8.45E-05	1.01E-04	1.37E-04	1.56E-04	1.56E-04	1.56E-04	1.56E-04	8.21E-05	6.61E-06	2.63E-08
5	755894.33	4095198.39	8.38E-04	9.84E-04	7.82E-04	6.28E-04	6.28E-04	6.28E-04	6.30E-04	5.20E-04	1.31E-04	6.85E-07	7.06E-04	8.90E-04	6.64E-04	4.88E-04	4.88E-04	4.88E-04	4.89E-04	3.80E-04	1.01E-04	6.87E-07	7.48E-05	1.23E-04	1.58E-04	1.71E-04	1.71E-04	1.71E-04	1.72E-04	1.12E-04	3.18E-05	3.18E-07	7.48E-05	8.93E-05	1.21E-04	1.38E-04	1.38E-04	1.38E-04	1.38E-04	7.27E-05	5.85E-06	2.33E-08
6	755866.53	4095213.88	8.12E-04	9.53E-04	7.57E-04	6.08E-04	6.08E-04	6.08E-04	6.10E-04	5.04E-04	1.27E-04	6.63E-07	6.84E-04	8.62E-04	6.43E-04	4.73E-04	4.73E-04	4.73E-04	4.74E-04	3.68E-04	9.80E-05	6.66E-07	7.25E-05	1.19E-04	1.53E-04	1.66E-04	1.66E-04	1.66E-04	1.66E-04	1.08E-04	3.08E-05	3.08E-07	7.25E-05	8.65E-05	1.17E-04	1.34E-04	1.34E-04	1.34E-04	1.34E-04	7.04E-05	5.67E-06	2.26E-08
7	755838.74	4095229.37	7.87E-04	9.24E-04	7.34E-04	5.90E-04	5.90E-04	5.90E-04	5.91E-04	4.88E-04	1.23E-04	6.43E-07	6.63E-04	8.36E-04	6.23E-04	4.58E-04	4.58E-04	4.58E-04	4.59E-04	3.57E-04	9.50E-05	6.46E-07	7.03E-05	1.15E-04	1.48E-04	1.61E-04	1.61E-04	1.61E-04	1.61E-04	1.05E-04	2.99E-05	2.98E-07	7.03E-05	8.39E-05	1.13E-04	1.30E-04	1.30E-04	1.30E-04	1.30E-04	6.83E-05	5.50E-06	2.19E-08
8	755921.52	4095179.56	8.73E-04	1.03E-03	8.14E-04	6.54E-04	6.54E-04	6.54E-04	6.56E-04	5.42E-04	1.36E-04	7.13E-07	7.36E-04	9.27E-04	6.92E-04	5.08E-04	5.08E-04	5.08E-04	5.10E-04	3.96E-04	1.05E-04	7.16E-07	7.79E-05	1.28E-04	1.65E-04	1.78E-04	1.78E-04	1.78E-04	1.79E-04	1.16E-04	3.32E-05	3.31E-07	7.79E-05	9.31E-05	1.26E-04	1.44E-04	1.44E-04	1.44E-04	1.44E-04	7.58E-05	6.10E-06	2.43E-08
9	755957.85	4095275.48	7.29E-04	8.56E-04	6.80E-04	5.46E-04	5.46E-04	5.46E-04	5.48E-04	4.52E-04	1.14E-04	5.95E-07	6.14E-04	7.74E-04	5.77E-04	4.24E-04	4.24E-04	4.24E-04	4.25E-04	3.30E-04	8.80E-05	5.98E-07	6.51E-05	1.07E-04	1.38E-04	1.49E-04	1.49E-04	1.49E-04	1.49E-04	9.72E-05	2.77E-05	2.76E-07	6.51E-05	7.77E-05	1.05E-04	1.20E-04	1.20E-04	1.20E-04	1.20E-04	6.32E-05	5.09E-06	2.03E-08
10	755929.03	4095291.54	7.07E-04	8.30E-04	6.59E-04	5.30E-04	5.30E-04	5.30E-04	5.31E-04	4.39E-04	1.10E-04	5.78E-07	5.96E-04	7.51E-04	5.60E-04	4.12E-04	4.12E-04	4.12E-04	4.13E-04	3.20E-04	8.53E-05	5.80E-07	6.31E-05	1.04E-04	1.33E-04	1.45E-04	1.45E-04	1.45E-04	1.45E-04	9.42E-05	2.69E-05	2.68E-07	6.31E-05	7.54E-05	1.02E-04	1.16E-04	1.16E-04	1.16E-04	1.16E-04	6.13E-05	4.94E-06	1.97E-08
11	755900.2	4095307.6	6.87E-04	8.06E-04	6.40E-04	5.15E-04	5.15E-04	5.15E-04	5.16E-04	4.26E-04	1.07E-04	5.61E-07	5.79E-04	7.29E-04	5.44E-04	4.00E-04	4.00E-04	4.00E-04	4.01E-04	3.11E-04	8.29E-05	5.63E-07	6.13E-05	1.01E-04	1.30E-04	1.40E-04	1.40E-04	1.40E-04	1.41E-04	9.15E-05	2.61E-05	2.60E-07	6.13E-05	7.32E-05	9.90E-05	1.13E-04	1.13E-04	1.13E-04	1.13E-04	5.96E-05	4.80E-06	1.91E-08
12	755871.38	4095323.66	6.67E-04	7.83E-04	6.22E-04	5.00E-04	5.00E-04	5.00E-04	5.01E-04	4.14E-04	1.04E-04	5.45E-07	5.62E-04	7.08E-04	5.28E-04	3.88E-04	3.88E-04	3.88E-04	3.89E-04	3.02E-04	8.05E-05	5.47E-07	5.95E-05	9.78E-05	1.26E-04	1.36E-04	1.36E-04	1.36E-04	1.37E-04	8.89E-05	2.53E-05	2.53E-07	5.95E-05	7.11E-05	9.62E-05	1.10E-04	1.10E-04	1.10E-04	1.10E-04	5.79E-05	4.66E-06	1.85E-08
13	755985.56	4095256.36	7.58E-04	8.90E-04	7.07E-04	5.68E-04	5.68E-04	5.68E-04	5.69E-04	4.70E-04	1.18E-04	6.19E-07	6.38E-04	8.04E-04	6.00E-04	4.41E-04	4.41E-04	4.41E-04	4.42E-04	3.43E-04	9.15E-05	6.21E-07	6.76E-05	1.11E-04	1.43E-04	1.55E-04	1.55E-04	1.55E-04	1.55E-04	1.01E-04	2.88E-05	2.87E-07	6.76E-05	8.08E-05	1.09E-04	1.25E-04	1.25E-04	1.25E-04	1.25E-04	6.57E-05	5.29E-06	2.11E-08
14	756021.57	4095352.47	6.40E-04	7.51E-04	5.97E-04	4.79E-04	4.79E-04	4.79E-04	4.81E-04	3.97E-04	9.97E-05	5.23E-07	5.39E-04	6.79E-04	5.07E-04	3.72E-04	3.72E-04	3.72E-04	3.73E-04	2.90E-04	7.72E-05	5.25E-07	5.71E-05	9.38E-05	1.21E-04	1.31E-04	1.31E-04	1.31E-04	1.31E-04	8.53E-05	2.43E-05	2.42E-07	5.71E-05	6.82E-05	9.22E-05	1.05E-04	1.05E-04	1.05E-04	1.06E-04	5.55E-05	4.47E-06	1.78E-08
15	755992.09	4095368.89	6.21E-04	7.30E-04	5.79E-04	4.66E-04	4.66E-04	4.66E-04	4.67E-04	3.86E-04	9.69E-05	5.08E-07	5.24E-04	6.60E-04	4.92E-04	3.62E-04	3.62E-04	3.62E-04	3.63E-04	2.82E-04	7.50E-05	5.10E-07	5.55E-05	9.11E-05	1.17E-04	1.27E-04	1.27E-04	1.27E-04	1.27E-04	8.28E-05	2.36E-05	2.35E-07	5.55E-05	6.62E-05	8.96E-05	1.02E-04	1.02E-04	1.02E-04	1.03E-04	5.39E-05	4.34E-06	1.73E-08
16	755962.61	4095385.32	6.04E-04	7.10E-04	5.64E-04	4.54E-04	4.54E-04	4.54E-04	4.54E-04	3.75E-04	9.42E-05	4.94E-07	5.09E-04	6.42E-04	4.79E-04	3.52E-04	3.52E-04	3.52E-04	3.53E-04	2.74E-04	7.30E-05	4.96E-07	5.40E-05	8.86E-05	1.14E-04	1.24E-04	1.24E-04	1.24E-04	1.24E-04	8.06E-05	2.30E-05	2.29E-07	5.40E-05	6.44E-05	8.71E-05	9.96E-05	9.96E-05	9.96E-05	9.98E-05	5.24E-05	4.22E-06	1.68E-08
17	755933.13	4095401.75	5.89E-04	6.91E-04	5.49E-04	4.41E-04	4.41E-04	4.41E-04	4.42E-04	3.65E-04	9.17E-05	4.81E-07	4.96E-04	6.25E-04	4.66E-04	3.43E-04	3.43E-04	3.43E-04	3.43E-04	2.67E-04	7.10E-05	4.83E-07	5.25E-05	8.63E-05	1.11E-04	1.20E-04	1.20E-04	1.20E-04	1.21E-04	7.84E-05	2.24E-05	2.23E-07	5.25E-05	6.27E-05	8.48E-05	9.69E-05	9.69E-05	9.69E-05	9.72E-05	5.11E-05	4.11E-06	1.64E-08
18	755903.65	4095418.17	5.73E-04	6.73E-04	5.34E-04	4.29E-04	4.29E-04	4.29E-04	4.31E-04	3.56E-04	8.93E-05	4.68E-07	4.83E-04	6.09E-04	4.54E-04	3.34E-04	3.34E-04	3.34E-04	3.34E-04	2.60E-04	6.92E-05	4.70E-07	5.12E-05	8.40E-05	1.08E-04	1.17E-04	1.17E-04	1.17E-04	1.17E-04	7.64E-05	2.18E-05	2.17E-07	5.12E-05	6.11E-05	8.26E-05	9.44E-05	9.44E-05	9.44E-05	9.47E-05	4.97E-05	4.00E-06	1.59E-08
19	756049.61	4095333.17	6.63E-04	7.79E-04	6.18E-04	4.97E-04	4.97E-04	4.97E-04	4.98E-04	4.11E-04	1.03E-04	5.42E-07	5.59E-04	7.04E-04	5.25E-04	3.86E-04	3.86E-04	3.86E-04	3.87E-04	3.01E-04	8.00E-05	5.44E-07	5.92E-05	9.72E-05	1.25E-04	1.36E-04	1.36E-04	1.36E-04	1.36E-04	8.84E-05	2.52E-05	2.51E-07	5.92E-05	7.07E-05	9.56E-05	1.09E-04	1.09E-04	1.09E-04	1.10E-04	5.75E-05	4.63E-06	1.84E-08
20	756085.38	4095429.4	5.60E-04	6.58E-04	5.22E-04	4.20E-04	4.20E-04	4.21E-04	3.48E-04	8.73E-05	4.58E-07		4.72E-04	5.95E-04	4.44E-04	3.26E-04	3.26E-04	3.26E-04	3.27E-04	2.54E-04	6.76E-05	4.60E-07	5.00E-05	8.21E-05	1.06E-04	1.15E-04	1.15E-04	1.15E-04	1.15E-04	7.47E-05	2.13E-05	2.12E-07	5.00E-05	5.97E-05	8.08E-05	9.23E-05	9.23E-05	9.23E-05	9.25E-05	4.86E-05	3.91E-06	1.56E-08
21	756055.45	4095446.08	5.45E-04	6.40E-04	5.09E-04	4.09E-04	4.09E-04	4.09E-04	4.10E-04	3.38E-04	8.50E-05	4.45E-07	4.59E-04	5.79E-04	4.32E-04	3.17E-04	3.17E-04	3.17E-04	3.18E-04	2.47E-04	6.58E-05	4.47E-07	4.87E-05	7.99E-05	1.03E-04	1.11E-04	1.11E-04	1.11E-04	1.12E-04	7.27E-05	2.07E-05	2.07E-07	4.87E-05	5.81E-05	7.86E-05	8.98E-05	8.98E-05	8.98E-05	9.01E-05	4.73E-05	3.81E-06	1.52E-08
22	756025.52	4095462.75	5.31E-04	6.24E-04	4.96E-04	3.98E-04	3.98E-04	3.98E-04	3.99E-04	3.30E-04	8.28E-05	4.34E-07	4.48E-04	5.64E-04	4.21E-04	3.09E-04	3.09E-04	3.09E-04	3.10E-04	2.41E-04	6.42E-05	4.36E-07	4.74E-05	7.79E-05	1.00E-04	1.09E-04	1.09E-04	1.09E-04	1.09E-04	7.08E-05	2.02E-05	2.01E-07	4.74E-05	5.67E-05	7.66E-05	8.75E-05	8.75E-05	8.75E-05	8.78E-05	4.61E-05	3.71E-06	1.48E-08
23	755995.58	4095479.43	5.19E-04	6.09E-04	4.84E-04	3.89E-04	3.89E-04	3.89E-04	3.90E-04	3.22E-04	8.08E-05	4.24E-07	4.37E-04	5.51E-04	4.11E-04	3.02E-04	3.02E-04	3.02E-04	3.03E-04	2.35E-04	6.26E-05	4.25E-07	4.63E-05	7.60E-05	9.78E-05	1.06E-04	1.06E-04	1.06E-04	1.06E-04	6.91E-05	1.97E-05	1.96E-07	4.63E-05	5.53E-05	7.48E-05	8.54E-05	8.54E-05	8.54E-05	8.57E-05	4.50E-05	3.62E-06	1.44E-08
24	755965.65	4095496.11	5.06E-04	5.95E-04	4.72E-04	3.79E-04	3.79E-04	3.79E-04	3.80E-04	3.14E-04	7.89E-05	4.14E-07	4.27E-04	5.38E-04	4.01E-04	2.95E-04	2.95E-04	2.95E-04	2.95E-04	2.29E-04	6.11E-05	4.15E-07	4.52E-05	7.42E-05	9.55E-05	1.04E-04	1.04E-04	1.04E-04	1.04E-04	6.75E-05	1.92E-05	1.92E-07	4.52E-05	5.40E-05	7.30E-05	8.34E-05	8.34E-05	8.34E-05	8.36E-05	4.39E-05	3.54E-06	1.41E-08
25	755935.72	4095512.79	4.94E-04	5.80E-04	4.61E-04	3.70E-04	3.70E-04	3.70E-04	3.72E-04	3.07E-04	7.71E-05	4.04E-07	4.17E-04	5.25E-04	3.92E-04	2.88E-04	2.88E-04	2.88E-04	2.89E-04	2.24E-04	5.97E-05	4.06E-07	4.41E-05	7.25E-05	9.33E-05	1.01E-04	1.01E-04	1.01E-04	1.01E-04	6.59E-05	1.88E-05	1.87E-07	4.41E-05	5.27E-05	7.13E-05	8.14E-05	8.14E-05	8.14E-05	8.17E-05	4.29E-05	3.45E-06	1.37E-08
26	756113.65	4095409.97	5.79E-04	6.80E-04	5.40E-04	4.34E-04	4.34E-04	4.34E-04	4.35E-04	3.59E-04	9.03E-05	4.73E-07	4.88E-04	6.15E-04	4.59E-04	3.37E-04	3.37E-04	3.38E-04	3.38E-04	2.62E-04	6.99E-05	4.75E-07	5.17E-05	8.49E-05	1.09E-04	1.18E-04	1.18E-04	1.18E-04	1.19E-04	7.72E-05	2.20E-05	2.19E-07	5.17E-05	6.17E-05	8.35E-05	9.54E-05	9.54E-05	9.54E-05	9.56E-05	5.02E-05	4.05E-06	1.61E-08
27	756150.2	4095505.77	4.89E-04	5.74E-04	4.56E-04	3.66E-04	3.66E-04	3.66E-04	3.67E-04	3.03E-04	7.62E-05	3.99E-07	4.12E-04	5.19E-04	3.87E-04	2.84E-04	2.84E-04	2.84E-04	2.85E-04	2.21E-04	5.90E-05	4.01E-07	4.36E-05	7.16E-05	9.22E-05	9.99E-05	9.99E-05	9.99E-05	9.99E-05	6.51E-05	1.86E-05	1.85E-07	4.36E-05	5.21E-05	7.04E-05	8.05E-05	8.05E-05	8.05E-05	8.07E-05	4.24E-05	3.41E-06	1.36E-08
28	756121.83	4095521.58	4.78E-04	5.61E-04	4.45E-04	3.58E-04	3.58E-04	3.58E-04	3.59E-04	2.96E-04	7.45E-05	3.90E-07	4.02E-04	5.07E-04	3.78E-04	2.78E-04	2.78E-04	2.78E-04	2.79E-04	2.17E-04	5.77E-05	3.92E-07	4.26E-05	7.00E-05	9.01E-05	9.76E-05	9.76E-05	9.76E-05	9.79E-05	6.37E-05	1.81E-05	1.81E-07	4.26E-05	5.09E-05	6.89E-05	7.87E-05	7.87E-05	7.87E-05	7.89E-05	4.14E-05	3.34E-06	1.33E-08
29	756093.45	4095537.39	4.67E-04	5.49E-04	4.36E-04	3.50E-04	3.50E-04	3.50E-04	3.51E-04	2.90E-04	7.28E-05	3.82E-07	3.94E-04	4.96E-04	3.70E-04	2.72E-04	2.72E-04	2.72E-04	2.73E-04	2.12E-04	5.64E-05	3.83E-07	4.17E-05	6.85E-05	8.82E-05	9.55E-05	9.55E-05	9.55E-05	9.58E-05	6.23E-05	1.78E-05	1.77E-07	4.17E-05	4.98E-05	6.74E-05	7.70E-05	7.70E-05	7.70E-05	7.72E-05	4.05E-05	3.26E-06	1.30E-08
30	756065.08	4095553.2	4.58E-04	5.37E-04	4.27E-04	3.43E-04	3.43E-04	3.43E-04	3.44E-04	2.84E-04	7.13E-05	3.74E-07	3.86E-04	4.86E-04	3.63E-04	2.66E-04	2.66E-04	2.66E-04	2.67E-04	2.07E-04	5.52E-05	3.75E-07	4.09E-05	6.71E-05	8.64E-05	9.36E-05	9.36E-05	9.36E-05	9.38E-05	6.10E-05	1.74E-05	1.73E-07	4.09E-05	4.88E-05	6.60E-05	7.54E-05	7.54E-05	7.54E-05	7.56E-05	3.97E-05	3.20E-06	1.27E-08
31	756036.71	4095569.01	4.49E-04	5.17E-04	4.18E-04	3.36E-04	3.36E-04	3.36E-04	3.37E-04	2.78E-04	6.99E-05	3.66E-07	3.78E-04	4.76E-04	3.55E-04	2.61E-04	2.61E-04	2.61E-04	2.62E-04	2.03E-04	5.42E-05	3.68E-07	4.00E-05	6.58E-05	8.46E-05	9.17E-05	9.17E-05	9.17E-05	9.19E-05	5.98E-05	1.70E-05	1.70E-07	4.00E-05	4.78E-05	6.47E-05	7.39E-05	7.39E-05	7.39E-05	7.41E-05	3.89E-05	3.13E-06	1.25E-08
32	756018.33	4095584.31	4.40E-04	5.06E-04	4.10E-04	3.29E-04	3.29E-04	3.29E-04	3.30E-04	2.73E-04	6.85E-05	3.59E-07	3.70E-04	4.67E-04	3.48E-04	2.56E-04	2.56E-04	2.56E-04	2.56E-04	1.99E-04	5.31E-05	3.61E-07	3.92E-05	6.44E-05	8.29E-05	8.99E-05	8.99E-05	8.99E-05	9.01E-05	5.86E-05	1.67E-05	1.67E-07	3.92E-05	4.69E-05	6.34E-05	7.24E-05	7.24E-05	7.24E-05	7.26E-05	3.81E-05	3.07E-06	1.22E-08
33	755979.96	4095600.62	4.31E-04	5.06E-04	4.02E-04	3.23E-04	3.23E-04	3.23E-04	3.24E-04	2.67E-04	6.72E-05	3.52E-07	3.63E-04	4.58E-04	3.41E-04	2.51E-04	2.51E-04	2.51E-04	2.52E-04	1.95E-04	5.20E-05	3.54E-07	3.85E-05	6.32E-05	8.13E-05	8.81E-05	8.81E-05	8.81E-05	8.84E-05	5.75E-05	1.64E-05	1.63E-07	3.85E-05	4.60E-05	6.22E-05	7.10E-05	7.10E-05	7.10E-05	7.12E-05	3.74E-05	3.01E-06	1.20E-08
34	755951.59	4095616.43	4.23E-04	4.96E-04	3.94E-04	3.17E-04	3.17E-04	3.17E-04	3.18E-04	2.62E-04	6.59E-05	3.45E-07	3.56E-04	4.49E-04	3.35E-04	2.46E-04	2.46E-04	2.46E-04	2.47E-04	1.92E-04	5.10E-05	3.47E-07	3.77E-05	6.20E-05	7.98E-05	8.64E-05	8.64E-05	8.64E-05	8.67E-05	5.64E-05	1.61E-05	1.60E-07	3.77E-05	4.51E-05	6.10E-05	6.96E-05	6.96E-05	6.96E-05	6.98E-05	3.67E-05	2.95E-06	1.18E-08
35	756177.69	4095486.77	5.03E-04	5.91E-04	4.69E-04	3.77E-04	3.77E-04	3.77E-04	3.78E-04	3.12E-04	7.84E-05	4.11E-07	4.24E-04	5.34E-04	3.98E-04	2.93E-04	2.93E-04	2.93E-04	2.94E-04	2.28E-04	6.07E-05	4.13E-07	4.49E-05	7.37E-05	9.49E-05	1.03E-04	1.03E-04	1.03E-04	1.03E-04	6.71E-05	1.91E-05	1.91E-07	4.49E-05	5.36E-05	7.25E-05	8.29E-05	8.29E-05	8.29E-05	8.31E-05	4.36E-05	3.51E-06	1.40E-08
36	756277.88	4095659.6	3.71E-04	4.35E-04	3.46E-04	2.78E-04	2.78E-04	2.78E-04	2.79E-04	2.30E-04	5.78E-05	3.03E-07	3.12E-04	3.94E-04	2.94E-04	2.16E-04	2.16E-04	2.16E-04	2.16E-04	1.68E-04	4.48E-05	3.04E-07	3.31E-05	5.44E-05	7.00E-05	7.58E-05	7.58E-05	7.58E-05	7.60E-05	4.94E-05	1.41E-05	1.41E-07	3.31E-05	3.95E-05	5.35E-05	6.11E-05	6.11E-05	6.11E-05	6.13E-05	3.22E-05	2.59E-06	1.03E-08
37	756248.69	4095675.86	3.64E-04	4.28E-04	3.40E-04	2.73E-04	2.73E-04	2.73E-04	2.74E-04	2.26E-04	5.68E-05	2.98E-07	3.07E-04	3.87E-04	2.89E-04	2.12E-04	2.12E-04	2.12E-04	2.13E-04	1.65E-04	4.40E-05	2.99E-07	3.25E-05	5.34E-05	6.88E-05	7.45E-05	7.45E-05	7.45E-05	7.47E-05	4.86E-05	1.38E-05	1.38E-07	3.25E-05	3.88E-05	5.25E-05	6.00E-05	6.00E-05	6.00E-05	6.02E-05	3.16E-05	2.55E-06	1.01E-08
38	756219.51	4095692.12	3.58E-04	4.21E-04	3.34E-04	2.69E-04	2.69E-04	2.69E-04	2.69E-04	2.22E-04	5.59E-05	2.93E-07	3.02E-04	3.81E-04	2.84E-04	2.09E-04	2.09E-04	2.09E-04	2.09E-04	1.62E-04	4.33E-05	2.94E-07	3.20E-05	5.25E-05	6.76E-05	7.32E-05	7.32E-05	7.32E-05	7.34E-05	4.78E-05	1.36E-05	1.36E-07	3.20E-05	3.82E-05	5.17E-05	5.90E-05	5.90E-05	5.90E-05	5.92E-05	3.11E-05	2.50E-06	9.96E-09
39	756190.33	4095708.38	3.52E-04	4.14E-04	3.29E-04	2.64E-04	2.64E-04	2.64E-04	2.65E-04	2.19E-04	5.49E-05	2.88E-07	2.97E-04	3.74E-04	2.79E-04	2.05E-04	2.05E-04	2.05E-04	2.06E-04	1.60E-04	4.25E-05	2.89E-07	3.15E-05	5.17E-05	6.65E-05	7.20E-05	7.20E-05	7.20E-05	7.22E-05	4.70E-05	1.34E-05	1.34E-07	3.15E-05	3.76E-05	5.08E-05	5.81E-05	5.81E-05	5.81E-05	5.82E-05	3.06E-05	2.46E-06	9.80E-09
40	756161.14	4095724.64	3.47E-04	4.07E-04	3.23E-04	2.60E-04	2.60E-04	2.60E-04	2.61E-04	2.15E-04	5.41E-05	2.83E-07	2.92E-04	3.68E-04	2.75E-04	2.02E-04	2.02E-04	2.02E-04	2.02E-04	1.57E-04	4.19E-05	2.84E-07	3.09E-05	5.08E-05	6.54E-05	7.09E-05	7.09E-05	7.09E-05

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1505	755841.74	4094262.1	2.68E-03	3.14E-03	2.50E-03	2.01E-03	2.01E-03	2.01E-03	2.01E-03	1.66E-03	4.17E-04	2.19E-06	2.26E-03	2.84E-03	2.12E-03	1.56E-03	1.56E-03	1.56E-03	1.56E-03	1.21E-03	3.23E-04	2.20E-06	2.39E-04	3.92E-04	5.05E-04	5.47E-04	5.47E-04	5.47E-04	5.49E-04	3.57E-04	1.02E-04	1.01E-06	2.39E-04	2.85E-04	3.86E-04	4.41E-04	4.41E-04	4.41E-04	4.42E-04	2.32E-04	1.87E-05	7.44E-08
1506	755816.92	4094261.34	2.51E-03	2.94E-03	2.34E-03	1.88E-03	1.88E-03	1.88E-03	1.88E-03	1.55E-03	3.91E-04	2.05E-06	2.11E-03	2.66E-03	1.98E-03	1.46E-03	1.46E-03	1.46E-03	1.46E-03	1.14E-03	3.02E-04	2.06E-06	2.24E-04	3.67E-04	4.73E-04	5.12E-04	5.12E-04	5.12E-04	5.14E-04	3.34E-04	9.52E-05	9.49E-07	2.24E-04	2.67E-04	3.61E-04	4.13E-04	4.13E-04	4.13E-04	4.14E-04	2.17E-04	1.75E-05	6.97E-08
1507	755792.1	4094260.57	2.21E-03	2.72E-03	2.16E-03	1.73E-03	1.73E-03	1.73E-03	1.74E-03	1.43E-03	3.61E-04	1.89E-06	1.95E-03	2.46E-03	1.83E-03	1.35E-03	1.35E-03	1.35E-03	1.35E-03	1.05E-03	2.79E-04	1.90E-06	2.06E-04	3.39E-04	4.36E-04	4.73E-04	4.73E-04	4.73E-04	4.74E-04	3.08E-04	8.79E-05	8.76E-07	2.06E-04	2.47E-04	3.33E-04	3.81E-04	3.81E-04	3.81E-04	3.82E-04	2.01E-04	1.62E-05	6.43E-08
1508	755767.28	4094259.8	2.10E-03	2.47E-03	1.96E-03	1.57E-03	1.57E-03	1.57E-03	1.58E-03	1.30E-03	3.27E-04	1.72E-06	1.77E-03	2.23E-03	1.66E-03	1.23E-03	1.22E-03	1.22E-03	1.23E-03	9.52E-04	2.54E-04	1.72E-06	1.87E-04	3.08E-04	3.96E-04	4.29E-04	4.29E-04	4.29E-04	4.31E-04	2.80E-04	7.98E-05	7.96E-07	1.87E-04	2.24E-04	3.02E-04	3.46E-04	3.46E-04	3.46E-04	3.47E-04	1.82E-04	1.47E-05	5.84E-08
1509	755742.46	4094259.03	1.88E-03	2.21E-03	1.75E-03	1.41E-03	1.41E-03	1.41E-03	1.41E-03	1.17E-03	2.93E-04	1.54E-06	1.58E-03	2.00E-03	1.49E-03	1.10E-03	1.10E-03	1.10E-03	1.10E-03	8.53E-04	2.27E-04	1.54E-06	1.68E-04	2.76E-04	3.55E-04	3.85E-04	3.85E-04	3.85E-04	3.86E-04	2.51E-04	7.15E-05	7.13E-07	1.68E-04	2.01E-04	2.71E-04	3.10E-04	3.10E-04	3.10E-04	3.11E-04	1.63E-04	1.31E-05	5.23E-08
1510	755717.64	4094258.26	1.68E-03	1.97E-03	1.57E-03	1.26E-03	1.26E-03	1.26E-03	1.04E-03	2.62E-04	1.37E-06	1.42E-03	1.78E-03	1.33E-03	9.78E-04	9.78E-04	9.78E-04	9.81E-04	7.62E-04	2.03E-04	1.38E-06	1.50E-04	2.46E-04	3.17E-04	3.44E-04	3.44E-04	3.44E-04	3.44E-04	2.24E-04	6.38E-05	6.37E-07	1.50E-04	1.79E-04	2.42E-04	2.77E-04	2.77E-04	2.77E-04	2.78E-04	1.46E-04	1.17E-05	4.67E-08
1511	755692.82	4094257.49	1.52E-03	1.79E-03	1.42E-03	1.14E-03	1.14E-03	1.14E-03	9.44E-04	2.37E-04	1.24E-06	1.28E-03	1.62E-03	1.21E-03	8.86E-04	8.86E-04	8.86E-04	8.88E-04	6.90E-04	1.84E-04	1.25E-06	1.36E-04	2.23E-04	2.87E-04	3.11E-04	3.11E-04	3.11E-04	3.12E-04	2.03E-04	5.78E-05	5.77E-07	1.36E-04	1.62E-04	2.19E-04	2.51E-04	2.51E-04	2.51E-04	2.51E-04	1.32E-04	1.06E-05	4.23E-08
1512	755668	4094256.72	1.41E-03	1.66E-03	1.32E-03	1.06E-03	1.06E-03	1.06E-03	8.75E-04	2.20E-04	1.15E-06	1.19E-03	1.50E-03	1.12E-03	8.21E-04	8.21E-04	8.21E-04	8.23E-04	6.39E-04	1.70E-04	1.16E-06	1.26E-04	2.07E-04	2.66E-04	2.88E-04	2.88E-04	2.88E-04	2.89E-04	1.88E-04	5.36E-05	5.34E-07	1.26E-04	1.50E-04	2.03E-04	2.32E-04	2.32E-04	2.32E-04	2.33E-04	1.22E-04	9.86E-06	3.92E-08
1513	757299.46	4094289.5	2.73E-03	3.21E-03	2.55E-03	2.05E-03	2.05E-03	2.05E-03	2.06E-03	1.70E-03	4.26E-04	2.23E-06	2.30E-03	2.90E-03	2.17E-03	1.59E-03	1.59E-03	1.59E-03	1.60E-03	1.24E-03	3.30E-04	2.24E-06	2.44E-04	4.01E-04	5.16E-04	5.59E-04	5.59E-04	5.59E-04	5.61E-04	3.65E-04	1.04E-04	1.04E-06	2.44E-04	2.92E-04	3.94E-04	4.50E-04	4.50E-04	4.50E-04	4.52E-04	2.37E-04	1.91E-05	7.60E-08
1514	757341.06	4094322.9	2.87E-03	3.37E-03	2.68E-03	2.15E-03	2.15E-03	2.15E-03	2.16E-03	1.78E-03	4.48E-04	2.35E-06	2.42E-03	3.05E-03	2.28E-03	1.67E-03	1.67E-03	1.67E-03	1.68E-03	1.30E-03	3.47E-04	2.36E-06	2.57E-04	4.21E-04	5.42E-04	5.88E-04	5.88E-04	5.88E-04	5.89E-04	3.83E-04	1.09E-04	1.09E-06	2.57E-04	3.06E-04	4.14E-04	4.73E-04	4.73E-04	4.73E-04	4.75E-04	2.49E-04	2.01E-05	7.99E-08
1515	757257.25	4094280.93	2.77E-03	3.25E-03	2.58E-03	2.08E-03	2.08E-03	2.08E-03	2.08E-03	1.72E-03	4.32E-04	2.26E-06	2.34E-03	2.94E-03	2.20E-03	1.61E-03	1.61E-03	1.61E-03	1.62E-03	1.26E-03	3.35E-04	2.27E-06	2.47E-04	4.06E-04	5.23E-04	5.67E-04	5.67E-04	5.67E-04	5.68E-04	3.69E-04	1.05E-04	1.05E-06	2.47E-04	2.95E-04	4.00E-04	4.57E-04	4.57E-04	4.57E-04	4.58E-04	2.40E-04	1.94E-05	7.71E-08
1516	757232.43	4094280.16	2.84E-03	3.33E-03	2.65E-03	2.13E-03	2.13E-03	2.13E-03	2.13E-03	1.76E-03	4.42E-04	2.32E-06	2.39E-03	3.01E-03	2.25E-03	1.65E-03	1.65E-03	1.65E-03	1.66E-03	1.29E-03	3.43E-04	2.33E-06	2.53E-04	4.16E-04	5.35E-04	5.80E-04	5.80E-04	5.80E-04	5.82E-04	3.78E-04	1.08E-04	1.08E-06	2.53E-04	3.03E-04	4.09E-04	4.67E-04	4.67E-04	4.67E-04	4.69E-04	2.46E-04	1.98E-05	7.89E-08
1517	757207.61	4094279.39	2.89E-03	3.40E-03	2.70E-03	2.17E-03	2.17E-03	2.17E-03	2.17E-03	1.80E-03	4.51E-04	2.36E-06	2.44E-03	3.07E-03	2.29E-03	1.68E-03	1.68E-03	1.68E-03	1.69E-03	1.31E-03	3.49E-04	2.37E-06	2.58E-04	4.24E-04	5.46E-04	5.91E-04	5.91E-04	5.91E-04	5.93E-04	3.86E-04	1.10E-04	1.10E-06	2.58E-04	3.08E-04	4.17E-04	4.77E-04	4.77E-04	4.77E-04	4.78E-04	2.51E-04	2.02E-05	8.05E-08
1518	757182.79	4094278.62	2.94E-03	3.46E-03	2.74E-03	2.21E-03	2.21E-03	2.21E-03	2.21E-03	1.83E-03	4.59E-04	2.40E-06	2.48E-03	3.13E-03	2.33E-03	1.71E-03	1.71E-03	1.71E-03	1.72E-03	1.33E-03	3.55E-04	2.41E-06	2.63E-04	4.31E-04	5.55E-04	6.02E-04	6.02E-04	6.02E-04	6.03E-04	3.92E-04	1.12E-04	1.12E-06	2.63E-04	3.14E-04	4.24E-04	4.85E-04	4.85E-04	4.85E-04	4.86E-04	2.55E-04	2.06E-05	8.18E-08
1519	757157.97	4094277.85	2.99E-03	3.51E-03	2.79E-03	2.24E-03	2.24E-03	2.24E-03	2.25E-03	1.85E-03	4.66E-04	2.44E-06	2.52E-03	3.17E-03	2.37E-03	1.74E-03	1.74E-03	1.74E-03	1.74E-03	1.36E-03	3.61E-04	2.45E-06	2.67E-04	4.38E-04	5.64E-04	6.11E-04	6.11E-04	6.11E-04	6.13E-04	3.99E-04	1.14E-04	1.13E-06	2.67E-04	3.19E-04	4.31E-04	4.92E-04	4.92E-04	4.92E-04	4.94E-04	2.59E-04	2.09E-05	8.31E-08
1520	757133.15	4094277.08	3.03E-03	3.56E-03	2.83E-03	2.27E-03	2.27E-03	2.27E-03	2.28E-03	1.88E-03	4.72E-04	2.48E-06	2.55E-03	3.22E-03	2.40E-03	1.76E-03	1.76E-03	1.77E-03	1.77E-03	1.37E-03	3.66E-04	2.49E-06	2.70E-04	4.44E-04	5.72E-04	6.19E-04	6.19E-04	6.19E-04	6.21E-04	4.04E-04	1.15E-04	1.15E-06	2.70E-04	3.23E-04	4.37E-04	4.99E-04	4.99E-04	4.99E-04	5.01E-04	2.63E-04	2.12E-05	8.43E-08
1521	757108.33	4094276.32	3.06E-03	3.60E-03	2.86E-03	2.30E-03	2.30E-03	2.30E-03	2.30E-03	1.90E-03	4.78E-04	2.50E-06	2.58E-03	3.25E-03	2.43E-03	1.78E-03	1.78E-03	1.78E-03	1.79E-03	1.39E-03	3.70E-04	2.51E-06	2.74E-04	4.49E-04	5.78E-04	6.26E-04	6.26E-04	6.26E-04	6.28E-04	4.08E-04	1.16E-04	1.16E-06	2.74E-04	3.27E-04	4.42E-04	5.05E-04	5.05E-04	5.05E-04	5.06E-04	2.66E-04	2.14E-05	8.52E-08
1522	757083.51	4094275.55	3.09E-03	3.63E-03	2.89E-03	2.32E-03	2.32E-03	2.32E-03	2.33E-03	1.92E-03	4.82E-04	2.53E-06	2.61E-03	3.29E-03	2.45E-03	1.80E-03	1.80E-03	1.80E-03	1.81E-03	1.40E-03	3.74E-04	2.54E-06	2.76E-04	4.54E-04	5.84E-04	6.33E-04	6.33E-04	6.33E-04	6.34E-04	4.13E-04	1.18E-04	1.17E-06	2.76E-04	3.30E-04	4.46E-04	5.10E-04	5.10E-04	5.10E-04	5.11E-04	2.68E-04	2.16E-05	8.61E-08
1523	757058.69	4094274.78	3.13E-03	3.67E-03	2.92E-03	2.34E-03	2.34E-03	2.34E-03	2.35E-03	1.94E-03	4.88E-04	2.55E-06	2.63E-03	3.32E-03	2.48E-03	1.82E-03	1.82E-03	1.82E-03	1.83E-03	1.42E-03	3.78E-04	2.57E-06	2.79E-04	4.58E-04	5.90E-04	6.39E-04	6.39E-04	6.39E-04	6.41E-04	4.17E-04	1.19E-04	1.18E-06	2.79E-04	3.33E-04	4.51E-04	5.16E-04	5.15E-04	5.15E-04	5.17E-04	2.71E-04	2.18E-05	8.70E-08
1524	757033.87	4094274.01	3.15E-03	3.70E-03	2.94E-03	2.36E-03	2.36E-03	2.36E-03	2.37E-03	1.96E-03	4.92E-04	2.58E-06	2.66E-03	3.35E-03	2.50E-03	1.84E-03	1.84E-03	1.84E-03	1.84E-03	1.43E-03	3.81E-04	2.59E-06	2.82E-04	4.62E-04	5.95E-04	6.45E-04	6.45E-04	6.45E-04	6.46E-04	4.20E-04	1.20E-04	1.19E-06	2.82E-04	3.36E-04	4.55E-04	5.20E-04	5.20E-04	5.20E-04	5.21E-04	2.74E-04	2.20E-05	8.77E-08
1525	757009.05	4094273.24	3.18E-03	3.73E-03	2.96E-03	2.38E-03	2.38E-03	2.38E-03	2.39E-03	1.97E-03	4.95E-04	2.60E-06	2.68E-03	3.37E-03	2.52E-03	1.85E-03	1.85E-03	1.85E-03	1.85E-03	1.44E-03	3.84E-04	2.61E-06	2.84E-04	4.66E-04	5.99E-04	6.49E-04	6.49E-04	6.49E-04	6.51E-04	4.24E-04	1.21E-04	1.20E-06	2.84E-04	3.39E-04	4.58E-04	5.23E-04	5.23E-04	5.23E-04	5.25E-04	2.76E-04	2.22E-05	8.84E-08
1526	756984.23	4094272.47	3.20E-03	3.76E-03	2.98E-03	2.40E-03	2.40E-03	2.40E-03	2.40E-03	1.98E-03	4.99E-04	2.61E-06	2.70E-03	3.40E-03	2.53E-03	1.86E-03	1.86E-03	1.86E-03	1.87E-03	1.45E-03	3.86E-04	2.62E-06	2.86E-04	4.69E-04	6.04E-04	6.54E-04	6.54E-04	6.54E-04	6.56E-04	4.26E-04	1.22E-04	1.21E-06	2.86E-04	3.41E-04	4.61E-04	5.27E-04	5.27E-04	5.27E-04	5.28E-04	2.78E-04	2.23E-05	8.90E-08
1527	756959.41	4094271.7	3.22E-03	3.78E-03	3.00E-03	2.41E-03	2.41E-03	2.41E-03	2.42E-03	2.00E-03	5.02E-04	2.63E-06	2.71E-03	3.42E-03	2.55E-03	1.87E-03	1.87E-03	1.87E-03	1.88E-03	1.46E-03	3.89E-04	2.64E-06	2.87E-04	4.72E-04	6.07E-04	6.58E-04	6.58E-04	6.58E-04	6.60E-04	4.29E-04	1.22E-04	1.22E-06	2.87E-04	3.43E-04	4.64E-04	5.30E-04	5.30E-04	5.30E-04	5.32E-04	2.79E-04	2.25E-05	8.95E-08
1528	756934.59	4094270.94	3.24E-03	3.80E-03	3.02E-03	2.43E-03	2.43E-03	2.43E-03	2.43E-03	2.01E-03	5.05E-04	2.64E-06	2.73E-03	3.44E-03	2.56E-03	1.89E-03	1.89E-03	1.89E-03	1.89E-03	1.47E-03	3.91E-04	2.66E-06	2.89E-04	4.75E-04	6.11E-04	6.62E-04	6.62E-04	6.62E-04	6.64E-04	4.32E-04	1.23E-04	1.23E-06	2.89E-04	3.45E-04	4.67E-04	5.33E-04	5.33E-04	5.33E-04	5.35E-04	2.81E-04	2.26E-05	9.00E-08
1529	756909.77	4094270.17	3.25E-03	3.82E-03	3.04E-03	2.44E-03	2.44E-03	2.44E-03	2.45E-03	2.02E-03	5.07E-04	2.66E-06	2.74E-03	3.46E-03	2.58E-03	1.89E-03	1.89E-03	1.89E-03	1.90E-03	1.48E-03	3.93E-04	2.67E-06	2.91E-04	4.77E-04	6.14E-04	6.65E-04	6.65E-04	6.65E-04	6.67E-04	4.34E-04	1.24E-04	1.23E-06	2.91E-04	3.47E-04	4.69E-04	5.36E-04	5.36E-04	5.36E-04	5.38E-04	2.82E-04	2.27E-05	9.05E-08
1530	756884.95	4094269.4	3.27E-03	3.84E-03	3.05E-03	2.45E-03	2.45E-03	2.45E-03	2.46E-03	2.03E-03	5.10E-04	2.67E-06	2.76E-03	3.47E-03	2.59E-03	1.90E-03	1.90E-03	1.90E-03	1.91E-03	1.48E-03	3.95E-04	2.68E-06	2.92E-04	4.79E-04	6.17E-04	6.69E-04	6.69E-04	6.69E-04	6.70E-04	4.36E-04	1.24E-04	1.24E-06	2.92E-04	3.49E-04	4.72E-04	5.39E-04	5.39E-04	5.39E-04	5.40E-04	2.84E-04	2.28E-05	9.09E-08
1531	756860.13	4094268.63	3.28E-03	3.86E-03	3.06E-03	2.46E-03	2.46E-03	2.46E-03	2.47E-03	2.04E-03	5.12E-04	2.68E-06	2.77E-03	3.49E-03	2.60E-03	1.91E-03	1.91E-03	1.91E-03	1.92E-03	1.49E-03	3.97E-04	2.69E-06	2.93E-04	4.81E-04	6.20E-04	6.71E-04	6.71E-04	6.71E-04	6.73E-04	4.38E-04	1.25E-04	1.24E-06	2.93E-04	3.50E-04	4.74E-04	5.41E-04	5.41E-04	5.41E-04	5.43E-04	2.85E-04	2.29E-05	9.13E-08
1532	756835.31	4094267.86	3.30E-03	3.87E-03	3.08E-03	2.47E-03	2.47E-03	2.47E-03	2.48E-03	2.05E-03	5.14E-04	2.69E-06	2.78E-03	3.50E-03	2.61E-03	1.92E-03	1.92E-03	1.92E-03	1.92E-03	1.49E-03	3.98E-04	2.71E-06	2.94E-04	4.83E-04	6.22E-04	6.74E-04	6.74E-04	6.74E-04	6.76E-04	4.40E-04	1.25E-04	1.25E-06	2.94E-04	3.52E-04	4.76E-04	5.43E-04	5.43E-04	5.43E-04	5.45E-04	2.86E-04	2.30E-05	9.17E-08
1533	756810.49	4094267.09	3.31E-03	3.89E-03	3.09E-03	2.48E-03	2.48E-03	2.48E-03	2.49E-03	2.05E-03	5.16E-04	2.70E-06	2.79E-03	3.52E-03	2.62E-03	1.93E-03	1.93E-03	1.93E-03	1.93E-03	1.50E-03	4.00E-04	2.72E-06	2.95E-04	4.85E-04	6.25E-04	6.77E-04	6.77E-04	6.77E-04	6.79E-04	4.41E-04	1.26E-04	1.25E-06	2.95E-04	3.53E-04	4.77E-04	5.45E-04	5.45E-04	5.45E-04	5.47E-04	2.87E-04	2.31E-05	9.20E-08
1534	756785.67	4094266.32	3.32E-03	3.90E-03	3.10E-03	2.49E-03	2.49E-03	2.49E-03	2.50E-03	2.06E-03	5.18E-04	2.71E-06	2.80E-03	3.53E-03	2.63E-03	1.93E-03	1.93E-03	1.93E-03	1.94E-03	1.51E-03	4.01E-04	2.72E-06	2.96E-04	4.87E-04	6.27E-04	6.79E-04	6.79E-04	6.79E-04	6.81E-04	4.43E-04	1.26E-04	1.26E-06	2.96E-04	3.54E-04	4.79E-04	5.47E-04	5.47E-04	5.47E-04	5.49E-04	2.88E-04	2.32E-05	9.24E-08
1535	756760.85	4094265.56	3.33E-03	3.91E-03	3.11E-03	2.50E-03	2.50E-03	2.50E-03	2.50E-03	2.07E-03	5.19E-04	2.72E-06	2.81E-03	3.54E-03	2.64E-03	1.94E-03	1.94E-03	1.94E-03	1.94E-03	1.51E-03	4.02E-04	2.73E-06	2.97E-04	4.88E-04	6.29E-04	6.81E-04	6.81E-04	6.81E-04	6.83E-04	4.44E-04	1.27E-04	1.26E-06	2.97E-04	3.55E-04	4.80E-04	5.49E-04	5.49E-04	5.49E-04	5.50E-04	2.89E-04	2.33E-05	9.26E-08
1536	756736.03	4094264.79	3.34E-03	3.92E-03	3.12E-03	2.50E-03	2.50E-03	2.50E-03	2.51E-03	2.07E-03	5.21E-04	2.73E-06	2.81E-03	3.55E-03	2.65E-03	1.94E-03	1.94E-03	1.94E-03	1.95E-03	1.51E-03	4.03E-04	2.74E-06	2.98E-04	4.90E-04	6.30E-04	6.83E-04	6.83E-04	6.83E-04	6.85E-04	4.45E-04	1.27E-04	1.27E-06	2.98E-04	3.56E-04	4.82E-04	5.50E-04	5.50E-04	5.50E-04	5.52E-04	2.90E-04	2.33E-05	9.29E-08
1537	756711.21	4094264.02	3.35E-03	3.93E-03	3.12E-03	2.51E-03	2.51E-03	2.51E-03	2.52E-03	2.08E-03	5.22E-04	2.74E-06	2.82E-03	3.56E-03	2.65E-03	1.95E-03	1.95E-03	1.95E-03	1.95E-03	1.52E-03	4.04E-04	2.75E-06	2.99E-04	4.91E-04	6.32E-04	6.84E-04	6.84E-04	6.84E-04	6.86E-04	4.46E-04	1.27E-04	1.27E-06	2.99E-04	3.57E-04	4.83E-04	5.52E-04	5.52E-04	5.52E-04	5.53E-04	2.91E-04	2.34E-05	9.31E-08
1538	756686.39	4094263.25	3.36E-03	3.94E-03	3.13E-03	2.51E-03	2.51E-03	2.51E-03	2.52E-03	2.08E-03	5.23E-04	2.74E-06	2.83E-03	3.56E-03	2.66E-03	1.95E-03	1.95E-03	1.95E-03	1.96E-03	1.52E-03	4.05E-04	2.75E-06	3.00E-04	4.92E-04	6.33E-04	6.86E-04	6.86E-04	6.86E-04	6.88E-04	4.47E-04	1.27E-04	1.27E-06	3.00E-04	3.58E-04	4.84E-04	5.53E-04	5.53E-04	5.53E-04	5.54E-04	2.91E-04	2.34E-05	9.33E-08
1539	756661.57	4094262.48	3.36E-03	3.95E-03	3.13E-03	2.52E-03	2.52E-03	2.52E-03	2.53E-03	2.09E-03	5.24E-04	2.75E-06	2.83E-03	3.57E-03	2.66E-03	1.96E-03	1.96E-03	1.96E-03	1.96E-03	1.52E-03	4.05E-04	2.76E-06	3.00E-04	4.93E-04	6.34E-04	6.87E-04	6.87E-04	6.87E-04	6.89E-04	4.48E-04	1.28E-04	1.27E-06	3.00E-04	3.58E-04	4.85E-04	5.54E-04	5.54E-04	5.54E-04	5.55E-04	2.92E-04	2.35E-05	9.35E-08
1540	756636.75	4094261.71	3.37E-03	3.95E-03	3.14E-03	2.52E-03	2.52E-03	2.52E-03	2.53E-03	2.09E-03	5.25E-04	2.75E-06	2.84E-03	3.57E-03	2.67E-03	1.96E-03	1.96E-03	1.96E-03	1.96E-03	1.52E-03	4.06E-04	2.76E-06	3.00E-04	4.93E-04	6.35E-04	6.88E-04	6.88E-04	6.88E-04	6.90E-04	4.49E-04	1.28E-04	1.28E-06	3.00E-04	3.59E-04	4.85E-04	5.54E-04	5.54E-04	5.54E-04	5.56E-04	2.92E-04	2.35E-05	9.36E-08
1541	756611.93	4094260.94	3.37E-03	3.96E-03	3.14E-03	2.53E-03	2.53E-03	2.53E-03	2.53E-03	2.09E-03	5.25E-04	2.75E-06	2.84E-03	3.58E-03	2.67E-03	1.96E-03	1.96E-03	1.96E-03	1.97E-03	1.53E-03	4.07E-04	2.76E-06	3.01E-04	4.94E-04	6.36E-04	6.89E-04	6.89E-04	6.89E-04	6.91E-04	4.49E-04	1.28E-04	1.28E-06	3.01E-04	3.59E-04	4.86E-04	5.55E-04	5.55E-04	5.55E-04	5.57E-04	2.92E-04	2.35E-05	9.37E-08
1542	756587.11	4094260.17	3.37E-03	3.96E-03	3.14E-03	2.53E-03	2.53E-03	2.53E-03	2.53E-03	2.09E-03	5.26E-04	2.75E-06	2.84E-03	3.58E-03	2.67E-03	1.96E-03	1.96E-03	1.96E-03	1.97E-03	1.53E-03	4.07E-04	2.77E-06	3.01E-04	4.94E-04	6.36E-04	6.89E-04	6.89E-04	6.89E-04	6.91E-04	4.49E-04	1.28E-04	1.28E-06	3.01E-04	3.59E-04	4.86E-04	5.55E-04	5.55E-04	5.55E-04	5.57E-04	2.92E-04	2.36E-05	9.37E-08
1543	756562.29	4094259.41	3.37E-03	3.96E-03	3.14E-03	2.52E-03	2.52E-03	2.52E-03	2.53E-03	2.09E-03	5.25E-04	2.75E-06	2.84E-03	3.58E-03	2.67E-03	1.96E-03	1.96E-03	1.96E-03	1.97E-03	1.53E-03	4.07E-04	2.76E-06	3.01E-04	4.94E-04	6.36E-04	6.89E-04	6.89E-04	6.89E-04	6.90E-04	4.49E-04	1.28E-04	1.28E-06	3.01E-04	3.59E-04	4.86E-04	5.55E-04	5.55E-04	5.55E-04	5.56E-04	2.92E-04	2.35E-05	9.37E-08
1544	756537.47	4094258.64	3.37E-03	3.95E-03	3.14E-03	2.52E-03	2.52E-03	2.52E-03	2.53E-03	2.09E-03	5.25E-04	2.75E-06	2.84E-03	3.58E-03	2.67E-03	1.96E-03	1.96E-03	1.96E-03	1.97E-03	1.53E-03	4.07E-04	2.76E-06	3.01E-04	4.94E-04	6.35E-04	6.88E-04	6.88E-04	6.88E-04	6.90E-04	4.49E-04	1.28E-04	1.28E-06	3.01E-04	3.59E-04	4.86E-04	5.55E-04	5.55E-04	5.55E-04	5.56E-04	2.92E-04	2.35E-05	9.36E-08
1545	756512.65	4094257.87	3.37E-03	3.95E-03	3.14E-03	2.52E-03	2.52E-03	2.52E-03	2.53E-03	2.09E-03	5.25E-04	2.75E-06	2.84E-03	3.57E-03	2.67E-03	1.96E-03	1.96E-03	1.96E-03	1.96E-03	1.53E-03	4.06E-04	2.76E-06	3.00E-04	4.93E-04	6.35E-04	6.88E-04	6.88E-04	6.88E-04	6.90E-04	4.49E-04	1.28E-04	1.28E-06	3.00E-04	3.59E-04	4.85E-04	5.54E-04	5.54E-04	5.54E-04	5.56E-04	2.92E-04	2.35E-05	9.36E-08
1546	756487.83	4094257.1	3.36E-03	3.95E-03	3.14E-03	2.52E-03	2.52E-03	2.52E-03	2.53E-03	2.09E-03	5.24E-04	2.75E-06	2.83E-03	3.57E-03	2.66E-03	1.96E-03	1.96E-03	1.96E-03	1.96E-03	1.52E-03	4.06E-04	2.76E-06

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6261	0	0	0.00E+00	0.00E+00	0.00E+00

PM 10				
Tons/Yr	T2	T3	T4i	T4f
Year 1	0.14385	0.1212	0.01284	0.01284
Year 2	0.1689	0.15275	0.021085	0.015335
Year 3	0.13415	0.11395	0.02714	0.02074
Year 4	0.1078	0.08375	0.029405	0.023695
Year 5	0.1078	0.08375	0.029405	0.023695
Year 6	0.1078	0.08375	0.029405	0.023695
Year 7	0.1081	0.08395	0.029485	0.02376
Year 8	8.93E-02	0.0652	0.019175	0.01248
Year 9	0.022425	0.017365	0.005465	0.001005
Year 10	0.0001175	0.000118	5.45E-05	0.000004
Year 11	0	0	0	0

PM 10				
Lbs /Yr	T2	T3	T4i	T4f
Year 1	287.7	242.4	25.68	25.68
Year 2	337.8	305.5	42.17	30.67
Year 3	268.3	227.9	54.28	41.48
Year 4	215.6	167.5	58.81	47.39
Year 5	215.6	167.5	58.81	47.39
Year 6	215.6	167.5	58.81	47.39
Year 7	216.2	167.9	58.97	47.52
Year 8	178.5	130.4	38.35	24.96
Year 9	44.85	34.73	10.93	2.01
Year 10	0.235	0.236	0.109	0.008
Year 11	0	0	0	0

For Running Each Base Year

PM 10				
% Chng	T2	T3	T4i	T4f
Year 1	100%	84%	9%	9%
Year 2	100%	90%	12%	9%
Year 3	100%	85%	20%	15%
Year 4	100%	78%	27%	22%
Year 5	100%	78%	27%	22%
Year 6	100%	78%	27%	22%
Year 7	100%	78%	27%	22%
Year 8	100%	73%	21%	14%
Year 9	100%	77%	24%	4%
Year 10	100%	100%	46%	3%
Year 11	0%	0%	0%	0%

Run only 1,2, & 3 Years	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11
T2	100.0%	100.0%	100.0%	80.4%	80.4%	80.4%	80.6%	66.5%	16.7%	0.1%	0.0%
T3	84.3%	90.4%	84.9%	62.4%	62.4%	62.4%	62.6%	48.6%	12.9%	0.1%	0.0%
T4i	8.9%	12.5%	20.2%	21.9%	21.9%	21.9%	22.0%	14.3%	4.1%	0.0%	0.0%
T4f	8.9%	9.1%	15.5%	17.7%	17.7%	17.7%	17.7%	9.3%	0.7%	0.0%	0.0%

HARP Adjustment						
24	X	7	X	52	=	3.88
9		5		50		

```
** Lakes Environmental AERMOD MPI
**
****************************************
**
** AERMOD Input Produced by:
** AERMOD View Ver. 13.0.0
** Lakes Environmental Software Inc.
** Date: 7/7/2025
** File: D:\LSA\2025\20241905\Construction\Construction.ADI
**
****************************************
**
**
****************************************
** AERMOD Control Pathway
****************************************
**
**
CO STARTING
   TITLEONE D:\LSA\2025\20241905\Construction\Construction.isc
   MODELOPT DFAULT CONC
   AVERTIME 1 PERIOD
   POLLUTID OTHER
   RUNORNOT RUN
   ERRORFIL Construction.err
CO FINISHED
**
****************************************
** AERMOD Source Pathway
****************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
   LOCATION CONST        AREAPOLY   755658.063  4094971.940       74.600
** Source Parameters **
   SRCPARAM CONST        1.2883E-06     3.048        14
   AREAVERT CONST        755658.063 4094971.940 755680.634 4094316.542
   AREAVERT CONST        756514.928 4094339.949 757269.806 4094365.028
   AREAVERT CONST        757244.183 4094926.507 757152.021 4094952.463
   AREAVERT CONST        756654.940 4094882.396 756467.899 4094767.153
   AREAVERT CONST        756438.520 4094751.675 756141.777 4094686.064
   AREAVERT CONST        756029.232 4094688.046 755840.304 4094798.895
   AREAVERT CONST        755794.326 4094844.037 755721.262 4094947.237

** Variable Emissions Type: "By Hour / Day (HRDOW)"
** Variable Emission Scenario: "Const"
** WeekDays:
   EMISFACT CONST        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT CONST        HRDOW 1.0 1.0 1.0 1.0 1.0 1.0
   EMISFACT CONST        HRDOW 1.0 1.0 1.0 0.0 0.0 0.0
   EMISFACT CONST        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Saturday:
   EMISFACT CONST        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT CONST        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT CONST        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT CONST        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
** Sunday:
   EMISFACT CONST        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT CONST        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   EMISFACT CONST        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
```

```
   EMISFACT CONST        HRDOW 0.0 0.0 0.0 0.0 0.0 0.0
   SRCGROUP CONST    CONST
SO FINISHED
**
****************************************
** AERMOD Receptor Pathway
****************************************
**
**
RE STARTING
   INCLUDED Construction.rou
RE FINISHED
**
****************************************
** AERMOD Meteorology Pathway
****************************************
**
**
ME STARTING
   SURFFILE ..\Madera_2020-2024.SFC
   PROFFILE ..\Madera_2020-2024.PFL
   SURFDATA 93242 2020
   UAIRDATA 72493 2020
   PROFBASE 77.0 METERS
ME FINISHED
**
****************************************
** AERMOD Output Pathway
****************************************
**
**
OU STARTING
   RECTABLE ALLAVE 1ST
   RECTABLE 1 1ST
** Auto-Generated Plotfiles
   PLOTFILE 1 CONST 1ST Construction.AD\01H1G001.PLT 31
   PLOTFILE PERIOD CONST Construction.AD\PE00G001.PLT 32
   SUMMFILE Construction.sum
OU FINISHED


  *** Message Summary For AERMOD Model Setup ***

  --------- Summary of Total Messages --------

 A Total of            0 Fatal Error Message(s)
 A Total of            2 Warning Message(s)
 A Total of            0 Informational Message(s)


    ******** FATAL ERROR MESSAGES ********
               ***  NONE  ***


    ********   WARNING MESSAGES   ********
 ME W186      86       MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used           0.50
 ME W187      86       MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET

 ***********************************
 *** SETUP Finishes Successfully ***
 ***********************************
```

*** MODELOPTs: RegDFAULT CONC ELEV RURAL ADJ_U*

*** MODEL SETUP OPTIONS SUMMARY ***

- - - -

```
**Input Runstream File:          aermod.inp
**Output Print File:             aermod.out

**Detailed Error/Message File:   Construction.err
**File for Summary of Results:   Construction.sum
```

*** MODELOPTs: RegDFAULT CONC ELEV RURAL ADJ_U*

*** AREAPOLY SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC /METER**2)	LOCATION OF AREA X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	NUMBER OF VERTS.	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY	AIRCRAFT
CONST	0	0.12883E-05	755658.1	4094971.9	74.6	3.05	14	0.00	NO	HRDOW	NO

*** MODELOPTs: RegDFAULT CONC ELEV RURAL ADJ_U*

*** SOURCE IDs DEFINING SOURCE GROUPS ***

SRCGROUP ID	SOURCE IDs
CONST	CONST ,

*** MODELOPTs: RegDFAULT CONC ELEV RURAL ADJ_U*

* SOURCE EMISSION RATE SCALARS WHICH VARY DIURNALLY AND BY DAY OF WEEK (HRDOW) *

SOURCE ID = CONST ; SOURCE TYPE = AREAPOLY :

HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR	HOUR	SCALAR
DAY OF WEEK = WEEKDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.1000E+01	8	.1000E+01
9	.1000E+01	10	.1000E+01	11	.1000E+01	12	.1000E+01	13	.1000E+01	14	.1000E+01	15	.1000E+01	16	.0000E+00
17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
DAY OF WEEK = SATURDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00	15	.0000E+00	16	.0000E+00
17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00
DAY OF WEEK = SUNDAY															
1	.0000E+00	2	.0000E+00	3	.0000E+00	4	.0000E+00	5	.0000E+00	6	.0000E+00	7	.0000E+00	8	.0000E+00
9	.0000E+00	10	.0000E+00	11	.0000E+00	12	.0000E+00	13	.0000E+00	14	.0000E+00	15	.0000E+00	16	.0000E+00
17	.0000E+00	18	.0000E+00	19	.0000E+00	20	.0000E+00	21	.0000E+00	22	.0000E+00	23	.0000E+00	24	.0000E+00

*** MODELOPTs: RegDFAULT CONC ELEV RURAL ADJ_U*

*** METEOROLOGICAL DAYS SELECTED FOR PROCESSING ***
(1=YES; 0=NO)

```
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1
```

NOTE: METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON WHAT IS INCLUDED IN THE DATA FILE.

*** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***
(METERS/SEC)

1.54, 3.09, 5.14, 8.23, 10.80,

*** MODELOPTs: RegDFAULT CONC ELEV RURAL ADJ_U*

*** UP TO THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

Surface file: ..\Madera_2020-2024.SFC Met Version: 24142
Profile file: ..\Madera_2020-2024.PFL
Surface format: FREE
Profile format: FREE
Surface station no.: 93242 Upper air station no.: 72493
Name: UNKNOWN Name: UNKNOWN
Year: 2020 Year: 2020

First 24 hours of scalar data

YR	MO	DY	JDY	HR	H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O LEN	Z0	BOWEN	ALBEDO	REF WS	WD	HT	REF TA	HT
20	01	01	1	01	-18.2	0.182	-9.000	-9.000	-999.	187.	36.6	0.05	0.81	1.00	2.62	76.	10.0	284.2	2.0
20	01	01	1	02	-11.6	0.144	-9.000	-9.000	-999.	131.	23.0	0.05	0.81	1.00	2.10	77.	10.0	280.9	2.0
20	01	01	1	03	-7.7	0.116	-9.000	-9.000	-999.	94.	18.2	0.05	0.81	1.00	1.72	63.	10.0	280.3	2.0
20	01	01	1	04	-4.6	0.091	-9.000	-9.000	-999.	66.	15.0	0.08	0.81	1.00	1.21	33.	10.0	279.8	2.0
20	01	01	1	05	-16.6	0.173	-9.000	-9.000	-999.	172.	32.8	0.05	0.81	1.00	2.49	89.	10.0	279.8	2.0
20	01	01	1	06	-4.1	0.087	-9.000	-9.000	-999.	64.	14.4	0.08	0.81	1.00	1.14	57.	10.0	279.8	2.0
20	01	01	1	07	-4.9	0.092	-9.000	-9.000	-999.	67.	14.1	0.04	0.81	1.00	1.42	117.	10.0	279.2	2.0
20	01	01	1	08	-6.6	0.108	-9.000	-9.000	-999.	86.	17.4	0.06	0.81	0.67	1.57	357.	10.0	277.5	2.0
20	01	01	1	09	4.3	0.115	0.135	0.013	21.	93.	-32.0	0.04	0.81	0.37	1.42	113.	10.0	277.5	2.0
20	01	01	1	10	46.6	0.168	0.634	0.014	198.	166.	-9.2	0.03	0.81	0.26	2.04	152.	10.0	278.8	2.0
20	01	01	1	11	77.4	0.139	0.867	0.015	305.	125.	-3.2	0.02	0.81	0.23	1.54	181.	10.0	277.5	2.0
20	01	01	1	12	93.6	0.122	0.969	0.014	351.	103.	-1.8	0.03	0.81	0.21	1.18	301.	10.0	275.9	2.0
20	01	01	1	13	94.9	0.137	1.011	0.014	393.	121.	-2.4	0.03	0.81	0.21	1.40	156.	10.0	278.1	2.0
20	01	01	1	14	80.2	0.189	0.981	0.014	425.	198.	-7.6	0.02	0.81	0.22	2.35	255.	10.0	277.0	2.0
20	01	01	1	15	50.9	0.206	0.862	0.014	453.	225.	-15.5	0.03	0.81	0.26	2.59	278.	10.0	276.4	2.0
20	01	01	1	16	9.9	0.145	0.502	0.014	462.	133.	-27.9	0.03	0.81	0.35	1.91	275.	10.0	277.0	2.0
20	01	01	1	17	-6.8	0.109	-9.000	-9.000	-999.	87.	17.2	0.03	0.81	0.61	1.79	273.	10.0	280.3	2.0
20	01	01	1	18	-1.9	0.061	-9.000	-9.000	-999.	37.	11.1	0.02	0.81	1.00	0.86	206.	10.0	283.1	2.0
20	01	01	1	19	-5.7	0.095	-9.000	-9.000	-999.	71.	13.8	0.02	0.81	1.00	1.72	219.	10.0	284.8	2.0
20	01	01	1	20	-5.1	0.092	-9.000	-9.000	-999.	67.	13.9	0.03	0.81	1.00	1.55	152.	10.0	285.9	2.0
20	01	01	1	21	-6.3	0.105	-9.000	-9.000	-999.	82.	16.6	0.05	0.81	1.00	1.57	73.	10.0	287.0	2.0
20	01	01	1	22	-7.6	0.112	-9.000	-9.000	-999.	89.	16.4	0.02	0.81	1.00	1.99	217.	10.0	287.5	2.0
20	01	01	1	23	-4.3	0.084	-9.000	-9.000	-999.	59.	12.5	0.02	0.81	1.00	1.45	194.	10.0	287.0	2.0
20	01	01	1	24	-3.8	0.085	-9.000	-9.000	-999.	59.	14.3	0.08	0.81	1.00	1.11	54.	10.0	287.0	2.0

First hour of profile data

YR	MO	DY	HR	HEIGHT	F	WDIR	WSPD	AMB_TMP	sigmaA	sigmaW	sigmaV
20	01	01	01	10.0	1	76.	2.62	284.3	99.0	-99.00	-99.00

F indicates top of profile (=1) or below (=0)

*** MODELOPTs: RegDFAULT CONC ELEV RURAL ADJ_U*

*** THE SUMMARY OF MAXIMUM PERIOD (43848 HRS) RESULTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

GROUP ID		AVERAGE CONC	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)	OF TYPE	NETWORK GRID-ID
CONST	1ST HIGHEST VALUE IS	1.59420 AT	(756535.92, 4094308.61, 74.68, 74.68, 0.00)	DC	
	2ND HIGHEST VALUE IS	1.59284 AT	(756560.74, 4094309.38, 74.68, 74.68, 0.00)	DC	
	3RD HIGHEST VALUE IS	1.59276 AT	(756511.10, 4094307.84, 74.54, 74.54, 0.00)	DC	
	4TH HIGHEST VALUE IS	1.59141 AT	(756585.56, 4094310.15, 74.68, 74.68, 0.00)	DC	
	5TH HIGHEST VALUE IS	1.59114 AT	(756486.28, 4094307.08, 74.50, 74.50, 0.00)	DC	
	6TH HIGHEST VALUE IS	1.58977 AT	(756610.38, 4094310.92, 74.68, 74.68, 0.00)	DC	
	7TH HIGHEST VALUE IS	1.58882 AT	(756461.46, 4094306.31, 74.44, 74.44, 0.00)	DC	
	8TH HIGHEST VALUE IS	1.58733 AT	(756635.20, 4094311.69, 74.68, 74.68, 0.00)	DC	
	9TH HIGHEST VALUE IS	1.58600 AT	(756436.64, 4094305.54, 74.37, 74.37, 0.00)	DC	
	10TH HIGHEST VALUE IS	1.58473 AT	(756411.82, 4094304.77, 74.37, 74.37, 0.00)	DC	

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR

*** MODELOPTs: RegDFAULT CONC ELEV RURAL ADJ_U*

*** THE SUMMARY OF HIGHEST 1-HR RESULTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

GROUP ID	AVERAGE CONC	DATE (YYMMDDHH)	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)	OF TYPE	NETWORK GRID-ID
CONST HIGH 1ST HIGH VALUE IS	249.53498	ON 20092107:	AT (755640.73, 4094330.08, 73.82, 73.82, 0.00)	DC	

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR

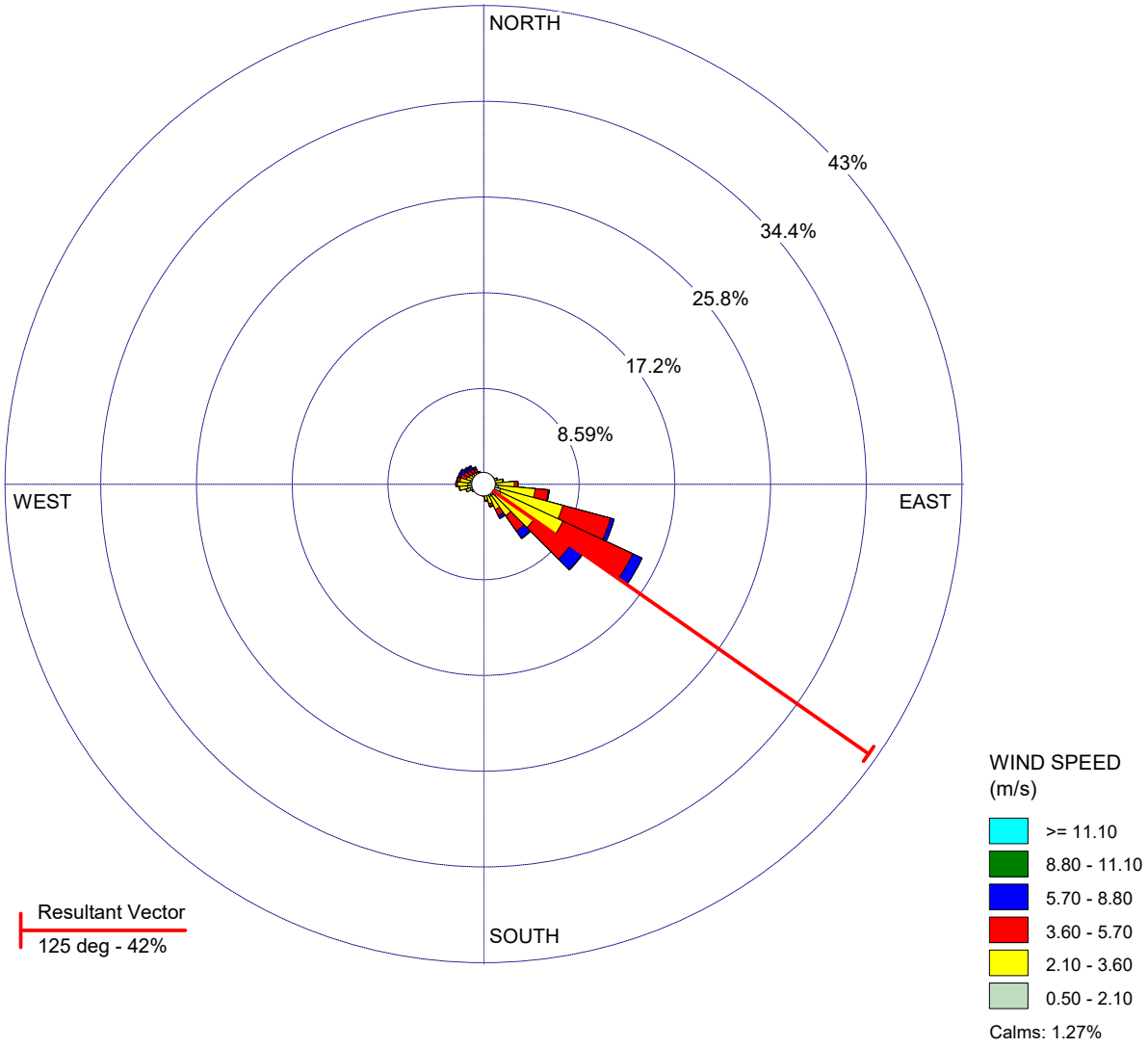
```
*** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL  ADJ_U*

*** Message Summary : AERMOD Model Execution ***

 --------- Summary of Total Messages --------

A Total of            0 Fatal Error Message(s)
A Total of            2 Warning Message(s)
A Total of         1627 Informational Message(s)

A Total of        43848 Hours Were Processed

A Total of          557 Calm Hours Identified

A Total of         1070 Missing Hours Identified (  2.44 Percent)


   ******** FATAL ERROR MESSAGES ********
              ***  NONE  ***


   ********   WARNING MESSAGES   ********
ME W186      86       MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used           0.50
ME W187      86       MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET

   ************************************
   *** AERMOD Finishes Successfully ***
   ************************************
```

WIND ROSE PLOT:

Madera Airport
2020 - 2024

DISPLAY:

Wind Speed
Flow Vector (blowing to)



COMMENTS:	DATA PERIOD:	COMPANY NAME:	
Madera Airport 2020 - 2024	**Start Date: 1/1/2020 - 00:00** **End Date: 12/31/2024 - 23:59**	**LSA**	
		MODELER:	
	CALM WINDS: **1.27%**	TOTAL COUNT: **43543 hrs.**	
	AVG. WIND SPEED: **2.96 m/s**	DATE: **7/7/2025**	PROJECT NO.:

WRPLOT View - Lakes Environmental Software

HARP2 - HRACalc (dated 22118) 9/1/2025 11:02:02 AM - Output Log

GLCs loaded successfully
Pollutants loaded successfully
Pathway receptors loaded successfully
****
RISK SCENARIO SETTINGS

Receptor Type: Resident
Scenario: All
Calculation Method: Derived

****
EXPOSURE DURATION PARAMETERS FOR CANCER

Start Age: 4
Total Exposure Duration: 1

Exposure Duration Bin Distribution
3rd Trimester Bin: 0
0<2 Years Bin: 0
2<9 Years Bin: 1
2<16 Years Bin: 0
16<30 Years Bin: 0
16 to 70 Years Bin: 0

****
PATHWAYS ENABLED

NOTE: Inhalation is always enabled and used for all assessments. The remaining pathways are only used for cancer and noncancer chronic assessments.

Inhalation: True
Soil: True
Dermal: True
Mother's milk: True
Water: False
Fish: False
Homegrown crops: True
Beef: False
Dairy: False
Pig: False
Chicken: False
Egg: False

****
INHALATION

Daily breathing rate: LongTerm24HR

Worker Adjustment Factors
Worker adjustment factors enabled: NO

Fraction at time at home
3rd Trimester to 16 years: OFF
16 years to 70 years: OFF

****

SOIL & DERMAL PATHWAY SETTINGS

Deposition rate (m/s): 0.02
Soil mixing depth (m): 0.01
Dermal climate: Mixed

****
HOMEGROWN CROP PATHWAY SETTINGS

Household type: HouseholdsthatGarden
Fraction leafy: 0.137
Fraction exposed: 0.137
Fraction protected: 0.137
Fraction root: 0.137

****
TIER 2 SETTINGS

Tier2 adjustments were used in this assessment. Please see the input file for details.
Tier2 - What was changed: ED or start age changed|
Calculating cancer risk
Cancer risk breakdown by pollutant and receptor saved to:
D:\LSA\2025\20241905\HARP_CONST\hra\Const_School_Year1_CancerRisk.csv
Cancer risk total by receptor saved to:
D:\LSA\2025\20241905\HARP_CONST\hra\Const_School_Year1_CancerRiskSumByRec.csv
Calculating chronic risk
Chronic risk breakdown by pollutant and receptor saved to:
D:\LSA\2025\20241905\HARP_CONST\hra\Const_School_Year1_NCChronicRisk.csv
Chronic risk total by receptor saved to:
D:\LSA\2025\20241905\HARP_CONST\hra\Const_School_Year1_NCChronicRiskSumByRec.csv
Calculating acute risk
Acute risk breakdown by pollutant and receptor saved to:
D:\LSA\2025\20241905\HARP_CONST\hra\Const_School_Year1_NCAcuteRisk.csv
Acute risk total by receptor saved to:
D:\LSA\2025\20241905\HARP_CONST\hra\Const_School_Year1_NCAcuteRiskSumByRec.csv
HRA ran successfully

HARP2 - HRACalc (dated 22118) 9/1/2025 11:17:58 AM - Output Log

GLCs loaded successfully
Pollutants loaded successfully
Pathway receptors loaded successfully
****
RISK SCENARIO SETTINGS

Receptor Type: Resident
Scenario: All
Calculation Method: Derived

****
EXPOSURE DURATION PARAMETERS FOR CANCER

Start Age: 5
Total Exposure Duration: 1

Exposure Duration Bin Distribution
3rd Trimester Bin: 0
0<2 Years Bin: 0
2<9 Years Bin: 1
2<16 Years Bin: 0
16<30 Years Bin: 0
16 to 70 Years Bin: 0

****
PATHWAYS ENABLED

NOTE: Inhalation is always enabled and used for all assessments. The remaining pathways are only used for cancer and noncancer chronic assessments.

Inhalation: True
Soil: True
Dermal: True
Mother's milk: True
Water: False
Fish: False
Homegrown crops: True
Beef: False
Dairy: False
Pig: False
Chicken: False
Egg: False

****
INHALATION

Daily breathing rate: LongTerm24HR

Worker Adjustment Factors
Worker adjustment factors enabled: NO

Fraction at time at home
3rd Trimester to 16 years: OFF
16 years to 70 years: OFF

****

SOIL & DERMAL PATHWAY SETTINGS

Deposition rate (m/s): 0.02
Soil mixing depth (m): 0.01
Dermal climate: Mixed

****
HOMEGROWN CROP PATHWAY SETTINGS

Household type: HouseholdsthatGarden
Fraction leafy: 0.137
Fraction exposed: 0.137
Fraction protected: 0.137
Fraction root: 0.137

****
TIER 2 SETTINGS

Tier2 adjustments were used in this assessment. Please see the input file for details.
Tier2 - What was changed: ED or start age changed|
Calculating cancer risk
Cancer risk breakdown by pollutant and receptor saved to:
D:\LSA\2025\20241905\HARP_CONST\hra\Const_School_Year2_CancerRisk.csv
Cancer risk total by receptor saved to:
D:\LSA\2025\20241905\HARP_CONST\hra\Const_School_Year2_CancerRiskSumByRec.csv
Calculating chronic risk
Chronic risk breakdown by pollutant and receptor saved to:
D:\LSA\2025\20241905\HARP_CONST\hra\Const_School_Year2_NCChronicRisk.csv
Chronic risk total by receptor saved to:
D:\LSA\2025\20241905\HARP_CONST\hra\Const_School_Year2_NCChronicRiskSumByRec.csv
Calculating acute risk
Acute risk breakdown by pollutant and receptor saved to:
D:\LSA\2025\20241905\HARP_CONST\hra\Const_School_Year2_NCAcuteRisk.csv
Acute risk total by receptor saved to:
D:\LSA\2025\20241905\HARP_CONST\hra\Const_School_Year2_NCAcuteRiskSumByRec.csv
HRA ran successfully

HARP2 - HRACalc (dated 22118) 9/1/2025 12:03:15 PM - Output Log

GLCs loaded successfully
Pollutants loaded successfully
Pathway receptors loaded successfully
****
RISK SCENARIO SETTINGS

Receptor Type: Resident
Scenario: All
Calculation Method: Derived

****
EXPOSURE DURATION PARAMETERS FOR CANCER

Start Age: 2
Total Exposure Duration: 1

Exposure Duration Bin Distribution
3rd Trimester Bin: 0
0<2 Years Bin: 0
2<9 Years Bin: 1
2<16 Years Bin: 0
16<30 Years Bin: 0
16 to 70 Years Bin: 0

****
PATHWAYS ENABLED

NOTE: Inhalation is always enabled and used for all assessments. The remaining pathways are only used for cancer and noncancer chronic assessments.

Inhalation: True
Soil: True
Dermal: True
Mother's milk: True
Water: False
Fish: False
Homegrown crops: True
Beef: False
Dairy: False
Pig: False
Chicken: False
Egg: False

****
INHALATION

Daily breathing rate: LongTerm24HR

Worker Adjustment Factors
Worker adjustment factors enabled: NO

Fraction at time at home
3rd Trimester to 16 years: OFF
16 years to 70 years: OFF

****

SOIL & DERMAL PATHWAY SETTINGS

Deposition rate (m/s): 0.02
Soil mixing depth (m): 0.01
Dermal climate: Mixed

****
HOMEGROWN CROP PATHWAY SETTINGS

Household type: HouseholdsthatGarden
Fraction leafy: 0.137
Fraction exposed: 0.137
Fraction protected: 0.137
Fraction root: 0.137

****
TIER 2 SETTINGS

Tier2 adjustments were used in this assessment. Please see the input file for details.
Tier2 - What was changed: ED or start age changed|
Calculating cancer risk
Cancer risk breakdown by pollutant and receptor saved to:
D:\LSA\2025\20241905\HARP_CONST\hra\Const_School_Year3_CancerRisk.csv
Cancer risk total by receptor saved to:
D:\LSA\2025\20241905\HARP_CONST\hra\Const_School_Year3_CancerRiskSumByRec.csv
Calculating chronic risk
Chronic risk breakdown by pollutant and receptor saved to:
D:\LSA\2025\20241905\HARP_CONST\hra\Const_School_Year3_NCChronicRisk.csv
Chronic risk total by receptor saved to:
D:\LSA\2025\20241905\HARP_CONST\hra\Const_School_Year3_NCChronicRiskSumByRec.csv
Calculating acute risk
Acute risk breakdown by pollutant and receptor saved to:
D:\LSA\2025\20241905\HARP_CONST\hra\Const_School_Year3_NCAcuteRisk.csv
Acute risk total by receptor saved to:
D:\LSA\2025\20241905\HARP_CONST\hra\Const_School_Year3_NCAcuteRiskSumByRec.csv
HRA ran successfully

HARP2 - HRACalc (dated 22118) 9/1/2025 10:47:59 AM - Output Log

GLCs loaded successfully
Pollutants loaded successfully
Pathway receptors loaded successfully
****
RISK SCENARIO SETTINGS

Receptor Type: Resident
Scenario: All
Calculation Method: Derived

****
EXPOSURE DURATION PARAMETERS FOR CANCER

Start Age: -0.25
Total Exposure Duration: 1

Exposure Duration Bin Distribution
3rd Trimester Bin: 0.25
0<2 Years Bin: 1
2<9 Years Bin: 0
2<16 Years Bin: 0
16<30 Years Bin: 0
16 to 70 Years Bin: 0

****
PATHWAYS ENABLED

NOTE: Inhalation is always enabled and used for all assessments. The remaining pathways are only used for cancer and noncancer chronic assessments.

Inhalation: True
Soil: True
Dermal: True
Mother's milk: True
Water: False
Fish: False
Homegrown crops: True
Beef: False
Dairy: False
Pig: False
Chicken: False
Egg: False

****
INHALATION

Daily breathing rate: LongTerm24HR

Worker Adjustment Factors
Worker adjustment factors enabled: NO

Fraction at time at home
3rd Trimester to 16 years: ON
16 years to 70 years: ON

****

SOIL & DERMAL PATHWAY SETTINGS

Deposition rate (m/s): 0.02
Soil mixing depth (m): 0.01
Dermal climate: Mixed

****
HOMEGROWN CROP PATHWAY SETTINGS

Household type: HouseholdsthatGarden
Fraction leafy: 0.137
Fraction exposed: 0.137
Fraction protected: 0.137
Fraction root: 0.137

****
TIER 2 SETTINGS

Tier2 adjustments were used in this assessment. Please see the input file for details.
Tier2 - What was changed: ED or start age changed|
Calculating cancer risk
Cancer risk breakdown by pollutant and receptor saved to:
D:\LSA\2025\20241905\HARP_CONST\hra\Const_Sensitive_Year1_CancerRisk.csv
Cancer risk total by receptor saved to:
D:\LSA\2025\20241905\HARP_CONST\hra\Const_Sensitive_Year1_CancerRiskSumByRec.csv
Calculating chronic risk
Chronic risk breakdown by pollutant and receptor saved to:
D:\LSA\2025\20241905\HARP_CONST\hra\Const_Sensitive_Year1_NCChronicRisk.csv
Chronic risk total by receptor saved to:
D:\LSA\2025\20241905\HARP_CONST\hra\Const_Sensitive_Year1_NCChronicRiskSumByRec.csv
Calculating acute risk
Acute risk breakdown by pollutant and receptor saved to:
D:\LSA\2025\20241905\HARP_CONST\hra\Const_Sensitive_Year1_NCAcuteRisk.csv
Acute risk total by receptor saved to:
D:\LSA\2025\20241905\HARP_CONST\hra\Const_Sensitive_Year1_NCAcuteRiskSumByRec.csv
HRA ran successfully

HARP2 - HRACalc (dated 22118) 9/1/2025 11:24:19 AM - Output Log

GLCs loaded successfully
Pollutants loaded successfully
Pathway receptors loaded successfully
****
RISK SCENARIO SETTINGS

Receptor Type: Resident
Scenario: All
Calculation Method: Derived

****
EXPOSURE DURATION PARAMETERS FOR CANCER

Start Age: 1
Total Exposure Duration: 1

Exposure Duration Bin Distribution
3rd Trimester Bin: 0
0<2 Years Bin: 1
2<9 Years Bin: 0
2<16 Years Bin: 0
16<30 Years Bin: 0
16 to 70 Years Bin: 0

****
PATHWAYS ENABLED

NOTE: Inhalation is always enabled and used for all assessments. The remaining pathways are only used for cancer and noncancer chronic assessments.

Inhalation: True
Soil: True
Dermal: True
Mother's milk: True
Water: False
Fish: False
Homegrown crops: True
Beef: False
Dairy: False
Pig: False
Chicken: False
Egg: False

****
INHALATION

Daily breathing rate: LongTerm24HR

Worker Adjustment Factors
Worker adjustment factors enabled: NO

Fraction at time at home
3rd Trimester to 16 years: ON
16 years to 70 years: ON

****

SOIL & DERMAL PATHWAY SETTINGS

Deposition rate (m/s): 0.02
Soil mixing depth (m): 0.01
Dermal climate: Mixed

****
HOMEGROWN CROP PATHWAY SETTINGS

Household type: HouseholdsthatGarden
Fraction leafy: 0.137
Fraction exposed: 0.137
Fraction protected: 0.137
Fraction root: 0.137

****
TIER 2 SETTINGS

Tier2 adjustments were used in this assessment. Please see the input file for details.
Tier2 - What was changed: ED or start age changed|
Calculating cancer risk
Cancer risk breakdown by pollutant and receptor saved to:
D:\LSA\2025\20241905\HARP_CONST\hra\Const_Sensitive_Year2_CancerRisk.csv
Cancer risk total by receptor saved to:
D:\LSA\2025\20241905\HARP_CONST\hra\Const_Sensitive_Year2_CancerRiskSumByRec.csv
Calculating chronic risk
Chronic risk breakdown by pollutant and receptor saved to:
D:\LSA\2025\20241905\HARP_CONST\hra\Const_Sensitive_Year2_NCChronicRisk.csv
Chronic risk total by receptor saved to:
D:\LSA\2025\20241905\HARP_CONST\hra\Const_Sensitive_Year2_NCChronicRiskSumByRec.csv
Calculating acute risk
Acute risk breakdown by pollutant and receptor saved to:
D:\LSA\2025\20241905\HARP_CONST\hra\Const_Sensitive_Year2_NCAcuteRisk.csv
Acute risk total by receptor saved to:
D:\LSA\2025\20241905\HARP_CONST\hra\Const_Sensitive_Year2_NCAcuteRiskSumByRec.csv
HRA ran successfully

HARP2 - HRACalc (dated 22118) 9/1/2025 11:29:58 AM - Output Log

GLCs loaded successfully
Pollutants loaded successfully
Pathway receptors loaded successfully
****
RISK SCENARIO SETTINGS

Receptor Type: Resident
Scenario: All
Calculation Method: Derived

****
EXPOSURE DURATION PARAMETERS FOR CANCER

Start Age: 2
Total Exposure Duration: 1

Exposure Duration Bin Distribution
3rd Trimester Bin: 0
0<2 Years Bin: 0
2<9 Years Bin: 1
2<16 Years Bin: 0
16<30 Years Bin: 0
16 to 70 Years Bin: 0

****
PATHWAYS ENABLED

NOTE: Inhalation is always enabled and used for all assessments. The remaining pathways are only used for cancer and noncancer chronic assessments.

Inhalation: True
Soil: True
Dermal: True
Mother's milk: True
Water: False
Fish: False
Homegrown crops: True
Beef: False
Dairy: False
Pig: False
Chicken: False
Egg: False

****
INHALATION

Daily breathing rate: LongTerm24HR

Worker Adjustment Factors
Worker adjustment factors enabled: NO

Fraction at time at home
3rd Trimester to 16 years: ON
16 years to 70 years: ON

****

SOIL & DERMAL PATHWAY SETTINGS

Deposition rate (m/s): 0.02
Soil mixing depth (m): 0.01
Dermal climate: Mixed

****
HOMEGROWN CROP PATHWAY SETTINGS

Household type: HouseholdsthatGarden
Fraction leafy: 0.137
Fraction exposed: 0.137
Fraction protected: 0.137
Fraction root: 0.137

****
TIER 2 SETTINGS

Tier2 adjustments were used in this assessment. Please see the input file for details.
Tier2 - What was changed: ED or start age changed|
Calculating cancer risk
Cancer risk breakdown by pollutant and receptor saved to:
D:\LSA\2025\20241905\HARP_CONST\hra\Const_Sensitive_Year3_CancerRisk.csv
Cancer risk total by receptor saved to:
D:\LSA\2025\20241905\HARP_CONST\hra\Const_Sensitive_Year3_CancerRiskSumByRec.csv
Calculating chronic risk
Chronic risk breakdown by pollutant and receptor saved to:
D:\LSA\2025\20241905\HARP_CONST\hra\Const_Sensitive_Year3_NCChronicRisk.csv
Chronic risk total by receptor saved to:
D:\LSA\2025\20241905\HARP_CONST\hra\Const_Sensitive_Year3_NCChronicRiskSumByRec.csv
Calculating acute risk
Acute risk breakdown by pollutant and receptor saved to:
D:\LSA\2025\20241905\HARP_CONST\hra\Const_Sensitive_Year3_NCAcuteRisk.csv
Acute risk total by receptor saved to:
D:\LSA\2025\20241905\HARP_CONST\hra\Const_Sensitive_Year3_NCAcuteRiskSumByRec.csv
HRA ran successfully

HARP2 - HRACalc (dated 22118) 9/1/2025 12:24:53 PM - Output Log

GLCs loaded successfully
Pollutants loaded successfully
Pathway receptors loaded successfully
****
RISK SCENARIO SETTINGS

Receptor Type: Worker
Scenario: All
Calculation Method: Derived

****
EXPOSURE DURATION PARAMETERS FOR CANCER

Start Age: 16
Total Exposure Duration: 1

Exposure Duration Bin Distribution
3rd Trimester Bin: 0
0<2 Years Bin: 0
2<9 Years Bin: 0
2<16 Years Bin: 0
16<30 Years Bin: 1
16 to 70 Years Bin: 0

****
PATHWAYS ENABLED

NOTE: Inhalation is always enabled and used for all assessments. The remaining pathways are only used for cancer and noncancer chronic assessments.

Inhalation: True
Soil: True
Dermal: True
Mother's milk: False
Water: False
Fish: False
Homegrown crops: False
Beef: False
Dairy: False
Pig: False
Chicken: False
Egg: False

****
INHALATION

Daily breathing rate: Moderate8HR

Worker Adjustment Factors
Worker adjustment factors enabled: NO

Fraction at time at home
3rd Trimester to 16 years: OFF
16 years to 70 years: OFF

****

SOIL & DERMAL PATHWAY SETTINGS

Deposition rate (m/s): 0.02
Soil mixing depth (m): 0.01
Dermal climate: Mixed

****
TIER 2 SETTINGS

Tier2 adjustments were used in this assessment. Please see the input file for details.
Tier2 - What was changed: ED or start age changed|
Calculating cancer risk
Cancer risk breakdown by pollutant and receptor saved to:
D:\LSA\2025\20241905\HARP_CONST\hra\Const_Worker_Year1_CancerRisk.csv
Cancer risk total by receptor saved to:
D:\LSA\2025\20241905\HARP_CONST\hra\Const_Worker_Year1_CancerRiskSumByRec.csv
Calculating chronic risk
Chronic risk breakdown by pollutant and receptor saved to:
D:\LSA\2025\20241905\HARP_CONST\hra\Const_Worker_Year1_NCChronicRisk.csv
Chronic risk total by receptor saved to:
D:\LSA\2025\20241905\HARP_CONST\hra\Const_Worker_Year1_NCChronicRiskSumByRec.csv
Calculating acute risk
Acute risk breakdown by pollutant and receptor saved to:
D:\LSA\2025\20241905\HARP_CONST\hra\Const_Worker_Year1_NCAcuteRisk.csv
Acute risk total by receptor saved to:
D:\LSA\2025\20241905\HARP_CONST\hra\Const_Worker_Year1_NCAcuteRiskSumByRec.csv
HRA ran successfully

HARP2 - HRACalc (dated 22118) 9/1/2025 12:27:36 PM - Output Log

GLCs loaded successfully
Pollutants loaded successfully
Pathway receptors loaded successfully
****
RISK SCENARIO SETTINGS

Receptor Type: Worker
Scenario: All
Calculation Method: Derived

****
EXPOSURE DURATION PARAMETERS FOR CANCER

Start Age: 16
Total Exposure Duration: 1

Exposure Duration Bin Distribution
3rd Trimester Bin: 0
0<2 Years Bin: 0
2<9 Years Bin: 0
2<16 Years Bin: 0
16<30 Years Bin: 1
16 to 70 Years Bin: 0

****
PATHWAYS ENABLED

NOTE: Inhalation is always enabled and used for all assessments. The remaining pathways are only used for cancer and noncancer chronic assessments.

Inhalation: True
Soil: True
Dermal: True
Mother's milk: False
Water: False
Fish: False
Homegrown crops: False
Beef: False
Dairy: False
Pig: False
Chicken: False
Egg: False

****
INHALATION

Daily breathing rate: Moderate8HR

Worker Adjustment Factors
Worker adjustment factors enabled: NO

Fraction at time at home
3rd Trimester to 16 years: OFF
16 years to 70 years: OFF

****

SOIL & DERMAL PATHWAY SETTINGS

Deposition rate (m/s): 0.02
Soil mixing depth (m): 0.01
Dermal climate: Mixed

****
TIER 2 SETTINGS

Tier2 adjustments were used in this assessment. Please see the input file for details.
Tier2 - What was changed: ED or start age changed|
Calculating cancer risk
Cancer risk breakdown by pollutant and receptor saved to:
D:\LSA\2025\20241905\HARP_CONST\hra\Const_Worker_Year2_CancerRisk.csv
Cancer risk total by receptor saved to:
D:\LSA\2025\20241905\HARP_CONST\hra\Const_Worker_Year2_CancerRiskSumByRec.csv
Calculating chronic risk
Chronic risk breakdown by pollutant and receptor saved to:
D:\LSA\2025\20241905\HARP_CONST\hra\Const_Worker_Year2_NCChronicRisk.csv
Chronic risk total by receptor saved to:
D:\LSA\2025\20241905\HARP_CONST\hra\Const_Worker_Year2_NCChronicRiskSumByRec.csv
Calculating acute risk
Acute risk breakdown by pollutant and receptor saved to:
D:\LSA\2025\20241905\HARP_CONST\hra\Const_Worker_Year2_NCAcuteRisk.csv
Acute risk total by receptor saved to:
D:\LSA\2025\20241905\HARP_CONST\hra\Const_Worker_Year2_NCAcuteRiskSumByRec.csv
HRA ran successfully

HARP2 - HRACalc (dated 22118) 9/1/2025 12:42:38 PM - Output Log

GLCs loaded successfully
Pollutants loaded successfully
Pathway receptors loaded successfully
****
RISK SCENARIO SETTINGS

Receptor Type: Worker
Scenario: All
Calculation Method: Derived

****
EXPOSURE DURATION PARAMETERS FOR CANCER

Start Age: 17
Total Exposure Duration: 1

Exposure Duration Bin Distribution
3rd Trimester Bin: 0
0<2 Years Bin: 0
2<9 Years Bin: 0
2<16 Years Bin: 0
16<30 Years Bin: 1
16 to 70 Years Bin: 0

****
PATHWAYS ENABLED

NOTE: Inhalation is always enabled and used for all assessments. The remaining pathways are only used for cancer and noncancer chronic assessments.

Inhalation: True
Soil: True
Dermal: True
Mother's milk: False
Water: False
Fish: False
Homegrown crops: False
Beef: False
Dairy: False
Pig: False
Chicken: False
Egg: False

****
INHALATION

Daily breathing rate: Moderate8HR

Worker Adjustment Factors
Worker adjustment factors enabled: NO

Fraction at time at home
3rd Trimester to 16 years: OFF
16 years to 70 years: OFF

****

SOIL & DERMAL PATHWAY SETTINGS

Deposition rate (m/s): 0.02
Soil mixing depth (m): 0.01
Dermal climate: Mixed

****
TIER 2 SETTINGS

Tier2 adjustments were used in this assessment. Please see the input file for details.
Tier2 - What was changed: ED or start age changed|
Calculating cancer risk
Cancer risk breakdown by pollutant and receptor saved to:
D:\LSA\2025\20241905\HARP_CONST\hra\Const_Worker_Year3_CancerRisk.csv
Cancer risk total by receptor saved to:
D:\LSA\2025\20241905\HARP_CONST\hra\Const_Worker_Year3_CancerRiskSumByRec.csv
Calculating chronic risk
Chronic risk breakdown by pollutant and receptor saved to:
D:\LSA\2025\20241905\HARP_CONST\hra\Const_Worker_Year3_NCChronicRisk.csv
Chronic risk total by receptor saved to:
D:\LSA\2025\20241905\HARP_CONST\hra\Const_Worker_Year3_NCChronicRiskSumByRec.csv
Calculating acute risk
Acute risk breakdown by pollutant and receptor saved to:
D:\LSA\2025\20241905\HARP_CONST\hra\Const_Worker_Year3_NCAcuteRisk.csv
Acute risk total by receptor saved to:
D:\LSA\2025\20241905\HARP_CONST\hra\Const_Worker_Year3_NCAcuteRiskSumByRec.csv
HRA ran successfully

HARP Project Summary Report 9/1/2025 2:22:57 PM

PROJECT INFORMATION
HARP Version: 22118
Project Name: HARP_CONST
Project Output Directory: D:\LSA\2025\20241905\HARP_CONST
HARP Database: NA

FACILITY INFORMATION
Origin
X (m):0
Y (m):0
Zone:1
No. of Sources:0
No. of Buildings:0

EMISSION INVENTORY
No. of Pollutants:1
No. of Background Pollutants:0

Emissions

ScrID	StkID	ProID	PolID	PolAbbrev	Multi	Annual Ems (lbs/yr)	MaxHr Ems (lbs/hr)	MWAF
Const	0	0	9901	DieselExhPM	3.88	268.3	0	1

Background

PolID	PolAbbrev	Conc (ug/m^3)	MWAF

Ground level concentration files (\glc\)

9901MAXHR.txt
9901PER.txt

POLLUTANT HEALTH INFORMATION
Health Database: D:\HARP2\Tables\HEALTH17320.mdb
Health Table Version: HEALTH25003
Official: True

PolID	PolAbbrev	InhCancer	OralCancer	AcuteREL	InhChronicREL	OralChronicREL	InhChronic8HRREL
9901	DieselExhPM	1.1				5	

AIR DISPERSION MODELING INFORMATION
Versions used in HARP. All executables were obtained from USEPA's Support Center for Regulatory Atmospheric Modeling website (http://www.epa.gov/scram001/)
AERMOD: 18081
AERMAP: 18081
BPIPPRM: 04274
AERPLOT: 13329

METEOROLOGICAL INFORMATION
Version:

Surface File:
Profile File:
Surface Station:
Upper Station:
On-Site Station:

LIST OF AIR DISPERSION FILES
AERMOD Input File:
AERMOD Output File:
AERMOD Error File:
Plotfile list

_____
Const_Res_CancerRisk_T3.PLT
Const_Res_CancerRisk_T4f.PLT
Const_Res_CancerRisk_T4i.PLT
Const_Res_Cancer_Risk_T2.PLT
Const_Res_CH-RESP_T2.PLT
Const_Res_CH-RESP_T3.PLT
Const_Res_CH-RESP_T4f.PLT
Const_Res_CH-RESP_T4i.PLT
Const_Wrk_CancerRisk_T3.PLT
Const_Wrk_CancerRisk_T4f.PLT
Const_Wrk_CancerRisk_T4i.PLT
Const_Wrk_Cancer_Risk_T2.PLT
Const_Wrk_CH-RESP_T2.PLT
Const_Wrk_CH-RESP_T3.PLT
Const_Wrk_CH-RESP_T4f.PLT
Const_Wrk_CH-RESP_T4i.PLT

LIST OF RISK ASSESSMENT FILES
Health risk analysis files (\hra\)

_____
Const_School_Year1_CancerRisk.csv
Const_School_Year1_CancerRiskSumByRec.csv
Const_School_Year1_GLCList.csv
Const_School_Year1_HRAInput.hra
Const_School_Year1_NCAcuteRisk.csv
Const_School_Year1_NCAcuteRiskSumByRec.csv
Const_School_Year1_NCChronicRisk.csv
Const_School_Year1_NCChronicRiskSumByRec.csv
Const_School_Year1_Output.txt
Const_School_Year1_PathwayRec.csv
Const_School_Year1_PolDB.csv
Const_School_Year2_CancerRisk.csv
Const_School_Year2_CancerRiskSumByRec.csv
Const_School_Year2_GLCList.csv
Const_School_Year2_HRAInput.hra
Const_School_Year2_NCAcuteRisk.csv
Const_School_Year2_NCAcuteRiskSumByRec.csv
Const_School_Year2_NCChronicRisk.csv
Const_School_Year2_NCChronicRiskSumByRec.csv
Const_School_Year2_Output.txt
Const_School_Year2_PathwayRec.csv
Const_School_Year2_PolDB.csv
Const_School_Year3_CancerRisk.csv
Const_School_Year3_CancerRiskSumByRec.csv
Const_School_Year3_GLCList.csv
Const_School_Year3_HRAInput.hra

Const_School_Year3_NCAcuteRisk.csv
Const_School_Year3_NCAcuteRiskSumByRec.csv
Const_School_Year3_NCChronicRisk.csv
Const_School_Year3_NCChronicRiskSumByRec.csv
Const_School_Year3_Output.txt
Const_School_Year3_PathwayRec.csv
Const_School_Year3_PolDB.csv
Const_Sensitive_Year1_CancerRisk.csv
Const_Sensitive_Year1_CancerRiskSumByRec.csv
Const_Sensitive_Year1_GLCList.csv
Const_Sensitive_Year1_HRAInput.hra
Const_Sensitive_Year1_NCAcuteRisk.csv
Const_Sensitive_Year1_NCAcuteRiskSumByRec.csv
Const_Sensitive_Year1_NCChronicRisk.csv
Const_Sensitive_Year1_NCChronicRiskSumByRec.csv
Const_Sensitive_Year1_Output.txt
Const_Sensitive_Year1_PathwayRec.csv
Const_Sensitive_Year1_PolDB.csv
Const_Sensitive_Year2_CancerRisk.csv
Const_Sensitive_Year2_CancerRiskSumByRec.csv
Const_Sensitive_Year2_GLCList.csv
Const_Sensitive_Year2_HRAInput.hra
Const_Sensitive_Year2_NCAcuteRisk.csv
Const_Sensitive_Year2_NCAcuteRiskSumByRec.csv
Const_Sensitive_Year2_NCChronicRisk.csv
Const_Sensitive_Year2_NCChronicRiskSumByRec.csv
Const_Sensitive_Year2_Output.txt
Const_Sensitive_Year2_PathwayRec.csv
Const_Sensitive_Year2_PolDB.csv
Const_Sensitive_Year3_CancerRisk.csv
Const_Sensitive_Year3_CancerRiskSumByRec.csv
Const_Sensitive_Year3_GLCList.csv
Const_Sensitive_Year3_HRAInput.hra
Const_Sensitive_Year3_NCAcuteRisk.csv
Const_Sensitive_Year3_NCAcuteRiskSumByRec.csv
Const_Sensitive_Year3_NCChronicRisk.csv
Const_Sensitive_Year3_NCChronicRiskSumByRec.csv
Const_Sensitive_Year3_Output.txt
Const_Sensitive_Year3_PathwayRec.csv
Const_Sensitive_Year3_PolDB.csv
Const_Worker_Year1_CancerRisk.csv
Const_Worker_Year1_CancerRiskSumByRec.csv
Const_Worker_Year1_GLCList.csv
Const_Worker_Year1_HRAInput.hra
Const_Worker_Year1_NCAcuteRisk.csv
Const_Worker_Year1_NCAcuteRiskSumByRec.csv
Const_Worker_Year1_NCChronicRisk.csv
Const_Worker_Year1_NCChronicRiskSumByRec.csv
Const_Worker_Year1_Output.txt
Const_Worker_Year1_PathwayRec.csv
Const_Worker_Year1_PolDB.csv
Const_Worker_Year2_CancerRisk.csv
Const_Worker_Year2_CancerRiskSumByRec.csv
Const_Worker_Year2_GLCList.csv
Const_Worker_Year2_HRAInput.hra
Const_Worker_Year2_NCAcuteRisk.csv
Const_Worker_Year2_NCAcuteRiskSumByRec.csv
Const_Worker_Year2_NCChronicRisk.csv

Const_Worker_Year2_NCChronicRiskSumByRec.csv
Const_Worker_Year2_Output.txt
Const_Worker_Year2_PathwayRec.csv
Const_Worker_Year2_PolDB.csv
Const_Worker_Year3_CancerRisk.csv
Const_Worker_Year3_CancerRiskSumByRec.csv
Const_Worker_Year3_GLCList.csv
Const_Worker_Year3_HRAInput.hra
Const_Worker_Year3_NCAcuteRisk.csv
Const_Worker_Year3_NCAcuteRiskSumByRec.csv
Const_Worker_Year3_NCChronicRisk.csv
Const_Worker_Year3_NCChronicRiskSumByRec.csv
Const_Worker_Year3_Output.txt
Const_Worker_Year3_PathwayRec.csv
Const_Worker_Year3_PolDB.csv

Spatial averaging files (\sa\)
_____

APPENDIX C

ENERGY CALCULATIONS

Construction Off-Road Equipment										
Phase	**Off-Road Equipment Type**	**Amount**	**Usage Hour/Day**	**Total Usage Days**	**Total Usage Hours/Equipment**	**Horsepower**	**Load Factor**	**Total Usage Hours/ Equipment**	**Horsepower-Hour**	**Fuel Usage (gallons)**
Site Preparation	Rubber Tired Dozers	3	8	320	7,680	367	0.4	7,680	1,127,424	57,724.1
	Tractors/Loaders/Backhoes	4	8	320	10,240	84	0.37	10,240	318,259	16,294.9
Grading	Excavators	2	8	300	4,800	36	0.38	4,800	65,664	3,362.0
	Graders	1	8	300	2,400	148	0.41	2,400	145,632	7,456.4
	Rubber Tired Dozers	1	8	300	2,400	367	0.4	2,400	352,320	18,038.8
	Scrapers	2	8	300	4,800	423	0.48	4,800	974,592	49,899.1
	Tractors/Loaders/Backhoes	2	8	300	4,800	84	0.37	4,800	149,184	7,638.2
Building Construction	Cranes	1	7	1,320	9,240	367	0.29	9,240	983,413	50,350.8
	Forklifts	3	8	1,320	31,680	82	0.2	31,680	519,552	26,601.1
	Generator Sets	1	8	1,320	10,560	14	0.74	10,560	109,402	5,601.4
	Tractors/Loaders/Backhoes	3	7	1,320	27,720	84	0.37	27,720	861,538	44,110.7
	Welders	1	8	1,320	10,560	46	0.45	10,560	218,592	11,191.9
Paving	Pavers	2	8	200	3,200	81	0.42	3,200	108,864	5,573.8
	Paving Equipment	2	8	200	3,200	89	0.36	3,200	102,528	5,249.4
	Rollers	2	8	200	3,200	36	0.38	3,200	43,776	2,241.3
Architectural Coating	Air Compressors	1	6	210	1,260	37	0.48	1,260	22,378	1,145.7
									Total	**312,479.6** Diesel

Construction Truck and Construction Worker Vehicle Fuel Efficiency				
		EMFAC2025 Outputs		
Vehicle Type	Vehicle Class	Fuel Consumption (1,000 gallons/day)	VMT (miles/ day)	Fuel Efficency (miles/gallon)
Construction Truck	MHDT	7.0	60,896.1	8.7
	HHDT	104.9	655,897.0	6.2
	HHDT/MHDT	-	-	7.5
Construction Worker Vehicle	LDA	55.8	1,487,157.8	26.7
	LDT1	7.2	158,638.8	22.2
	LDT2	42.7	951,415.8	22.3
	Worker Mix	-	-	24.5

Notes:

[1] For construction trucks assumes 50 percent HHDT and 50 percent MHDT vehicles, consistent with assumptions in CalEEMod for hauling trucks. For construction worker vehicles assumes 50 percent LDA, 25 percent LDT1, and 25 percent LDT2 vehicles, consistent with assumptions in CalEEMod for worker vehicles.

[2] EMFAC2025 was run for Madera County for the construction year 2026. Data was aggregated over all vehicle model years and speed bins.

[3] The fuel efficiency was calculated by dividing the VMT (miles/day) by the fuel consumption (gallons/day).

Construction Vehicle Fuel Use - Diesel Vehicles							
Phase	Trip Type	Total Trips	Trip Length (miles)	Total VMT	Diesel Fuel Effiency (miles/gallon)	Fuel Usage (gallons/year)	
Building Construction	Vendor	649,440.0	12.8	8,312,832.0	7.5	1,108,377.6	
					Total	**1,108,377.6**	Diesel

[1] Assumes 100 percent HHDT vehicles for haul trucks and 50 percent HHDT/50 percent MHDT vehicles for MHDT, consistent with assumptions in CalEEMod.

[2] EMFAC2025 was run for Madera County for the construction year 2026. Data was aggregated over all vehicle model years and speed bins.

[3] The fuel efficiency was calculated by dividing the VMT (miles/day) by the fuel consumption (gallons/day).

Construction Worker Vehicle Fuel Use - Gasoline Vehicles								
Phase	Total One-Way Trips/Day	Total Days	Total Trips	Trip Length (miles)	Total VMT	Gasoline Fuel Effiency (miles/gallon)	Fuel Usage (gallons/year)	
Site Preparation	18	320	11,520	7.1	81,792	24.5	3,345.2	
Grading	20	300	12,000	7.1	85,200	24.5	3,484.6	
Building Construction	1,010	1,320	2,666,400	7.1	18,931,440	24.5	774,278.7	
Paving	15	200	6,000	7.1	42,600	24.5	1,742.3	
Architectural Coating	202	210	84,840	7.1	602,364	24.5	24,636.1	
						Total	**807,487.0**	Gas

Total Construction Gasoline Usage	**807,487.0**
Total Construction Diesel Usage	**1,420,857.2**

Proposed Project Operational Trips			
Vehicle Class	CalEEMod	Total Project Trips	Total Trips per Vehicle Class
LDA	0.4783	24,536	11,736
LDT1	0.0326	24,536	800
LDT2	0.2252	24,536	5,526
MDV	0.1571	24,536	3,855
LHD1	0.0305	24,536	747
LHD2	0.0083	24,536	203
MHD	0.0121	24,536	296
HHD	0.0284	24,536	696
OBUS	0.0005	24,536	13
UBUS	0.0002	24,536	5
MCY	0.0217	24,536	532
SBUS	0.0021	24,536	52
MH	0.0031	24,536	75

Proposed Project Operational Trips – Fuel Efficiency					
Fuel	Vehicle Class	EMFAC2021 Outputs1			
		Fleet Mix (%)2	Fuel Consumption (1,000 gallons/day)	VMT (miles/day)	Fuel Efficiency3 (miles/gallon)
Gas	LDA	36%	29.5	855,757.1	10.5
	LDT1	4%	4.1	97,893.8	1.0
	LDT2	31%	29.4	735,677.4	7.8
	MDV	25%	29.6	593,437.0	5.1
	LHD1	2%	5.2	52,522.4	0.2
	MCY	1%	0.4	16930.3	0.3
	MH	0%	0.7	3160.5	0.0
	Fleet Mix	–	–	–	25.0
Diesel	LHD2	7%	3.3	48,900.4	1.1
	MHDT	8%	5.7	52,284.1	0.7
	HHDT	85%	80.8	581,669.9	6.1
	Fleet Mix	–	–	–	7.9

Notes:

[1] EMFAC2025 was run for Madera County for the operational year 2035. Data was aggregated over all vehicle model years and speed bins.

[2] Fleet mix is based on assumptions made in CalEEMod for the proposed project.

[3] The fuel efficiency was calculated by dividing the VMT (miles/day) by the fuel consumption (gallons/day).

Proposed Project Operational Trips – Fuel Usage						
Land Use	Total Annual VMT2 (miles/year)	Fuel Type	Portion of Fleet3 (%)	VMT by Fuel Type (miles/year)	Fleet Mix Efficiency4 (miles/gallon)	Fuel Usage (gallons/ year)
Proposed Project	59,482,748.0	Gas	95%	56,551,854.6	25.0	2,265,694.4
		Diesel	5%	2,895,263.3	7.9	366,633.6
					Total Gasoline/year	**2,265,694.4**
					Total Diesel/year	**366,633.6**

Notes:

[1] Calculated for operational year 2035 only. Future years will likely use less fuel due to more efficient cars.

[2] Total VMT is based on project's trip generation and trip lengths.

[3] Fleet distribution is based on EMFAC2025 output and CalEEMod assumptions.

[4] Fuel efficiency is based on fuel consumption and VMT data from EMFAC2025 for Madera County and total VMT.

Electricity Usage	
Electricity by Land Use	**kWh/year**
Single Family Houisng	6,897,777.0
Apartments Low Rise	3,951,576.0
Regional Shopping Center	4,409,985.0
Elementary School	360,695.0
City Park	-
Other Asphalt Surfaces	-
Total	**15,620,033.0**

Natural Gas Usage			
Natural Gas by Land Use	**kBTU/year**	**BTU/year**	**therms/year**
Single Family Houisng	28,717,292	28,717,292,000	287,230
Apartments Low Rise	22,230,179	22,230,179,000	222,346
Regional Shopping Center	4,089,370	4,089,370,000	40,902
Elementary School	3,396,939	3,396,939,000	33,976
City Park	-	-	-
Other Asphalt Surfaces	0	-	-
Total	**58,433,780**	**58,433,780,000**	**584,455**