HELIX Environmental Planning

Winding Ranch Project

Air Quality and Greenhouse Gas Emissions Technical Report

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TABLE OF CONTENTS

Section **Page**

TABLE OF CONTENTS (cont.)

TABLE OF CONTENTS (cont.)

LIST OF APPENDICES

LIST OF FIGURES

LIST OF TABLES

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ACRONYMS AND ABBREVIATIONS

AB	Assembly Bill
APN	Assessor's Parcel Number
APS	alternative planning strategy
AR5	Fifth Assessment Report
BCECP	Basic Construction Emissions Control Practices
BMPs	Best Management Practices
C_2F_6	hexafluoroethane
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CAFE	Corporate Average Fuel Economy
CalEEMod	California Emissions Estimator Model
CALGreen	California Green Building Standards Code
Caltrans	California Department of Transportation
CAP	Climate Action Plan
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CBSC	California Building Standards Commission
CCR	California Code of Regulations
CEC	California energy Commission
CEQA	California Environmental Quality Act
CF_4	tetrafluoromethane
CFC	chlorofluorocarbon
CH_4	methane
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
County	County of Sacramento
DPM	diesel particulate matter
DU	dwelling unit
EO	Executive Order
GHG	greenhouse gas
GWP	global warming potential
HFC	hydrofluorocarbon
I-80	Interstate 80
IPCC	Intergovernmental Panel on Climate Change

ACRONYMS AND ABBREVIATIONS (cont.)

kWhr	kilowatts-hour
kBTU	kilo British Thermal Unit
kW	kilowatt
LCFS	Low Carbon Fuel Standard
LOS	Level of Service
LST	localized significance threshold
mg/m^3	milligrams per cubic meter
MMT	million metric tons
mpg	miles per gallon
mph	miles per hour
MPOs	metropolitan planning organizations
MT	metric ton
N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NASA	National Aeronautics and Space Administration
NHTSA	National Highway Traffic Safety Administration
NO	nitrogen oxide
NO_2	nitrogen dioxide
NO_X	nitrogen oxides
O_3	ozone
Pb	lead
PFC	perfluorocarbon
PM_{10}	particulate matter less than 10 microns
$PM_{2.5}$	particulate matter less than 2.5 microns
ppm	parts per million
ROG	reactive organic gas
RTP	Regional Transportation Plan
SB	Senate Bill
SCS	Sustainable Communities Strategy
SF	square feet/square foot
SF_6	hexafluoride
SIP	State Implementation Plan
SO_2	sulfur dioxide
SO_X	sulfur oxides
SRA	source receptor area
SVAD	Sacramento Valley Air Basin

ACRONYMS AND ABBREVIATIONS (cont.)

TACs	toxic air contaminants
U.S.	United States
USEPA	U.S. Environmental Protection Agency
VMT	vehicle miles traveled
VOC	volatile organic compound

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EXECUTIVE SUMMARY

This report presents an assessment of potential air quality and greenhouse gas (GHG) emissions impacts during construction and operation of the proposed Winding Ranch Project (project), located on an approximately 24.8-acre site in the unincorporated community of Carmichael in Sacramento County (County). The project would construct a convenience store/gas station and five retail/restaurant buildings with drive-through access potential on the western portion of the project site, and an 81-lot single-family subdivision on the eastern portion of the project site.

The project's construction-period emissions of nitrogen oxides (NO_X), course particulate matter (PM_{10}), and fine particulate matter ($PM_{2.5}$) and operational-period emissions of reactive organic gases (ROG) and NO_X would not exceed the Sacramento Metropolitan Air Quality Management District's (SMAQMD's) thresholds. The SMAQMD considers projects that do not exceed the mass emissions thresholds to not conflict with or obstruct implementation of the District's air quality planning efforts. Therefore, the project would not conflict with or obstruct implementation of SMAQMD's Regional Ozone Plan.

The SMAQMD recommends a set of Basic Construction Emissions Control Practices (BCECPs), allowing the use of the non-zero particulate matter significance thresholds. Without implementation of the BCECPs, construction emissions of PM_{10} and $PM_{2.5}$ would be potentially significant. Mitigation measures AQ-1 and AQ-2 would require implementation of the SMAQMD's recommended construction and operational best management practices (BMPs). With mitigation measures AQ-1 and AQ-2 implemented, the project would not result in a cumulatively considerable net increase of any criteria pollutant for which the Sacramento Region is in non-attainment.

Construction and operation of the project would not result in exposure of sensitive receptors to significant quantities of localized criteria pollutant and precursor concentrations, or significant quantities of toxic air contaminants (TACs), including TACs resulting from operation of the proposed gas station. Impacts related to exposure of sensitive receptors to substantial pollutant concentrations, or other emissions such as odors, would be less than significant.

The project-related construction GHG emissions would not exceed the SMAQMD's threshold for land use development project construction activities. The project operational GHG emissions for the first full year of operation (anticipated to be 2026) would exceed the SMAQMD's screening level for land use development project operational activities. Projects which exceed the SMAQMD operational screening level are required to comply with the Tier 2 GHG reduction best management practice (BMP). The project's residential development portion vehicle miles traveled (VMT) would be 15 percent or more lower that regional average, and the project's retail development portion would be local serving and would not result in a net increase in regional VMT. Therefore, the project would comply with the SMAQMD Tier 2 GHG reduction BMP. However, the SMAQMD requires all development projects to implement the Tier 1 GHG reduction best management practices (BMPs). Mitigation measure GHG-1 would require implementation of the Tier 1 BMPs, including the requirement for all-electric buildings or offsetting GHG emissions resulting from the use of natural gas allowed for restaurant cooking appliances only. With mitigation measure GHG-1 implemented, the project would not result in significant GHG emissions, and the project would not conflict with or obstruct implementation of applicable GHG reduction plans, policies, or regulations, including the Sacramento Council of Government's (SACOG's) 2020 Metropolitan Transportation Plan and Sustainable Communities Strategy or the California Air Resource Boards (CARB's) Climate Change Scoping Plan.

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1.0 INTRODUCTION

This report presents an assessment of potential air quality and greenhouse gas (GHG) emissions impacts during construction and operation of the proposed Winding Ranch Project (project). This report has been prepared to support environmental review in accordance with the California Environmental Quality Act (CEQA; California Public Resources Code [PRC] §21000 et seq.); State CEQA Guidelines (California Code of Regulations [CCR], Title 14, §15000 et seq.). The project site is located within the Manzanita District of the Fair Oaks Corridor Plan (Corridor Plan) area for which an environmental impact report (EIR) was certified in 2011. However, the County considers participation in the Corridor Plan to be optional for the project, and the project is not opting in. The project CEQA impact analysis does not rely on or tier from the prior EIR. Therefore, the analysis in this report does not consider the air quality and GHG emissions impact analysis or mitigation measures from the prior EIR.

1.1 PROJECT LOCATION

The project site is located at the southeast corner of the Winding Way and Manzanita Avenue intersection in the unincorporated community of Carmichael in Sacramento County (County). See Figure 1, *Vicinity Map*, and Figure 2, *Aerial Map*. The project site is located within the Manzanita District of the Fair Oaks Corridor Plan (Corridor Plan) area. The 24.8-acre project site consists of four parcels, Assessor's Parcel Numbers (APNs) 245-0011-012, 245-0011-018, 245-0011-020, and 245-0011-021.

1.2 PROJECT DESCRIPTION

The project would develop commercial retail uses on approximately 6.8 acres in the northwest portion of the project site and single-family residences on approximately 12.4 acres in the northeast portion of the project site. The project would include rough grading of the entire project site, including approximately 6.2 acres designated as Lot A on the site plan located in the southern portion of the project site. Further development of Lot A is not a part of the project.

1.2.1 Commercial Retail Development

The proposed project's commercial retail development would include a retail gasoline dispensing facility (gas station) located at the southeast corner of Winding Way and Manzanita Avenue. The gas station would include an approximately 5,200-square foot (SF) convenience store, an approximately 1,460-SF car wash, 8 fuel pumps (16 dispensing positions) covered by a canopy, and underground fuel storage tanks. The gas station would operate 24 hours a day, 7 days a week. In addition, five commercial (retail/restaurant) buildings are proposed in the western portion of the project site, adjacent to Manzanita Avenue. Three of the commercial buildings (P2, P3, and P5) would be designed to accommodate restaurants with outdoor patios and the capacity to accommodate a drive-through. Two of the commercial buildings (P4 and P6) would be designed to accommodate multi-tenant retail shops and restaurants (without drive-throughs). The building areas for the 5 retail/restaurant buildings would be approximately 5,000 SF for pad 2, 2,250 SF for pad 3, 6,000 SF for pad 4, 3,200 SF for pad 5, and 7,500 SF for pad 6. Total area for the 5 retail/restaurant buildings would be approximately 23,950 SF. Additional site features would include parking lots, sidewalks within the public right of way on Manzanita Avenue, pedestrian sidewalks and crosswalks connecting to buildings within the project site, outdoor lighting, signage, and landscaping. Access to commercial retail space would be from four driveways along Manzanita Avenue and one driveway on Winding Avenue. See Figure 3, *Retail Site Plan*.

1.2.2 Residential Development

The proposed project's residential development would include a tentative subdivision map for 81 single-family residential lots. Residential lots would range from a minimum of 3,375 SF (45 feet by 75 feet) to a maximum of 9,321 SF. The proposed project's residential development would also include internal streets and sidewalks, an approximately 0.9-acre storm water detention basin, and approximately 0.3 acre of landscape buffer along Winding Way and Rampart Drive. Primary access to the residential development would be via Winding Way. A secondary access is proposed connecting to Rampart Drive directly east of the project site and existing residential development. An emergency access corridor would be provided to the south, connecting to Jan Drive. See Figure 4, *Residential Site Plan*.

1.3 CONSTRUCTION ACTIVITIES AND PHASING

Project construction start and phasing was unknown at the time of this analysis. Project construction is anticipated to commence in July 2024 and be completed in one phase (including both the retail and the residential development) lasting approximately 18 months, completing in December 2025. Construction activities would include demolition (removal of existing asphalt pavement), site preparation, grading, paving, building construction, and architectural coating (e.g., painting). The project applicant anticipates grading cut/fill to be balanced on-site (no import or export of soil). Detailed construction activity and equipment assumptions are summarized in Section 4.1, *Methodology*, and provided in Appendix A, *CalEEMod Output*.

2.0 REGULATORY SETTING

2.1 AIR QUALITY

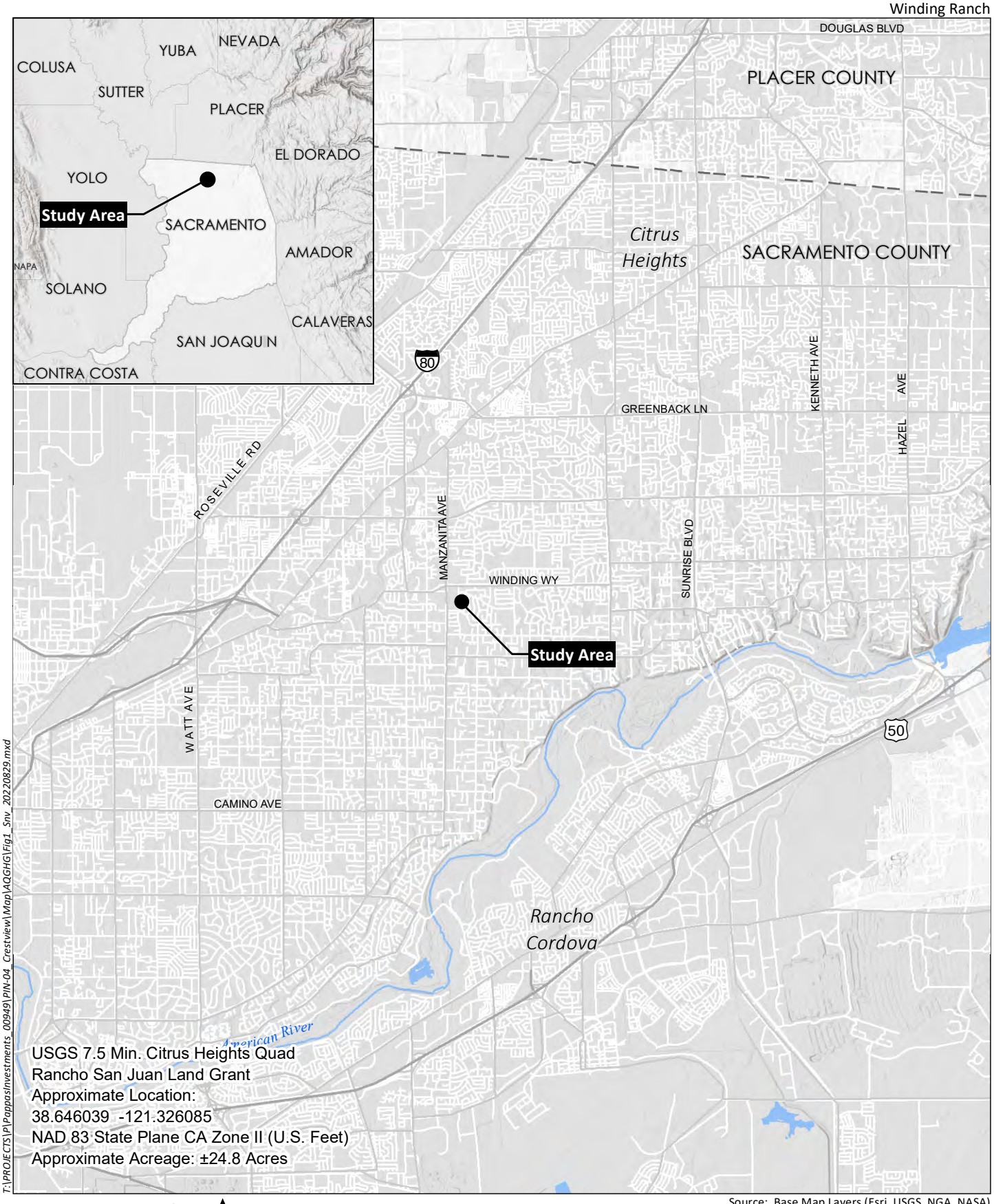
The project site is located within the southern portion of the Sacramento Valley Air Basin (SVAB). Air quality in the Sacramento County portion of the SVAB is regulated by the U.S. Environmental Protection Agency (USEPA) at the federal level, by the California Air Resources Board (CARB) at the state level, and by the Sacramento Metropolitan Air Quality Management District (SMAQMD) at the regional level.

2.1.1 Air Pollutants of Concern

2.1.1.1 Criteria Pollutants

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

- Ozone (O_3)
- Carbon monoxide (CO)
- Nitrogen dioxide (NO_2)
- PM, which is further subdivided:
    - Coarse PM, 10 micrometers or less in diameter (PM_{10})
    - Fine PM, 2.5 micrometers or less in diameter ($PM_{2.5}$)



USGS 7.5 Min. Citrus Heights Quad
Rancho San Juan Land Grant
Approximate Location:
38.646039 -121.326085
NAD 83 State Plane CA Zone II (U.S. Feet)
Approximate Acreage: ±24.8 Acres

T:\PROJECTS\P\PappasInvestments_00949\PIN-04_Crestview\Map\AQGHG\Fig1_Snv_20220829.mxd

0 1.5 Miles

Source: Base Map Layers (Esri, USGS, NGA, NASA)

Vicinity Map

Figure 1

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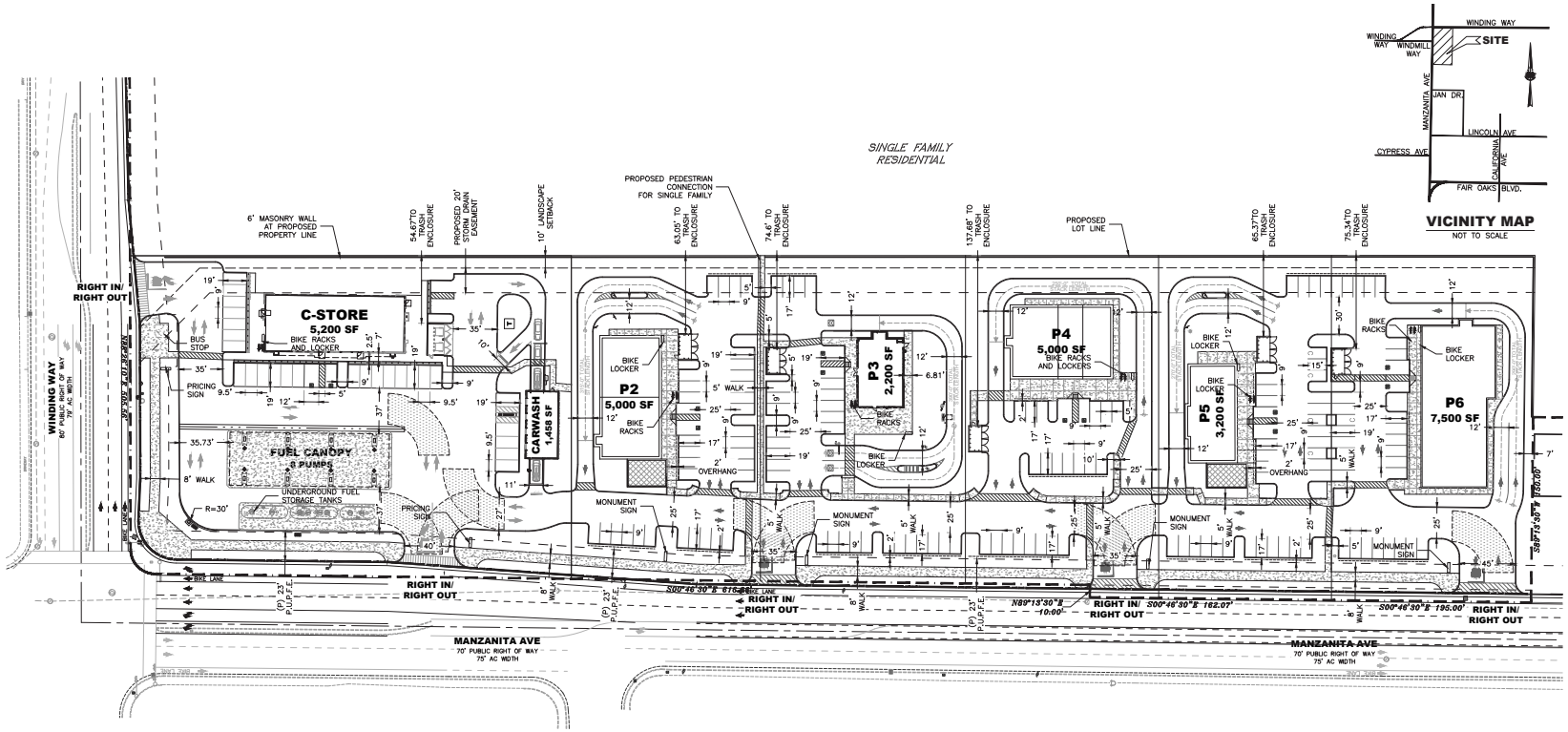
0 200 Feet

Source: Aerial (DigitalGlobe 4/26/2022)

Aerial Map

Figure 2



VICINITY MAP
NOT TO SCALE

PROJECT SUMMARY:

OWNER/DEVELOPMENT

PAPPAS GATEWAY LP
PAPPAS ARIZONA LIMITED PARTNERSHIP
2020 L STREET, 5TH FLOOR
SACRAMENTO, CA 95811
CONTACT: THAD JOHNSON
(916) 447-7100

ENGINEER/APPLICANT

RSC ENGINEERING, INC.
1420 ROCKY RIDGE DRIVE, SUITE 150
ROSEVILLE, CA 95661
CONTACT: TIFFANY WILSON
(916) 788-2884

ASSESSOR'S PARCEL NUMBER

245-0011-018
245-0011-20 AND 021 (PORTION OF)

EXISTING AND PROPOSED ZONE

FAIR OAKS CORRIDOR PLAN
COMMERCIAL MIXED USE

EXISTING AND PROPOSED LAND USE

TRANSIT ORIENTED DEVELOPMENT CORRIDOR PLAN

SITE AREA

6.801± AC
(296,248± SF)

SERVICE PROVIDERS

WATER:	CARMICHAEL WATER DISTRICT
SEWER:	SACRAMENTO AREA SEWER DISTRICT (SASD)
DRAINAGE:	COUNTY OF SACRAMENTO
ELECTRICITY:	SMUD
GAS:	PG&E
SCHOOL DISTRICT:	SAN JUAN UNIFIED SCHOOL DISTRICT
PARKS	CARMICHAEL PARKS DISTRICT
FIRE	SACRAMENTO METRO FIRE DISTRICT
SOLID WASTE:	COUNTY OF SACRAMENTO WASTE MANAGEMENT AND RECYCLING

FLOOD PLAIN DESIGNATION

ZONE X 0606C0089H
DATED AUGUST 16, 2012

BUILDING SUMMARY

C-STORE:	5,200± SF
CARWASH:	1,458± SF
P2 W/DRIVE THRU:	5,000± SF
P3 W/DRIVE THRU:	2,200± SF
P4 W/DRIVE THRU:	5,000± SF
P5 W/DRIVE THRU:	3,200± SF
P6 W/DRIVE THRU:	7,500± SF
TOTAL:	29,558± SF

PARKING PROPOSED

C-STORE/CARWASH:	38 STALLS
P2 W/DRIVE THRU:	35 STALLS
P3 W/DRIVE THRU:	31 STALLS
P4 W/ DRIVE THRU:	23 STALLS
P5 W/DRIVE THRU:	36 STALLS
P6 W/ DRIVE THRU:	31 STALLS
TOTAL:	194 STALLS

C-STORE AND RETAIL: 1/250 SF (12,870 SF, 69 STALLS)
FOOD USE: 1 PER 3 SEATS (375 SEATS, 125 STALLS)
OVERALL TOTAL: 194 STALLS PROPOSED

PARKING REQUIRED

C-STORE/CARWASH:	21 STALLS
P2 W/DRIVE THRU:	35 STALLS
P3 W/DRIVE THRU:	31 STALLS
P4 W/ DRIVE THRU:	23 STALLS
P5 W/DRIVE THRU:	36 STALLS
P6 W/ DRIVE THRU:	31 STALLS
TOTAL:	177 STALLS

C-STORE AND RETAIL: 1/250 SF (12,870 SF, 52 STALLS)
FOOD USE: 1 PER 3 SEATS (375 SEATS, 125 STALLS)
OVERALL TOTAL: 177 STALLS REQUIRED

BIKE PARKING PROPOSED

6 BIKE LOCKERS AND 12 BIKE RACKS

BIKE PARKING REQUIRED

6 BIKE LOCKERS AND 12 BIKE RACKS

LEGEND:

- EXISTING PARCEL LINE
- PROPOSED PARCEL LINE
- EXISTING RIGHT-OF-WAY
- EXISTING EASEMENT
- PROPOSED SITE LIGHT
- PROPOSED TRASH ENCLSOURE
- PROPOSED BIO-RETENTION
- PROPOSED FIRE TRUCK ROUTE INSIDE RADIUS = 25' OUTSIDE RADIUS = 50'
- PROPOSED 6' MASONRY WALL

1 inch = 40 ft.

SHEET INDEX:

T:\PROJECTS\P\PappasInvestments_00949\PIN-04_Crestview\Map\AQGHG\Fig3_RetailSitePlan.indd

Source: RSC Engineering, 2022

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Retail Site Plan

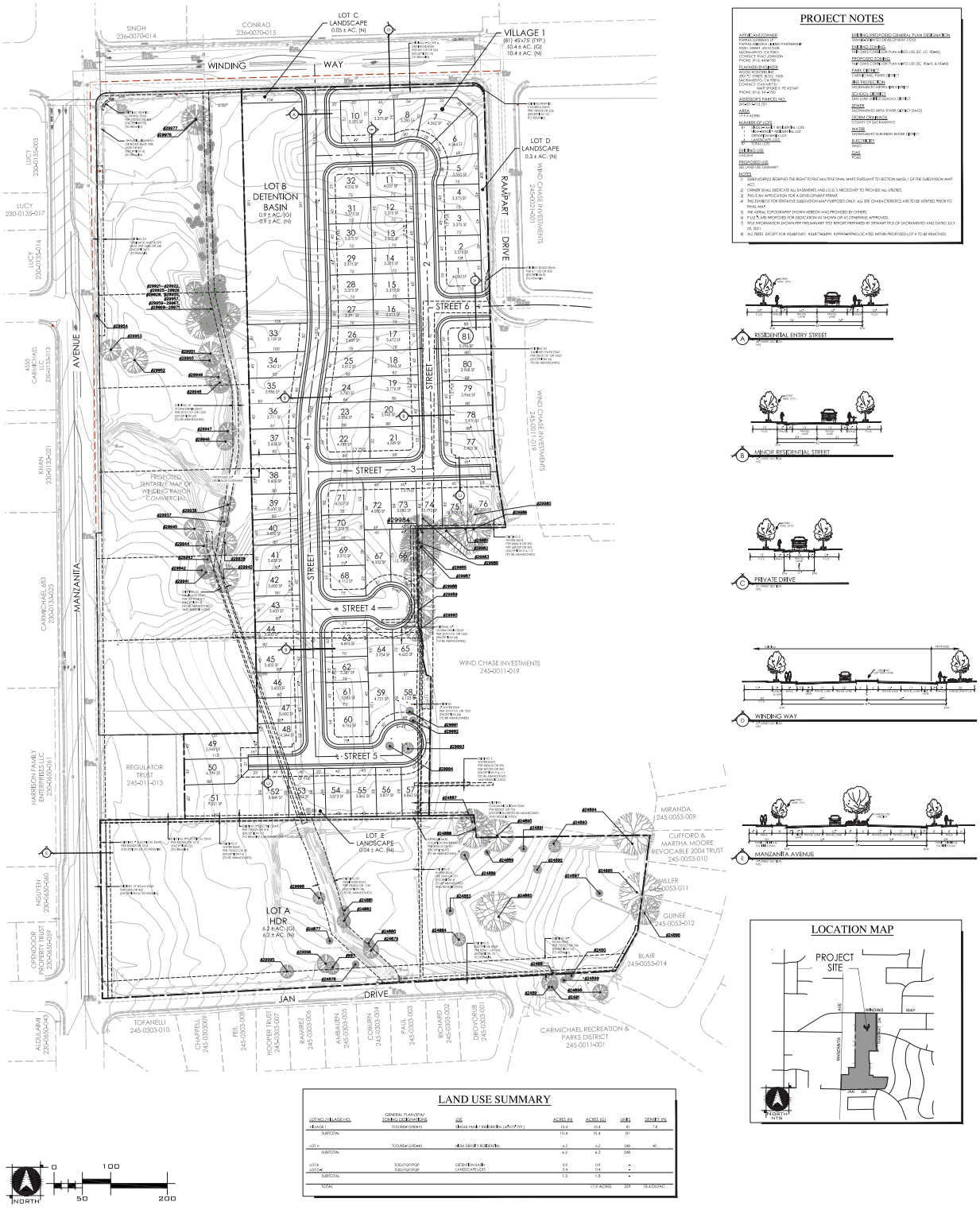
Figure 3

TENTATIVE SUBDIVISION MAP

WINDING RANCH RESIDENTIAL

COUNTY OF SACRAMENTO, CALIFORNIA

JANUARY 17, 2022



LAND USE SUMMARY

LOT NO. / VILLAGE NO.	GENERAL PLAN/SPA/ PD/REZONE DESIGNATIONS	USE	ACRES (N)	ACRES (G)	UNITS	DENSITY (DU/AC)
VILLAGE 1	TOD/RM-3/RD=10	SINGLE-FAMILY RESIDENTIAL (45'x75' TYP.)	10.4	10.4	81	7.8
SUBTOTAL			10.4	10.4	81	
LOT A	TOD/RM-3/RD=30	HIGH DENSITY RESIDENTIAL	6.2	6.2	248	40
SUBTOTAL			6.2	6.2	248	
LOT B LOT C	TOD/PQP/PQP TOD/PQP/PQP	DETENTION BASIN LANDSCAPE LOTS	0.9 0.4	0.9 0.4	-	-
SUBTOTAL			1.3	1.3	-	
TOTAL				17.9 ACRES	329	18.4 DU/AC

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Source: Wood Rogers, 2022

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Residential Site Plan

Figure 4

- Sulfur dioxide (SO_2)
- Lead (Pb)

Criteria pollutants can be emitted directly from sources (primary pollutants; e.g., CO, SO_2, PM_{10}, $PM_{2.5}$, and lead), or they may be formed through chemical and photochemical reactions of precursor pollutants in the atmosphere (secondary pollutants; e.g., ozone, NO_2, PM_{10}, and $PM_{2.5}$). PM_{10} and $PM_{2.5}$ can be both primary and secondary pollutants. The principal precursor pollutants of concern are reactive organic gases ([ROGs] also known as volatile organic compounds [VOCs])[1] and nitrogen oxides (NO_X).

The descriptions of sources and general health effects for each of the criteria air pollutants are shown in Table 1, *Summary of Common Sources and Human Health Effects of Criteria Air Pollutants*. Specific adverse health effects on individuals or population groups induced by criteria pollutant emissions are highly dependent on a multitude of interconnected variables such as cumulative concentrations, local meteorology and atmospheric conditions, and the number and characteristics of exposed individuals (e.g., age, gender). Criteria pollutant precursors (ROG and NO_X) affect air quality on a regional scale, typically after significant delay and distance from the pollutant source emissions. Health effects related to ozone and NO_2 are, therefore, the product of emissions generated by numerous sources throughout a region. Emissions of criteria pollutants from vehicles traveling to or from the project site (mobile emissions) are distributed nonuniformly in location and time throughout the region, wherever the vehicles may travel. As such, specific health effects from these criteria pollutant emissions cannot be meaningfully correlated to the incremental contribution from the project.

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

Pollutant	Major Man-Made Sources	Human Health Effects
Carbon Monoxide (CO)	An odorless, colorless gas formed when carbon in fuel is not burned completely; a component of motor vehicle exhaust.	Reduces the ability of blood to deliver oxygen to vital tissues, affecting the cardiovascular and nervous system. Impairs vision, causes dizziness, and can lead to unconsciousness or death.
Nitrogen Dioxide (NO_2)	A reddish-brown gas formed during fuel combustion for motor vehicles and industrial sources. Sources include motor vehicles, electric utilities, and other sources that burn fuel.	Respiratory irritant; aggravates lung and heart problems. Precursor to ozone and acid rain. Contributes to climate change and nutrient overloading, which deteriorates water quality. Causes brown discoloration of the atmosphere.
Ozone (O_3)	Formed by a chemical reaction between reactive organic gases (ROGs) and nitrogen oxides (NO_X) in the presence of sunlight. Common sources of these precursor pollutants include motor vehicle exhaust, industrial emissions, gasoline storage and transport, solvents, paints, and landfills.	Irritates and causes inflammation of the mucous membranes and lung airways; causes wheezing, coughing, and pain when inhaling deeply; decreases lung capacity; aggravates lung and heart problems. Damages plants; reduces crop yield. Damages rubber, some textiles, and dyes.

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

Pollutant	Major Man-Made Sources	Human Health Effects
Particulate Matter (PM_{10} and $PM_{2.5}$)	Produced by power plants, steel mills, chemical plants, unpaved roads and parking lots, wood-burning stoves and fireplaces, automobiles, and other sources.	Increased respiratory symptoms, such as irritation of the airways, coughing, or difficulty breathing; aggravated asthma; development of chronic bronchitis; irregular heartbeat; nonfatal heart attacks; and premature death in people with heart or lung disease. Impairs visibility (haze). Long-term exposure to $PM_{2.5}$ has been linked to premature death, particularly in people who have chronic heart or lung diseases, and reduced lung function growth in children. The effects of long-term exposure to PM_{10} are less clear, although several studies suggest a link between long-term PM_{10} exposure and respiratory mortality.
Sulfur Dioxide (SO_2)	A colorless, nonflammable gas formed when fuel containing sulfur is burned, when gasoline is extracted from oil, or when metal is extracted from ore. Examples are petroleum refineries, cement manufacturing, metal processing facilities, locomotives, and ships.	Respiratory irritant. Aggravates lung and heart problems. In the presence of moisture and oxygen, sulfur dioxide converts to sulfuric acid, which can damage marble, iron, and steel. Damages crops and natural vegetation. Impairs visibility. Precursor to acid rain.
Lead	Metallic element emitted from metal refineries, smelters, battery manufacturers, iron and steel producers, use of leaded fuels by racing and aircraft industries.	Anemia, high blood pressure, brain and kidney damage, neurological disorders, cancer, lowered IQ. Affects animals, plants, and aquatic ecosystems.

Source: CARB 2023a; USEPA 2023a

2.1.1.2 Toxic Air Contaminants

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

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

70 percent of total known cancer risk related to air toxics in California is attributable to DPM (CARB 2023b).

Activities at gasoline dispensing facilities can release TACs into the air. Gasoline vapor consists of a mixture of organic gases, including seven gases classified as TACs with quantifiable health risk factors: benzene, ethyl benzene, n-hexane, naphthalene, propylene (or propene), xylenes and toluene (CARB 2022a). Note that, although the proposed gas station would include diesel dispensing, TACs associated with diesel vapor are not released in quantities sufficient enough to require analysis or reporting. For example, gasoline in the United States (U.S.) contains 0.6 to 1.3 percent benzene by volume, diesel fuel contains less than 0.02 percent benzene (International Agency on Research for Cancer [IARC] 1989).

Benzene – Benzene is a potent carcinogen and one of the highest-risk air pollutants regulated by CARB. Acute inhalation exposure of humans to benzene may cause drowsiness, dizziness, headaches, as well as eye, skin, and respiratory tract irritation, and, at high levels, unconsciousness. Chronic inhalation exposure to benzene has caused various disorders in the blood. Benzene is classified as a known human carcinogen for all routes of exposure (U.S. Environmental Protection Agency [USEPA] 2012a). Benzene contributes approximately 78 percent of the cancer risk and nearly 100 percent of the non-cancer chronic health impacts resulting from gasoline vapor emissions at retail gas stations in California (CARB 2022a).

Ethyl benzene – Acute exposure to ethylbenzene in humans results in respiratory effects, such as throat irritation and chest constriction, irritation of the eyes, and neurological effects such as dizziness (USEPA 2000a).

N-hexane – Chronic exposure to hexane in air is associated with polyneuropathy in humans, with numbness in the extremities, muscular weakness, blurred vision, headache, and fatigue observed. Neurotoxic effects have also been exhibited in rats (USEPA 2000b).

Naphthalene – Acute exposure of humans to naphthalene by inhalation, ingestion, and dermal contact is associated with hemolytic anemia, damage to the liver, and neurological damage. Chronic exposure of workers and rodents to naphthalene has been reported to cause cataracts and damage to the retina. Classified as a possible human carcinogen (USEPA 2000c).

Xylenes – Acute inhalation exposure to mixed xylenes in humans results in irritation of the eyes, nose, and throat, gastrointestinal effects, and neurological effects. Chronic inhalation exposure of humans to mixed xylenes results primarily in central nervous system (CNS) effects, such as headache, dizziness, fatigue, tremors, and incoordination; respiratory, cardiovascular, and kidney effects have also been reported (USEPA 2000d).

Toluene – The CNS is the primary target organ for toluene toxicity in both humans and animals for acute and chronic exposures. CNS dysfunction and narcosis have been frequently observed in humans acutely exposed to elevated airborne levels of toluene; symptoms include fatigue, sleepiness, headaches, and nausea. Chronic inhalation exposure of humans to toluene also causes irritation of the upper respiratory tract and eyes, sore throat, dizziness, and headache (USEPA 2012b).

2.1.2 Federal Air Quality Regulations

2.1.2.1 Federal Clean Air Act

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

Table 2
AMBIENT AIR QUALITY STANDARDS

Pollutant	Averaging Time	California Standards	Federal Standards Primary[1]	Federal Standards Secondary[2]
O_3	1 Hour	0.09 ppm (180 µg/m^3)	–	–
	8 Hour	0.070 ppm (137 µg/m^3)	0.070 ppm (137 µg/m^3)	Same as Primary
PM_{10}	24 Hour	50 µg/m^3	150 µg/m^3	Same as Primary
	AAM	20 µg/m^3	–	Same as Primary
$PM_{2.5}$	24 Hour	–	35 µg/m^3	Same as Primary
	AAM	12 µg/m^3	12.0 µg/m^3	15.0 µg/m^3
CO	1 Hour	20 ppm (23 mg/m^3)	35 ppm (40 mg/m^3)	–
	8 Hour	9.0 ppm (10 mg/m^3)	9 ppm (10 mg/m^3)	–
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m^3)	–	–
NO_2	1 Hour	0.18 ppm (339 µg/m^3)	0.100 ppm (188 µg/m^3)	–
	AAM	0.030 ppm (57 µg/m^3)	0.053 ppm (100 µg/m^3)	Same as Primary
SO_2	1 Hour	0.25 ppm (655 µg/m^3)	0.075 ppm (196 µg/m^3)	–
	3 Hour	–	–	0.5 ppm (1,300 µg/m^3)
	24 Hour	0.04 ppm (105 µg/m^3)	–	–
Lead	30-day Avg.	1.5 µg/m^3	–	–
	Calendar Quarter	–	1.5 µg/m^3	Same as Primary
	Rolling 3-month Avg.	–	0.15 µg/m^3	Same as Primary
Visibility Reducing Particles	8 Hour	Extinction coefficient of 0.23 per km – visibility ≥ 10 miles (0.07 per km – ≥30 miles for Lake Tahoe)	No Federal Standards	No Federal Standards

Pollutant	Averaging Time	California Standards	Federal Standards Primary[1]	Federal Standards Secondary[2]
Sulfates	24 Hour	25 µg/m^3	No Federal Standards	No Federal Standards
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m^3)	No Federal Standards	No Federal Standards
Vinyl Chloride	24 Hour	0.01 ppm (26 µg/m^3)	No Federal Standards	No Federal Standards

Source: CARB 2016

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

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

O_3 = ozone; ppm: parts per million; µg/m^3 = micrograms per cubic meter; PM_{10} = particulate matter with an aerodynamic diameter of 10 microns or less; AAM = Annual Arithmetic Mean; $PM_{2.5}$ = fine particulate matter;
CO = carbon monoxide; mg/m^3 = milligrams per cubic meter; NO_2 = nitrogen dioxide; SO_2 = sulfur dioxide;
km = kilometer; – = No Standard

The USEPA has classified air basins (or portions thereof) as being in "attainment," "nonattainment," "maintenance," or "unclassified" for each criteria air pollutant, based on whether or not the NAAQS have been achieved. Upon attainment of a standard for which an area was previously designated nonattainment, the area will be classified as a maintenance area. If an area is designated unclassified, it is because inadequate air quality data were available as a basis for a nonattainment or attainment designation. The project site is located within the Sacramento County portion of the SVAB and, as such, is in an area designated as a nonattainment area for certain pollutants that are regulated under the CAA. Table 3, *Sacramento County Attainment Status*, lists the federal and state attainment status of Sacramento County for the criteria pollutants. Sacramento County is designated as nonattainment for the federal 8-hour ozone standards $PM_{2.5}$ standards. Sacramento County is designated as attainment or unclassified for all other criteria pollutant NAAQS.

Table 3
SACRAMENTO COUNTY ATTAINMENT STATUS

Pollutant	State of California Attainment Status	Federal Attainment Status
Ozone (1 hour)	Nonattainment	No Federal Standard
Ozone (8 hour)	Nonattainment	Nonattainment - Serious
Coarse Particulate Matter (PM_{10})	Nonattainment	Attainment - Maintenance
Fine Particulate Matter ($PM_{2.5}$)	Attainment	Nonattainment -Moderate
Carbon Monoxide (CO)	Attainment	Attainment
Nitrogen Dioxide (NO_2)	Attainment	Attainment/Unclassifiable
Lead	Attainment	Attainment
Sulfur Dioxide (SO_2)	Attainment	Attainment/Unclassifiable
Sulfates	Unclassified	No Federal Standard
Hydrogen Sulfide	Unclassified	No Federal Standard
Visibility Reducing Particles	Unclassified	No Federal Standard

Source: SMAQMD 2020a

2.1.3 California Air Quality Regulations

2.1.3.1 California Clean Air Act

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

In addition to primary and secondary AAQS, the state has established a set of episode criteria for ozone, CO, NO_2, SO_2, and PM. These criteria refer to episode levels representing periods of short-term exposure to air pollutants that actually threaten public health. Table 3, above, lists the state attainment status of Sacramento County for the criteria pollutants. Under state designation, Sacramento County is currently in attainment for the CO, NO_2, SO_2, $PM_{2.5}$, and lead CAAQS; and in nonattainment for ozone (8-hour and 1-hour) and PM_{10} (24-hour and annual mean).

2.1.3.2 State Implementation Plan

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

SIPs are not single documents—they are a compilation of new and previously submitted plans, programs (e.g., monitoring, modeling, permitting), district rules, state regulations and federal controls. Many of California's SIPs rely on a core set of control strategies, including emission standards for cars and heavy trucks, fuel regulations and limits on emissions from consumer products. State law makes CARB the lead agency for all purposes related to the SIP. Local air districts and other agencies prepare SIP elements and submit them to CARB for review and approval. CARB forwards the SIP revisions to the USEPA for approval and publication in the Federal Register. The Code of Federal Regulations (CFR) Title 40, Chapter I, Part 52, Subpart F, Section 52.220 lists all of the items that are included in the California SIP (CARB 2023c). At any one time, several California submittals are pending USEPA approval.

2.1.3.3 California Energy Code

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

2.1.4 Local Regulations

2.1.4.1 Sacramento Metropolitan Air Quality Management District

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

Air Quality Plans

The current air quality plan applicable to the project, the *Sacramento Regional 2008 NAAQS 8-Hour Ozone Attainment and Reasonable Further Progress Plan* (Regional Ozone Plan), was developed by the SMAQMD and adjacent air district to describe how the air districts in and near the Sacramento metropolitan area will continue the progress toward attaining state and national ozone air quality standards (SMAQMD 2017). In addition to not attaining the federal or state ozone standards, the region is classified nonattainment for the federal $PM_{2.5}$ standard and the state PM_{10} standard. The SMAQMD and other Sacramento region air districts have submitted a $PM_{2.5}$ Implementation/Maintenance Plan and Re-Designation Requests to fulfill CAA requirements to re-designate the region from nonattainment to attainment of the $PM_{2.5}$ NAAQS (SMAQMD 2013).

Rules and Regulations

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

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

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

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

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

Rule 448 – Gasoline Transfer into Stationary Storage Containers: Limits emissions resulting from the transfer of gasoline into any stationary storage container by requiring implementation of CARB certified Phase I vapor recovery systems (SMAQMD 2009a).

Rule 449 – Transfer of Gasoline in vehicle Fuel Tanks: Limits emissions resulting from the transfer of gasoline into vehicle fuel tanks by requiring implementation of CARB certified Phase II vapor recovery systems (SMAQMD 2009b).

Best Management Practices

To allow the use of non-zero PM_{10} and $PM_{2.5}$ thresholds of significance (discussed further in Section 4.2.1, below), the SMAQMD recommends lead agencies require implementation of the following Basic Construction Emission Control Practices (BCECPs) and operational Best Management Practices (BMPs) for all land use development projects (SMAQMD 2019; SMAQMD 2020b):

Basic Construction Emission Control Practices

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

Operational Best Management Practices

1. Compliance with SMAQMD rules that control operational PM and NO_X emissions.
2. Compliance with mandatory measures in the California Building Energy Efficiency Standards (Title 24, Part 6) that pertain to efficient use of energy at a residential or non-residential land use.
3. Compliance with mandatory measures in the California Green Building Code (Title 24, Part 11).
4. Compliance with anti-idling regulations for diesel-powered commercial motor vehicles (greater than 10,000 gross vehicular weight rating).

2.1.4.2 Sacramento County General Plan

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

AQ-1 New development shall be designed to promote pedestrian/bicycle access and circulation to encourage community residents to use alternative modes of transportation to conserve air quality and minimize direct and indirect emission of air contaminants.

AQ-3 Buffers and/or other appropriate exposure reduction measures shall be established on a project-by project basis and incorporated during review to provide for protection of sensitive receptors from sources of air pollution or odor. The California Air Resources Board's "Strategies to Reduce Air Pollution Exposure Near High Volume Roadways" Technical Advisory and the SMAQMD's "Mobile Sources Air Toxics Protocol" or County of Sacramento General Plan 2 Air Quality Element Amended December 16, 2020 applicable AQMD guidance shall be utilized when establishing these exposure reduction measures.

AQ-4 Developments which meet or exceed thresholds of significance for ozone precursor pollutants, and/or GHG as adopted by the SMAQMD, shall be deemed to have a significant environmental impact. An Air Quality Mitigation Plan and/or a Greenhouse Gas Reduction Plan shall be submitted to the County of Sacramento prior to project approval, subject to review and recommendation as to technical adequacy by the Sacramento Metropolitan Air Quality Management District.

AQ-4B Land uses with sensitive receptors (such as residences, schools, senior care facilities and day care centers) which are proposed within 500 feet of a freeway or other high-volume roadway (defined as an urban roadway with more than 100,000 average daily trips or a rural roadway with more than 50,000 average daily trips), a railyard or an active railroad shall incorporate exposure reduction measures consistent with the guidance listed in Air Quality Element policy AQ-3.

AQ-16 Prohibit the idling of on-and off-road engines when the vehicle is not moving or when the off-road equipment is not performing work for a period of time greater than five minutes in any one-hour period.

AQ-20 Promote Cool Community strategies to cool the urban heat island, reduce energy use and ozone formation, and maximize air quality benefits by encouraging four main strategies including, but not limited to: plant trees, selective use of vegetation for landscaping, install cool roofing, and install cool pavements.

2.2 GREENHOUSE GASES

2.2.1 Climate Change Overview

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

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

The temperature record shows a decades-long trend of warming, with 2016 and 2020 global surface temperatures tied for the warmest year on record since 1880 (National Aeronautics and Space Administration [NASA] 2023a). The newest release in long-term warming trends announced 2022 ranked as tied with 2015 for the sixth warmest year on record with an increase of 1.6 degrees Fahrenheit compared to the 1951-1980 average (NASA 2023b). GHG emissions from human activities are the most significant driver of observed climate change since the mid-20th century (United Nations Intergovernmental Panel on Climate Change [IPCC] 2013). The IPCC constructed several emission trajectories of GHGs needed to stabilize global temperatures and climate change impacts. The statistical models show a "high confidence" that temperature increase caused by anthropogenic GHG emissions could be kept to less than two degrees Celsius relative to pre-industrial levels if atmospheric concentrations are stabilized at about 450 parts per million (ppm) carbon dioxide equivalent (CO_2e) by the year 2100 (IPCC 2014).

2.2.2 Types of Greenhouse Gases

The GHGs defined under California's AB 32 include carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6).

Carbon Dioxide. CO_2 is the most important and common anthropogenic GHG. CO_2 is an odorless, colorless GHG. Natural sources include the decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungi; evaporation from oceans; and volcanic outgassing. Anthropogenic sources of CO_2 include burning fuels, such as coal, oil, natural gas, and wood. Data from ice cores indicate that CO_2 concentrations remained steady prior to the current period for approximately 10,000 years. The atmospheric CO_2 concentration in 2010 was 390 ppm, 39 percent above the concentration at the start of the Industrial Revolution (approximately 280 ppm in 1750). As of November 2023, the CO_2 concentration was 420 ppm, a 50 percent increase since 1750 (National Oceanic and Atmospheric Administration [NOAA] 2023).

Methane. CH_4 is the main component of natural gas used in homes. A natural source of methane is from the decay of organic matter. Geological deposits known as natural gas fields contain methane, which is extracted for fuel. Other sources are from decay of organic material in landfills, fermentation of manure, and cattle digestion.

Nitrous Oxide. N_2O is produced by both natural and human-related sources. N_2O is emitted during agricultural and industrial activities, as well as during the combustion of fossil fuels and solid waste. Primary human-related sources of N_2O are agricultural soil management, animal manure management, sewage treatment, mobile and stationary combustion of fossil fuel, adipic (fatty) acid production, and nitric acid production.

Hydrofluorocarbons. Hydrofluorocarbons are commonly used by federal agencies in a wide variety of applications, including refrigeration, air-conditioning (AC), building insulation, fire extinguishing systems, and aerosols. HFCs have high global warming potential (GWP), raising concern about their impacts as

they become increasingly used as replacements for ozone-depleting substances (ODS), and as economic growth spurs demand for new equipment, especially in the refrigeration/AC sector.

Perfluorocarbons. Perfluorocarbons are synthetic compounds containing just fluorine and carbon. They are generally colorless, odorless, non-flammable gases at environmental temperatures and for the most part chemically unreactive. PFCs replace chlorofluorocarbons (CFCs) in manufacturing semiconductors. They are also used as solvents in the electronics industry, and as refrigerants of some specialized refrigeration systems.

Sulfur Hexafluoride. SF_6 is an inorganic, odorless, colorless, nontoxic, nonflammable gas. SF_6 is used for insulation in electric power transmission and distribution equipment, in the magnesium industry, in semi-conductor manufacturing, and as a tracer gas for leak detection.

GHGs have long atmospheric lifetimes that range from one year to several thousand years. Long atmospheric lifetimes allow for GHG emissions to disperse around the globe. Because GHG emissions vary widely in the power of their climatic effects, climate scientists have established a unit called GWP. The GWP of a gas is a measure of both potency and lifespan in the atmosphere as compared to CO_2. For example, a gas with a GWP of 10 is 10 times more potent than CO_2 over 100 years. CO_2e is a quantity that enables all GHG emissions to be considered as a group despite their varying GWP. The GWP of each GHG is multiplied by the prevalence of that gas to produce CO_2e.

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

By applying the GWP ratios, project-related CO_2e emissions can be tabulated in metric tons per year. Typically, the GWP ratio corresponding to the warming potential of CO_2 over a 100-year period is used as a baseline. The atmospheric lifetime and GWP of selected GHGs are summarized in Table 4, *Global Warming Potentials and Atmospheric Lifetimes*.

Table 4
GLOBAL WARMING POTENTIALS AND ATMOSPHERIC LIFETIMES

Greenhouse Gas	Atmospheric Lifetime (years)	IPCC SAR GWP	IPCC AR4 GWP	IPCC AR5 GWP
Carbon Dioxide (CO_2)	50-200	1	1	1
Methane (CH_4)	12	21	25	28
Nitrous Oxide (N_2O)	114	310	298	265
HFC-134a	14	1,300	1,430	1,300

Greenhouse Gas	Atmospheric Lifetime (years)	IPCC SAR GWP	IPCC AR4 GWP	IPCC AR5 GWP
PFC: Tetrafluoromethane (CF_4)	50,000	6,500	7,390	6,630
PFC: Hexafluoroethane (C_2F_6)	10,000	9,200	12,200	11,100
Sulfur Hexafluoride (SF_6)	3,200	23,900	22,800	23,500

Source: IPCC 2007

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

2.2.3 Federal Greenhouse Gas Regulations

2.2.3.1 Federal Clean Air Act

The U.S. Supreme Court ruled on April 2, 2007, in *Massachusetts v. U.S. Environmental Protection Agency* that CO_2 is an air pollutant, as defined under the CAA, and that the USEPA has the authority to regulate emissions of GHGs. The USEPA announced that GHGs (including CO_2, CH_4, N_2O, HFC, PFC, and SF_6) threaten the public health and welfare of the American people (USEPA 2023b). This action was a prerequisite to finalizing the USEPA's GHG emissions standards for light-duty vehicles, which were jointly proposed by the USEPA and the United States Department of Transportation's National Highway Traffic Safety Administration (NHTSA).

On June 30, 2022, the U.S. Supreme Court decision published in West Virginia v. U.S. Environmental Protection Agency overturned the USEPA's Clean Power Plan rule, which cited Section 111(d) of the CAA for authority to set limits on CO_2 emissions from existing coal- and natural-gas-fired power plants. The June 30, 2022 decision does not overturn the April 2, 2007 decision; however, it may limit the USEPA's authority to develop rules limiting GHG emissions without clear congressional authorization.

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

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

2.2.4 California Greenhouse Gas Regulations

2.2.4.1 California Code of Regulations, Title 24, Part 6

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

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

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

2.2.4.2 California Green Building Standards Code

The California Green Building Standards Code (CALGreen; CCR Title 24, Part 11) is a code with mandatory requirements for all nonresidential buildings (including industrial buildings) and residential buildings for which no other state agency has authority to adopt green building standards. The current 2019 Standards for new construction of, and additions and alterations to, residential and nonresidential buildings went into effect on January 1, 2020 (California Building Standards Commission [CBSC] 2019). The CBSC approved the 2022 CALGreen standards on October 22, 2021. Buildings whose permit applications are applied for on or after January 1, 2023, must comply with the 2022 CALGreen standards.

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

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

2.2.4.3 Executive Order S-3-05

On June 1, 2005, Executive Order (EO) S-3-05 proclaimed that California is vulnerable to climate change impacts. It declared that increased temperatures could reduce snowpack in the Sierra Nevada, further exacerbate California's air quality problems, and potentially cause a rise in sea levels. To avoid or reduce

climate change impacts, EO S-3-05 calls for a reduction in GHG emissions to the year 2000 level by 2010, to year 1990 levels by 2020, and to 80 percent below 1990 levels by 2050.

2.2.4.4 Assembly Bill 32 – Global Warming Solution Act of 2006

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

2.2.4.5 Executive Order B-30-15

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

2.2.4.6 Senate Bill 32

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

2.2.4.7 Assembly Bill 197

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

2.2.4.8 Assembly Bill 1493 – Vehicular Emissions of Greenhouse Gases

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

requirements for greater numbers of zero-emission vehicles into a single packet of standards called Advanced Clean Cars (CARB 2023d).

2.2.4.9 Assembly Bill 341

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

2.2.4.10 Executive Order S-01-07

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

2.2.4.11 Senate Bill 350

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

2.2.4.12 Senate Bill 375

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

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

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

Alternative Planning Strategy categorized as "transit priority projects" would receive incentives to streamline CEQA processing.

2.2.4.13 Senate Bill 100

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

2.2.4.14 Executive Order B-55-18

EO B-55-18, signed by Governor Brown on September 10, 2018, establishes a statewide goal to achieve carbon neutrality as soon as possible, and no later than 2045, and achieve and maintain net negative emissions thereafter.

2.2.4.15 Executive Order N-79-20

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

2.2.4.16 Assembly Bill 1279

Approved by Governor Newsom on September 16, 2022, AB 1279, the California Climate Crisis Act, declares the policy of the State to achieve net zero GHG emissions as soon as possible, but no later than 2045, and achieve and maintain net negative GHG emissions thereafter, and to ensure that by 2045, statewide anthropogenic GHG emissions are reduced to at least 85 percent below the 1990 levels. AB 1279 anticipates achieving these policies through direct GHG emissions reductions, removal of CO_2 from the atmosphere (carbon capture), and an almost complete transition away from fossil fuels.

2.2.4.17 Senate Bill 905

Approved by Governor Newsom on September 16, 2022, SB 905, Carbon Sequestration: Carbon Capture, Removal, Utilization, and Storage Program, requires CARB to establish a Carbon Capture, Removal, Utilization, and Storage Program to evaluate the efficacy, safety, and viability of carbon capture, utilization, or storage technologies and CO_2 removal technologies and facilitate the capture and sequestration of CO_2 from those technologies, where appropriate. SB 905 is an integral part of achieving the state policies mandated in AB 1279.

2.2.4.18 California Air Resources Board: Scoping Plan

The Scoping Plan is a strategy CARB develops and updates at least once every five years, as required by AB 32. It lays out the transformations needed across California's society and economy to reduce emissions and reach climate targets. The current 2022 Scoping Plan is the third update to the original plan that was adopted in 2008. The initial 2008 Scoping Plan laid out a path to achieve the AB 32

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

2.2.5 Regional GHG Policies and Plans

2.2.5.1 Sacramento Area Council of Governments

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

2.2.5.2 County of Sacramento

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

As part of an update to the General Plan, the County is preparing a new Community Wide CAP which will be a qualified GHG reduction plan in accordance with Section 15183.5 of the CEQA Guidelines (County 2021). As of this analysis, the new Community Wide CAP and Addendum to the General Plan Update Environmental Impact Report is in progress. At the time of this analysis, the addendum EIR has not been certified and the new Community Wide CAP has not been adopted.

2.2.5.3 Sacramento Municipal Utility District

In April 2021, the Sacramento Municipal Utility District (SMUD; the electricity provider for Sacramento County, including the project site) Board of Directors approved the 2030 Zero Carbon Plan to achieve a goal of carbon neutral operations and carbon free electricity delivered to customers by 2030. The 2030 Zero Carbon Plan includes the retirement of natural gas-powered generation plants, installation of

utility-owned and customer-owned renewable energy generation and energy storage, and research on new technologies and business models (SMUD 2021).

3.0 EXISTING CONDITIONS

3.1 SURROUNDING LAND USES

The project site is located in a generally suburban residential area. The project site is currently vacant, contains no structures, and is primarily covered by grass/ruderal vegetation. Land uses surrounding the project site include: multi-family residences adjacent to the project site to the east, across Manzanita Avenue to the west, and across Manzanita Avenue and Winding Way to the northwest; single-family residences to the south across Jan Drive, and to the southwest across Manzanita Avenue; senior living apartments to the northeast across Winding Way; and retail development to the north across Winding Way, to the west across Manzanita Avenue, and adjacent to the project site to the south (see Figure 2).

3.2 SENSITIVE RECEPTORS

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

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

The closest sensitive receptors to the project site are multi-family houses adjacent to the project site to the east. The closest existing sensitive receptors to the proposed gas station are multi-family residences approximately 385 feet northwest (across Manzanita Avenue and Winding Way) of the proposed project gas pump location. The closest school to the project site is the Options for Youth Charter School, approximately 345 feet to the west (across Manzanita Avenue).

3.3 CLIMATE AND METEOROLOGY

The climate of the SVAB is characterized by hot dry summers and mild rainy winters. During the year, the temperature may range from 20 to 115 degrees Fahrenheit with summer highs usually in the 90s and winter lows occasionally below freezing. Average annual rainfall is about 20 inches with snowfall being very rare. The prevailing winds are moderate in strength and vary from moist breezes from the south to dry land flows from the north. The mountains surrounding the Sacramento Valley create a barrier to airflow, which can trap air pollutants in the valley when certain meteorological conditions are right, and a temperature inversion (areas of warm air overlying areas of cooler air) exists. Air stagnation

in the autumn and early winter occurs when large high-pressure cells lie over the valley. The lack of surface wind during these periods and the reduced vertical flow caused by less surface heating reduces the influx of outside air and allows pollutants to become concentrated in the air. The surface concentrations of pollutants are highest when these conditions are combined with increased levels of smoke or when temperature inversions trap cool air, fog, and pollutants near the ground. The ozone season (May through October) in the SVAB is characterized by stagnant morning air or light winds with the breeze arriving in the afternoon out of the southwest from the San Francisco Bay. Usually, the evening breeze transports the airborne pollutants to the north out of the SVAB. During about half of the days from July to September, however, a phenomenon called the "Schultz Eddy" prevents this from occurring. Instead of allowing for the prevailing wind patterns to move north carrying the pollutants out of the valley, the Schultz Eddy causes the wind pattern and pollutants to circle back southward. This phenomenon's effect exacerbates the pollution levels in the area and increases the likelihood of violating the federal and state air quality standards (SMAQMD 2020a).

The predominant wind direction in the vicinity of the project site is from the southeast and the average wind speed is approximately 6.1 mph, as measured at the Sacramento McClellan Airport, approximately 4 miles northwest of the project site (Iowa Environmental Mesonet [IEM] 2021). The annual average maximum temperature in the project area, as measured at the Sacramento 5 ESE climatic station, approximately 8 miles southwest of the project site, is approximately 73.1 degrees Fahrenheit (°F), and the annual average minimum temperature is approximately 49.8°F. Total precipitation in the project area averages approximately 18.2 inches annually. Precipitation occurs mostly during the winter and relatively infrequently during the summer (Western Regional Climate Center [WRCC] 2017).

3.4 EXISTING AIR QUALITY

3.4.1 Criteria Pollutants

3.4.1.1 Attainment Designations

Attainment designations are discussed in Section 2.1 and Table 2. Sacramento County is a federal nonattainment area for the 8-hour ozone and $PM_{2.5}$ NAAQS. Sacramento County is also a state nonattainment area for 1-hour and 8-hour ozone and PM_{10} CAAQS.

3.4.1.2 Monitored Air Quality

The SMAQMD maintains monitoring stations to measure ambient concentrations of pollutants in the county. The closest monitoring station is the Sacramento-Del Paso Manor monitoring station, approximately 3 miles southwest of the project site. Table 5, *Air Quality Monitoring Data*, presents a summary of the ambient pollutant concentrations monitored at Del Paso Manor monitoring station during the most recent three years (2020 through 2022) for which the SMAQMD has reported data.

Table 5
AIR QUALITY MONITORING DATA

Pollutant Standard	2020	2021	2022
Ozone (O_3)			
Maximum concentration 1-hour period (ppm)	0.120	0.110	0.092
Maximum concentration 8-hour period (ppm)	0.085	0.091	0.073
Days above 1-hour state standard (>0.09 ppm)	4	7	0

Pollutant Standard	2020	2021	2022
Days above 8-hour state/federal standard (>0.070 ppm)	10	18	3
Coarse Particulate Matter (PM_{10})			
Maximum 24-hour concentration (µg/m^3)	188.0	63.0	41.0
Measured Days above 24-hr state standard (>50 µg/m^3)	17	2	1
Measured Days above 24-hr federal standard (>150 µg/m^3)	1	0	0
Annual average (µg/m^3)	30.5	18.3	18.6
Exceed state annual standard (20 µg/m^3)	Yes	No	No
Fine Particulate Matter ($PM_{2.5}$)			
Maximum 24-hour concentration (µg/m^3)	147.3	90.0	42.3
Measured Days above 24-hour federal standard (>35 µg/m^3)	27	5	10
Annual average (µg/m^3)	14.6	10.2	10.0
Exceed state and federal annual standard (12 µg/m^3)	Yes	No	No
Nitrogen Dioxide (NO_2)			
Maximum 1-hour concentration (ppm)	0.046	0.024	0.034
Days above state 1-hour standard (0.18 ppm)	0	0	0
Days above federal 1-hour standard (0.100 ppm)	0	0	0
Annual average (ppm)	0.005	*	0.005
Exceed annual federal standard (0.053 ppm)	No	*	No
Exceed annual state standard (0.030 ppm)	No	*	No

Source: CARB 2023e

ppb = parts per billion; ppm = parts per million; µg/m^3 = micrograms per cubic meter; * = insufficient data available

As shown in Table 5, The 1- and 8-hour ozone, PM_{10}, and $PM_{2.5}$ standards were exceeded numerous times in each of the sample years. Data for NO_2 showed no exceedances.

3.4.2 Greenhouse Gases

In 2020, total GHG emissions worldwide were estimated at 50,510 million metric tons (MMT) of CO_2e emissions (Climate Watch 2023). By country, the U.S. contributed the second largest portion (10.5 percent) of global GHG emissions, behind China with 24.4 percent of global emission. The total U.S. GHG emissions were 5,290 MMT CO_2e in 2020 (Climate Watch 2022). On a national level, approximately 90 percent of GHG emissions were associated with energy, including transportation energy (Climate Watch 2023).

CARB performed statewide inventories for the years 1990 to 2020, as shown in Table 6, *California Greenhouse Gas Emissions by Sector*. The inventory is divided into five broad sectors of economic activity: agriculture, commercial and residential, electricity generation, industrial, and transportation. Emissions are quantified in MMT CO_2e.

Table 6
CALIFORNIA GREENHOUSE GAS EMISSIONS BY SECTOR

Sector	1990 Emissions (MMT CO_2e)	2000 Emissions (MMT CO_2e)	2010 Emissions (MMT CO_2e)	2020 Emissions (MMT CO_2e)
Agriculture and Forestry	18.9 (4%)	31.0 (7%)	33.7 (8%)	31.6 (9%)
Commercial and Residential	44.1 (10%)	45.8 (10%)	52.2 (12%)	38.7 (10%)
Electricity Generation	110.5 (26%)	105.4 (22%)	90.6 (20%)	59.5 (16%)

Sector	1990 Emissions (MMT CO_2e)	2000 Emissions (MMT CO_2e)	2010 Emissions (MMT CO_2e)	2020 Emissions (MMT CO_2e)
Industrial	105.3 (24%)	105.8 (22%)	101.8 (23%)	73.3 (20%)
Transportation	150.6 (35%)	183.2 (39%)	170.2 (38%)	135.8 (37%)
Unspecified Remaining	1.3 (<1%)	0.0 (0%)	0.0 (0%)	30.2 (8%)
TOTAL	**430.7**	**471.1**	**448.5**	**369.1**

Source: CARB 2007 and CARB 2023f
MMT = million metric tons; CO2e = carbon dioxide equivalent

As shown in Table 6, statewide GHG source emissions totaled 431 MMT CO_2e in 1990, 471 MMT CO_2e in 2000, 449 MMT CO_2e in 2010, and 369 MMT CO_2e in 2020. Transportation-related emissions consistently contribute the most GHG emissions, followed by electricity generation and industrial emissions (CARB 2007; CARB 2023f).

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

Table 7
SACRAMENTO COUNTY GREENHOUSE GAS EMISSIONS BY SECTOR (MT CO_2e)

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

Source: Sacramento County 2021
MT = metric tons; CO_2e = carbon dioxide equivalent

4.0 METHODOLOGY AND SIGNIFICANCE CRITERIA

4.1 METHODOLOGY

Criteria pollutant and GHG emissions were calculated using the California Emissions Estimator Model (CalEEMod), Version 2022.1.1.21. CalEEMod is a computer model used to estimate air emissions resulting from land development projects throughout the state of California. CalEEMod was developed by CAPCOA in collaboration with the California air quality management and pollution control districts.

The calculation methodology, source of emission factors used, and default data is described in the CalEEMod User's Guide, and User's Guide Appendices C, D, and G (CAPCOA 2022).

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

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

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

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

4.1.1 Construction Emissions

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

4.1.1.1 Construction Activities

Construction emissions were calculated based on an estimated earliest feasible construction start date of July 2024, and on CalEEMod default construction activity lengths for the project land uses and size. The quantity, duration, and intensity of construction activity influence the amount of construction emissions and related pollutant concentrations that occur at any one time. As such, the emission forecasts provided herein reflect a specific set of conservative assumptions based on the expected construction scenario wherein a relatively large amount of construction activity is occurring in a relatively intensive manner. Because of this conservative assumption, actual emissions could be less than those forecasted. If construction is delayed or occurs over a longer time period, emissions could be reduced because of: (1) a more modern and cleaner-burning construction equipment fleet mix than

assumed in CalEEMod; and/or (2) a less intensive buildout schedule (i.e., fewer daily emissions occurring over a longer time interval).

The construction activities and schedule were modeled using CalEEMod defaults and assumptions based on project characteristics. Construction activities would include demolition, site preparation, grading, paving, building construction, and architectural coatings. The project site is currently vacant and contains no structures, however, demolition activities would remove approximately 1,510 cubic yards (CY) of old asphalt. Construction is assumed to occur five days per week with equipment operating up to eight hours per day. Per estimates from the project applicant, grading would result in approximately 45,000 CY of cut and 45,000 CY of fill, balanced on-site (no import or export of soil). To account for rough grading in Parcel A (see Figure 4), the grading duration was increased from 30 days to 35 days, corresponding to the increase in default grading duration with an additional 6.2 acres. Based on estimates using aerial images, an export of 3,100 CY of vegetation was assumed during site preparation. Based on the estimated paved area and assuming an average depth of 6 inches of aggregate and asphalt, approximately 5,408 CY of aggregate/asphalt/concrete would be imported during paving. Architectural coating was assumed to occur concurrently with the last 6 months of building construction. The construction schedule assumed in the modeling is shown in Table 8, *Anticipated Construction Schedule*.

Table 8
ANTICIPATED CONSTRUCTION SCHEDULE

Construction Activity	Construction Period Start	Construction Period End	Number of Working Days
Demolition	7/1/2024	7/29/2024	20
Site Preparation	7/30/2024	8/13/2024	10
Grading	8/14/2024	10/1/2024	35
Paving	10/2/2024	10/29/2024	20
Building Construction	10/30/2024	12/23/2024	300
Architectural Coatings	6/24/2024	12/23/2024	131

Source: CalEEMod

4.1.1.2 Construction Off-Road Equipment

Construction would require the use of heavy off-road equipment. Construction equipment estimates are based on CalEEMod defaults. A water truck was assumed to be used during demolition, site preparation, and grading. Table 9, *Construction Equipment Assumptions*, presents a summary of the assumed equipment that would be involved in each stage of construction.

Table 9
CONSTRUCTION EQUIPMENT ASSUMPTIONS

Equipment	Horsepower	Number	Hours/Day
Demolition			
Concrete/Industrial Saws	33	1	8
Excavators	36	3	8
Rubber-Tired dozers	367	2	8
Water Trucks	376	1	4
Site Preparation			
Water Truck	376	1	4

Equipment	Horsepower	Number	Hours/Day
Rubber Tired Dozers	367	3	8
Tractors/Loaders/Backhoes	84	4	8
Grading			
Excavators	36	2	8
Graders	148	1	8
Water Trucks	376	1	4
Rubber Tired Dozers	367	1	8
Scrapers	423	2	8
Tractors/Loaders/Backhoes	84	2	8
Paving			
Pavers	81	2	8
Paving Equipment	89	2	8
Rollers	36	2	8
Building Construction			
Cranes	367	1	7
Forklifts	82	3	8
Generator Sets	14	1	8
Tractors/Loaders/Backhoes	84	3	7
Welders	46	1	8
Architectural Coating			
Air Compressors	37	1	6

Source: CalEEMod

4.1.1.3 Construction On-Road Trips

Worker commute trips and vendor delivery trips were modeled based on CalEEMod defaults. Worker trips are anticipated to vary between 15 and 48 trips per day, depending on construction activity. Approximately 150 truckloads of old asphalt would be exported over 20 days during demolition, approximately 194 truckloads of vegetation would be exported over 10 days during site preparation, and approximately 338 loads of aggregate/asphalt/concrete would be imported over 20 days during paving. The CalEEMod default worker, vendor and haul trip distances were used in the model.

4.1.2 Operation Emissions

Operational GHG emissions impacts were estimated using CalEEMod. Operational sources of emissions include area, energy, transportation, water use, solid waste, and refrigerants. Operational emissions were estimated for the first anticipated full year of project operation (2026).

Emissions of ROGs from the proposed project retail gasoline dispensing activities were calculated using emission factors in pounds of total organic gases per 1,000 gallons of gasoline throughput from CARB's *Revised Emission Factors for Gasoline Marketing Operations at California Gasoline Dispensing Facilities* (CARB 2013). A printout of the ROG calculation sheet is included in Appendix B to this letter.

4.1.2.1 Area Source Emissions

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

4.1.2.2 Energy Emissions

Development within the project would use electricity for lighting, heating, cooling, and other appliances. Electricity generation typically entails the combustion of fossil fuels, including natural gas and coal, which is then transmitted to end users. A building's electricity use is thus associated with the off-site, or indirect, emission of GHGs at the source of electricity generation (power plant).

Energy source emissions were estimated assuming implementation of energy-reducing project design features to comply with the 2022 Title 24 standards which include a requirement for new residential buildings with three or fewer residential floors, and most new commercial/retail buildings, to have on-site generation of electricity through photovoltaic (solar) panels. Based on the anticipated average home size of 2,000 SF (per the project applicant), the project's residential buildings (81 dwelling units) total approximately 129,600 SF of conditioned space (building floor area less unconditioned garage space) and would require solar panels producing a minimum of 193 kilowatts (kW).[2] The 29,150 SF of project commercial building conditioned space would require solar panels producing a minimum of 47 kW. The annual electricity generated by a rooftop mounted solar power system varies by the climate, amount of sunlight available per day, the pitch and orientation of the roof, and the efficiency of the electrical transmission. A capacity factor (CF) of 18.57 percent, which accounts for climate, daylight hours, roof pitch and orientation, and transmission loss was calculated using the National Renewable Energy Laboratory PVWatts Calculator, using project site coordinates and assuming a solar panel orientation of 180 degree azimuth, 30 degree tilt (National Renewable Energy Laboratory 2023). the power produced by the project's solar panels would be approximately 390,301 kilowatt-hours (kWhr) per year.[3] The complete solar power requirement calculations are included in Appendix C to this report. The calculated electricity produced by the minimum required solar panels was applied in CalEEMod using measure E-10-B, Establish Onsite Renewable Energy Systems: Solar Power.

As described in the GHG impact analysis, below, all projects which utilize the SMAQMD's standards to determine the significance of GHG emissions must implement project energy BMPs, including the requirement that all new land use development be designed without natural gas appliances or natural gas infrastructure, or offset the GHG emissions resulting from any use of natural gas required by the project. Accordingly, for the project residential component and the commercial convenience market and retail shops, the CalEEMod default natural gas use was converted to equivalent kWhr of electricity (1 kilo British Thermal Unit [kBTU] of natural gas equals approximately 0.293 KWhr of electricity) which was added to the CalEEMod default electricity use. The project natural gas use for the residential and commercial convenience market and retail shops was then set to zero. The project's restaurants may require the use of natural gas for cooking appliances. Therefore, the default CalEEMod natural gas use was used for the project's retail/restaurant component non-Title 24 natural gas, and the Title-24 natural gas use was converted to kWhr and added to the Title 24 default electricity use.

[2] Per the 2019 Title 24 residential building energy efficiency requirements, the minimum solar electrical generation required is calculated by kW = (CFA x A)/1000 + (DU * B), where CFA is the conditioned floor area, A is 0.613 (climate zone 12 adjustment factor), DU is the total number of dwelling units, and B is 1.4 (climate zone 12 dwelling unit factor).

[3] Solar kWhr per year can be calculated by: kWhr/year = Power Output (kW) x 24 hours/day x 365 days/year x CF, where CF is a capacity factor which accounts for climate, daylight hours, roof pitch and orientation, and transmission loss. For typical California residential systems, the CF can range between 17% and 22.5%. A CF of 20% was used in the project calculations.

4.1.2.3 Vehicular (Mobile) Sources

Operational emissions from mobile source emissions are associated with project-related vehicle trip generation and trip length. Per the project updated trip generation analysis, the project would result in 4,832 average daily trips, including internal capture and pass-by reductions (Wood Rodgers 2023). The CalEEMod default trip distances were used. Because the trip generation accounts for internal capture and pass-by trip reductions, all project retail trips were assumed to be 100 percent primary trips.

4.1.2.4 Solid Waste Sources

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

4.1.2.5 Water Sources

Water-related GHG emissions are from the conveyance and treatment of water. CalEEMod uses the CEC's 2006 *Refining Estimates of Water-Related Energy Use in California* to establish default water-related emission factors. Except for the car wash (see below for car wash water use details), modeling was conducted using the CalEEMod defaults.

4.1.2.6 Car Wash Energy and Water Use

CalEEMod does not have default data for a car wash land use. Data from professional car wash industry surveys and reports was used to estimate the energy and water requirements for the proposed car wash. The annual number vehicles washed for the project was estimated based on a 2015 industry survey which reported an average of approximately 80,000 vehicles per year for exterior-only automated conveyor car washes (Professional Car Washing 2017). The energy requirements for the car wash were estimated using car wash industry survey cost averages of $0.50 per vehicle for electricity and $0.12 per vehicle for natural gas (Professional Car Washing 2014). The cost of $0.50 for electricity was converted to 4.69 kWhr per vehicle for electricity based on an average cost of $0.1066 per kwh for commercial customers in the U.S. in 2017 (USEIA 2018a) for a total annual electricity use of 375,200 kWhr per year. The cost of $0.12 for natural gas was converted to 15.79 kBtu per vehicle for natural gas based average cost of $7.88 per 1,000 cubic feet for commercial customers in the U.S. in 2017 (USEIA 2018b) for a total annual natural gas use of 1,263,200 kBTU per year. Because the project would be required to be all-electric, the car wash natural gas use was converted to the equivalent electricity use of 370,200 kWhr, resulting in a total project car wash electricity use of 745,400 kWhr per year. According to a report on water conservation from the International Car wash association, typical freshwater use for an automated conveyor car wash without water reclamation is 65.8 gallons per vehicle (International Carwash Association 2000). California AB 2230, signed by the Governor in 2012, requires that any conveyor car wash installed after 2013 reuse a minimum of 60 percent of the water previously used in the wash or rinse cycles. Therefore, the proposed car wash would reclaim at least 39.5 gallons per vehicle for a total water use of 26.3 gallons per vehicle. Based on 80,000 vehicles washed per year, the estimated water use for the proposed car wash would be 2,104,000 gallons per year.

4.2 SIGNIFICANCE CRITERIA

4.2.1 Air Quality

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

1. Conflict with or obstruct implementation of the Regional Ozone Plan, or applicable portions of the SIP; or

2. Result in a cumulatively considerable net increase of any criteria pollutant for which Sacramento County is non-attainment under an applicable NAAQS or CAAQS; or

3. Expose sensitive receptors to substantial pollutant concentrations; or

4. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

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

Table 10
SMAQMD THRESHOLDS OF SIGNIFICANCE

Pollutant	Construction	Operation
Mass Daily Thresholds (pounds per day)		
VOC	85	65
NO_X	None	65
PM_{10}	80[1]	80[1]
$PM_{2.5}$	82[1]	82[1]
Toxic Air Contaminants		
TACs	Maximum Incremental Cancer Risk ≥ 10 in 1 million Chronic & Acute Hazard Index ≥ 1.0 (project increment)	

Pollutant	Construction	Operation
Ambient Air Quality for Criteria Pollutants		
NO_2	1-hour average ≥ 0.18 ppm Annual average ≥ 0.03 ppm	
CO	1-hour average ≥ 20.0 ppm (state) 8-hour average ≥ 9.0 ppm (state/federal)	
SO_2	1-hour average ≥ 0.075 ppm 24-hour average ≥ 0.04 ppm	
Lead	1.5 µg/m³ 30-day average	

Source: SMAQMD 2020c

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

lbs./day = pounds per day; VOC = volatile organic compound; NO_X = nitrogen oxides; CO = carbon monoxide; PM_{10} = respirable particulate matter with a diameter of 10 microns or less; $PM_{2.5}$ = fine particulate matter with a diameter of 2.5 microns or less; SO_X = sulfur oxides; TACs = toxic air contaminants; GHG = greenhouse gas emissions; MT/yr. = metric tons per year; CO_2e = carbon dioxide equivalent; NO_2 = nitrogen dioxide; ppm = parts per million; µg/m³ = micrograms per cubic meter

4.2.2 Greenhouse Gases

Given the relatively small levels of emissions generated by a typical development in relationship to the total amount of GHG emissions generated on a national or global basis, individual development projects are not expected to result in significant, direct impacts with respect to climate change. However, given the magnitude of the impact of GHG emissions on the global climate, GHG emissions from new development could result in significant, cumulative impacts with respect to climate change. Therefore, the potential for a significant GHG impact is limited to cumulative impacts.

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

(1) Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment; or

(2) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.

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

The SMAQMD has adopted GHG emissions standards of significance for land use development projects that lead agencies can use to determine the significance of a project's emissions in relation to the County meeting the State GHG reduction mandates for the year 2030. The SMAQMD recommends a construction period GHG emissions threshold of 1,100 MT CO_2e per year. Where a qualified GHG Reduction Plan has not been adopted by the lead agency, for operational period GHG emissions, the SMAQMD recommends a screening level of 1,100 MT CO_2e per year. For all projects, regardless of project GHG emission levels, the SMAQMD requires implementation of Tier 1 Best Management Practices (BMPs). Projects that do not implement the Tier 1 Best Management Practices must conduct additional calculations to determine excess GHG emissions and provide measures either on-site or off-site to provide equivalent mitigation (SMAQMD 2020c):

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

For projects which exceed 1,100 MT CO_2e per year operational screening level emissions, the SMAQMD requires implementation of Tier 2 BMPs (SMAQMD 2020c):

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

SCAQMD's Tier 1 and Tier 2 BMPs are consistent with the priority areas and related actions outlined in CARB's 2022 Scoping Plan Appendix D, Local Actions. Per the 2022 Scoping Plan Appendix D, local jurisdictions should focus on these three priority areas: transportation electrification, VMT reduction, and building decarbonization (CARB 2022b). The 2022 Scoping Plan lays out a path to achieve targets for carbon neutrality and reduce anthropogenic GHG emissions by 85 percent below 1990 levels no later than 2045, as directed by Assembly Bill 1279. As described in SMAQMD's justification supporting their adopted GHG thresholds, the Tier 1 and Tier 2 BMPs are set to ensure individual land use development project contribute a fair share of the reductions required to meet the State GHG reduction mandates (SMAQMD 2020d).

5.0 AIR QUALITY IMPACT ANALYSIS

This section evaluates potential direct impacts of the proposed project related to the air pollutant emissions. Project-level air quality modeling was completed as part of this analysis. Complete modeling results are included as Appendix A of this report.

5.1 ISSUE 1: CONFLICT WITH APPLICABLE AIR QUALITY PLANS

5.1.1 Impacts

In accordance with SMAQMD's CEQA Guide, construction-generated NO_X, PM_{10}, and $PM_{2.5}$, and operational-generated ROG and NO_X (ozone precursors) are used to determine consistency with the Regional Ozone Plan. The Guide states (SMAQMD 2020a, p. 4-6):

> *By exceeding the District's mass emission thresholds for operational emissions of ROG, NO_X, PM_{10}, or $PM_{2.5}$, the project would be considered to conflict with or obstruct implementation of the District's air quality planning efforts.*

As shown in the Section 5.2, below, the project's construction-generated emissions of NO_X, PM_{10}, and $PM_{2.5}$ and operation-generated emissions ROG and NO_X would not exceed SMAQMD thresholds. Therefore, the project would not conflict with or obstruct implementation of SMAQMD's Regional Ozone Plan.

5.1.2 Significance of Impacts

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

5.1.3 Mitigation Framework

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

5.1.4 Significance After Mitigation

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

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

By its very nature, air pollution is largely a cumulative impact. The nonattainment status of regional pollutants is a result of past and present development within Sacramento County. The Sacramento region is in non-attainment for ozone (ozone precursors NO_X and ROG) and particulate matter ($PM_{2.5}$ and PM_{10}). The project's emissions of these criteria pollutants and precursors during construction and operation are evaluated below.

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

5.2.1.1 Construction

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

Table 11
MAXIMUM DAILY CONSTRUCTION EMISSIONS

Activity	ROG (lbs./day)	NO_X (lbs./day)	CO (lbs./day)	SO_X (lbs./day)	PM_{10} (lbs./day)	$PM_{2.5}$ (lbs./day)
Demolition – Summer 2024	3.0	31.8	26.4	<0.1	4.2	1.6
Site Preparation – Summer 2024	4.1	43.1	37.8	<0.1	10.3	5.8
Grading – Summer 2024	3.8	35.9	33.1	<0.1	5.3	2.9
Paving – Winter 2024	1.9	13.0	12.5	<0.1	1.2	0.6
Building Construction – Winter 2024	1.4	12.2	15.3	<0.1	1.0	0.6
Building Construction – Winter 2025	1.3	11.4	15.1	<0.1	1.0	0.5
Building Construction and Architectural Coating – Summer 2025	15.3	12.2	17.4	<0.1	1.1	0.6
Building Construction and Architectural Coating – Winter 2025	15.3	12.3	16.6	<0.1	1.1	0.6
Maximum Daily Emissions	**15.3**	**43.1**	**37.8**	**<0.1**	**10.3**	**5.8**
SMAQMD Thresholds	*None*	*85*	*None*	*None*	*80*[1]	*82*[1]
Exceed Threshold?	***No***	***No***	***No***	***No***	***No***	***No***

Source: CalEEMod; Thresholds SMAQMD 2020c

[1] SMAQMD PM thresholds are zero unless all feasible Beast Available Control Practices/Best Management Practices are applied.
lbs./day = pounds per day; ROG = reactive organic gas; NO_X = nitrogen oxides; CO = carbon monoxide; SO_X = sulfur oxides; PM_{10} = particulate matter 10 microns or less in diameter; $PM_{2.5}$ = particulate matter 2.5 microns or less in diameter

As shown in Table 11, emissions of criteria pollutants and precursors would not exceed the SMAQMD significance thresholds. Nevertheless, the SMAQMD recommends a set of BCECPs, considered by the SMAQMD to be feasible for controlling fugitive dust from a construction site. The practices also serve as BMPs, allowing the use of the non-zero PM significance thresholds. The SMAQMD recommends lead agencies should add these emission control practices as Conditions of Approval (COA) or include in a mitigation measure (SMAQMD 2019). Without implementation of the BCECPs, construction emissions of PM_{10} and $PM_{2.5}$ would be potentially significant. Mitigation Measure AQ-1 would require implementation of the SMAQMD's recommended BCECPs.

5.2.1.2 Operation

The project's operational emissions were estimated using CalEEMod as described in Section 4.1.2. Model outputs are provided in Appendix A to this report. Table 12, *Maximum Daily Operational Emissions*, presents the summary of maximum daily operational emissions compared to the SMAQMD thresholds. The energy source emissions shown assume implementation of mitigation measure GHG-1 requiring all project building to be all-electric (no natural gas) with the exception of restaurant cooking equipment, see the full discussion of mitigation measure GHG-1 in Section 6.1, below.

Table 12
MAXIMUM DAILY OPERATIONAL EMISSIONS

Source	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Area	5.3	<0.1	5.9	<0.1	<0.1	<0.1
Energy	<0.1	0.4	0.3	<0.1	<0.1	<0.1
Mobile	22.1	25.2	214.1	0.5	40.4	10.5
Gas Station Gasoline Vapor	3.7	-	-	-	-	-
Total Daily Emissions[1]	**27.4**	**25.6**	**20.3**	**0.5**	**40.4**	**10.5**
SMAQMD Thresholds	*65*	*65*	*None*	*None*	*80[2]*	*82[2]*
Exceed Threshold?	***No***	***No***	***No***	***No***	***No***	***No***

Source: CalEEMod; Thresholds SMAQMD 2020c

[1] Totals may not sum due to rounding.

[2] SMAQMD PM thresholds are zero unless all feasible Beast Available Control Practices/Best Management Practices are applied.

ROG = reactive organic gas; NO_X = nitrogen oxides; CO = carbon monoxide; SO_X = sulfur oxides;
PM_{10} = particulate matter 10 microns or less in diameter; $PM_{2.5}$ = particulate matter 2.5 microns or less in diameter

As shown in Table 12, long-term emissions of criteria pollutants and precursors would not exceed the SMAQMD thresholds. Nevertheless, to allow the use of non-zero PM significance thresholds the SMAQMD recommends implementation of BMPs, considered by the SMAQMD to be feasible for reducing operational PM_{10} and $PM_{2.5}$ emissions from land use development projects, as described in Section 2.1.4, above. Compliance with these BMPs is required by SMAQMD and State regulations. However, for BMP 4, the SMAQMD recommends industrial and retail projects post signage informing the public and truck drivers of the State diesel-powered commercial vehicle idling regulations. Without implementation of the operational BMPs, construction emissions of PM_{10} and $PM_{2.5}$ would be potentially significant. Mitigation measure AQ-2 would require signage per SMAQMD's recommendations.

5.2.2 Significance of Impacts

While short-term construction and long-term operation of the project would not result in criteria pollutant and precursor pollutant emissions that would exceed the SMAQMD significance thresholds, implementation of the project would result in an increase of emissions of PM_{10} and $PM_{2.5}$ compared to existing conditions. The SMAQMD considers any increase in construction or operational PM emissions to be significant unless the construction BCECPs and operational BMPs are implemented. Therefore, mitigation measure AQ-1 would be required to enforce implementation of the SMAQMD construction BCECPs, and mitigation measure AQ-2 would be required to implement the SMAQMD operational BMP recommendation to post signage at project commercial entrances informing the public and truck drivers of the State diesel-powered commercial vehicle idling regulations.

5.2.3 Mitigation Framework

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

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

- Water all exposed surfaces two times daily. Exposed surfaces include, but are not limited to soil piles, graded areas, unpaved parking areas, staging areas, and access roads.

- Cover or maintain at least two feet of free board space on haul trucks transporting soil, sand, or other loose material on the site. Any haul trucks that would be traveling along freeways or major roadways should be covered.

- Use wet power vacuum street sweepers to remove any visible trackout mud or dirt onto adjacent public roads at least once a day. Use of dry power sweeping is prohibited.

- Limit vehicle speeds on unpaved roads to 15 mph.

- All roadways, driveways, sidewalks, parking lots to be paved should be completed as soon as possible. In addition, building pads should be laid as soon as possible after grading unless seeding or soil binders are used.

- Minimize idling time by either shutting equipment off when not in use or reducing time of idling to 5 minutes. Provide clear signage that posts this requirement for workers at the entrances to the site; and

- Maintain all construction equipment in proper working condition according to manufacturer's specifications. The equipment must be checked by a certified mechanic and determined to be running in proper condition before it is operated.

AQ-2 **Commercial Vehicle Idling.** Prior to issuing occupancy permits for any of the project's commercial buildings, the City shall verify that commercial vehicle idling signs are installed at all project driveways where commercial vehicles may enter the project site. The signs shall be easily readable by a driver from the cab of a truck entering the site. The signs shall include the following information:

- Diesel-powered commercial motor vehicles with more than 10,000 gross vehicular weight rating shall not idle on the project site for more than 5 minutes per Title 13, CCR, section 2485; and

- Report an idling violation to the California Air Resources Board by calling 1-800-END-SMOG (1-800-363-7664); and

- Report an idling violation to the project retail development property management (provide phone number).

5.2.4 Significance After Mitigation

With the implementation of mitigation measures AQ-1 and AQ-2, the project would not result in a cumulatively considerable net increase of any criteria pollutant for which Sacramento Region is non-attainment, and the impact would be less than significant.

5.3 ISSUE 3: IMPACTS TO SENSITIVE RECEPTORS

5.3.1 Impacts

5.3.1.1 Construction Activities

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

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

5.3.1.2 Operational Activities

Regional Criteria Pollutants

As discussed in Section 5.2 and shown in Table 12, above, long-term operation of the project would result in emissions of criteria pollutants and precursors. Any source of criteria pollutant or precursor emissions has the potential to result in air pollution-related community health risks, described in Table 1, above. The results shown in Table 12 include mobile source emissions (i.e., on-road vehicle exhaust and dust emissions). As discussed in Section 6.2, below, the Sacramento Department of Transportation has concluded that the project would not result in an increase in regional VMT (Sacramento Department of Transportation 2023). Therefore, the project's mobile source emissions are not new to the region and would not result in any regional increases in air pollution-related health effects. Without consideration of mobile sources, the project's operational emissions would be 9.0 pounds per day ROG; 0.4 pounds per day NO_X; and less than 0.1 pounds per day each of PM_{10} and $PM_{2.5}$. Although modeling techniques exist to simulate the complex regional photochemical reactions which form ozone and secondary PM_{10} and $PM_{2.5}$, and techniques exist to quantify the resultant health effects from regional distributions of

criteria pollutants, the modeling has a high degree of uncertainty. The results from regional modeling of small sources of emissions, such as the project emissions, are not statistically meaningful.

As discussed in Section 2.1, the NAAQS and CAAQS identify concentrations of pollutants in the ambient air below which no adverse effects on the public health and welfare are anticipated. The SMAQMD's criteria pollutant and precursor thresholds, discussed in Section 4.2.1, are set such that a project that does not result in emissions exceeding the threshold would not result in a new violation, or exacerbate and existing violation of, the NAAQs and CAAQs. As discussed in Section 5.2, the project would not result in criteria pollutant and precursor pollutant emissions that would exceed the SMAQMD significance thresholds. Therefore, the project would not expose sensitive receptors to substantial regional criteria pollutant concentrations.

Localized Criteria Pollutants

According to the SMAQMD, land use development projects do not typically have the potential to result in localized concentrations of criteria air pollutants that expose sensitive receptors to substantial pollutant concentrations. This is because criteria air pollutants are predominantly generated in the form of mobile-source exhaust from vehicle trips associated with the land use development project. These vehicle trips occur throughout a paved network of roads, and, therefore, associated exhaust emissions of criteria air pollutants are not generated in a single location where high concentrations could be formed. However, there may be unique situations where a project with high levels of emissions may require concentration modeling to determine if the emissions will expose sensitive receptors to substantial pollutant concentrations (SMAQMD 2020a). SMAQMD does not have a threshold for mass emissions of CO, but the project's emissions of ROG, NO_X PM_{10} and $PM_{2.5}$ are well below the SMAQMD's thresholds, indicating that the project does not have high levels of emissions. Therefore, the project would not expose sensitive receptors to substantial localized criteria pollutant concentrations, including localized concentration of CO from exhaust emissions, or "CO hotspots."

TAC Emissions

The project would include a retail gas station. As described in Section 2.1.1.2, above, gasoline refueling stations can be a source of TAC emissions. The health risks associated with emissions from gasoline refueling stations are related to the anticipated volume of gasoline dispensed and to the distance to the nearest sensitive receptors. CARB provides a risk assessment screening tool to estimate potential health risks based on gasoline throughput, distance to receptors, and gasoline vapor control technology (CARB 2022d). Per the project applicant, the proposed gas station would have a maximum annual throughput of gasoline of 3 million gallons per year. For all gasoline dispensing from stationary storage tanks larger than 250 gallons, CARB and SMAQMD regulations require a permit and the installation of Enhanced Vapor Recovery Systems (EVR) for the storage tank (EVR Phase I) and the dispensing nozzle (EVR Phase II) to control emissions of gasoline vapor. The CARB screening tool contains selectable meteorological data sets for 2 rural and 4 urban example locations. The CARB screening tool does not contain any metrological data sets for the Sacramento area. The Fresno metrological data was most representative of project site conditions (urban setting and central valley location). Based on the highest anticipated throughput, distance to the closest off-site sensitive receptors (385 feet; 117 meters), distance to the closest off-site worker and acute receptor locations (200 feet; 61 meters) required gasoline vapor control technology, and the Fresno metrological data set, the CARB screening tool calculated that maximum increased residential cancer risk would be 1.29 in 1 million, the maximum increased worker cancer risk would be 0.23 in 1 million, the maximum non-cancer chronic hazard index would be 0.01,

and the maximum acute Hazard Index would be 0.12, below the SMAQMD thresholds of 10 in 1 million increased cancer risk and 1.0 Hazard Index. The CARB Gasoline Service Station Assessment Tool printout is included as Appendix D to this report. As described in Section 2.1.1, diesel refueling stations are not a significant source of TAC emissions. Therefore, operation of the project gas station would not expose sensitive receptors to substantial concentrations of TACs.

New Sensitive Receptors

As a residential development, the project would site new sensitive receptors. The CARB siting recommendations within the Air Quality and Land Use Handbook suggest a detailed health risk assessment should be conducted for proposed sensitive receptors within 1,000 feet of a warehouse distribution center, within 300 feet of a large gas station (defined as a facility with a throughput of 3.6 million gallons per year or greater), within 50 feet of a typical gas dispensing facilities, within 300 feet of a dry cleaning facility that uses perchloroethylene (PCE), or 500 feet of an urban road with 100,000 or more vehicles per day (CARB 2005). The closest existing gas station to the project site (a small gas station with 8 dispensing stations) is located approximately 200 feet northwest of the project residential lots, beyond of the CARB minimum sensitive receptor siting distance from typical gas stations. The proposed project gas station would be approximately 140 feet from the closest project residential lot, beyond the CARB minimum sensitive receptor siting distance from typical gas stations. There are no dry-cleaning facilities that use perchloroethylene within 1,000 feet of the project site. In addition, the closest high-volume urban roadway would be interstate 80 (I-80), approximately 1.9 miles northwest of the project site. Therefore, future project residents would not be exposed to substantial concentrations of TACs.

5.3.2 Significance of Impacts

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

5.3.3 Mitigation Framework

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

5.3.4 Significance After Mitigation

Impacts related to exposure of sensitive receptors to substantial pollutant concentrations would be less than significant.

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

5.4.1 Impacts

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

According to SMAQMD, typical land uses which could generate significant odor impacts include wastewater treatment plants, sanitary landfills, composting/green waste facilities, recycling facilities, petroleum refineries, chemical manufacturing plants, painting/coating operations, rendering plants, and food packaging plants (SMAQMD 2020a). The project would not include any of these land uses. The project would include a retail gas station which can be a source of gasoline vapor odors. However, the gas station would be required by SMAQMD and CARB regulations to install and maintain gasoline vapor control systems which would also control odors from gasoline vapors. In addition, gas stations are not listed by SAMQD as typical land uses which would result in odor impacts. Therefore, the project would not result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

5.4.2 Significance of Impacts

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

5.4.3 Mitigation Framework

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

5.4.4 Significance After Mitigation

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

6.0 GREENHOUSE GAS IMPACT ANALYSIS

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

6.1 ISSUE 1: GREENHOUSE GAS EMISSIONS

6.1.1 Construction Emissions

Project construction GHG emissions were estimated using the CalEEMod model as described in Section 4.1.1. Project-specific input was based on general information provided in Section 1.0 and default model settings to estimate reasonably conservative conditions. Additional details of construction activity, selection of construction equipment, and other input parameters, are included in the CalEEMod output in Appendix A.

Emissions of GHGs related to the construction of the project would be temporary. As shown in Table 13, *Construction GHG Emissions*, the annual project construction emissions would not exceed the SMAQMD threshold.

Table 13
CONSTRUCTION GHG EMISSIONS

Year	Emissions (MT CO_2e)
2024	334
2025	388
Maximum	**388**
SMAQMD Threshold	*1,100*
Exceed Threshold?	**No**

Source: CalEEMod; Threshold SMAQMD 2020c
GHG = greenhouse gas; MT = metric tons; CO_2e = carbon dioxide equivalent

6.1.2 Operational Emissions

Project operational GHG emissions were estimated using CalEEMod as described in Section 4.1.2. Unmitigated project operational emissions are compared to the SMAQMD threshold in Table 14, *Unmitigated Operational GHG Emissions*. The energy source emissions shown assume implementation of mitigation measure GHG-1 requiring all project building to be all-electric (no natural gas) with the exception of restaurant cooking equipment, see the full discussion of mitigation measure GHG-1 below.

Table 14
UNMITIGATED OPERATIONAL GHG EMISSIONS

Emission Sources	2020 Emissions (MT CO_2e)
Area	2.0
Energy	563.5
Vehicular (Mobile)	7,260.3
Solid Waste	79.3
Water	13.8
Refrigerants	182.7
TOTAL[1]	**8,461.6**
SMAQMD Screening Level	*1,100*
Exceed Screening Level?	**Yes**

Source: CalEEMod; Threshold SMAQMD 2020c
[1] Totals may not sum due to rounding.
GHG = greenhouse gas; MT = metric tons; CO_2e = carbon dioxide equivalent

To use the SMAQMD's land use development project GHG emissions significance criteria, SMAQMD requires all project to implement the Tier 1 GHG reduction BMPs, regardless of the projects' GHG emission levels, or provide measures to implement equivalent mitigation. As shown in Table 14, the project's operational GHG emissions would exceed the SMAQMD operational screening level of 1,100 MT CO_2e per year and the project would be required to implement the SMAQMD's Tier 2 BMPs.

Tier 2 GHG reduction BMP 3 requires residential projects to achieve a 15 percent reduction in vehicle miles traveled per resident compared to existing average vehicle miles traveled for the county, and retail projects to achieve a no net increase in total vehicle miles traveled. The Department of Transportation evaluated the project's VMT impacts under CEQA and concluded the residential portion of the project is located in an area that produces VMT that is 85 percent or less than the regional average, and that the

retail portion of the project site would be classified as local serving retail. (Sacramento County Department of Transportation 2023). According to the California Office of Planning and Research's (OPR's) *Technical Advisory on Evaluating Transportation Impacts in CEQA,* local serving retail tends to shorten trips and reduce VMT and stores larger than 50,000 SF generally would not be considered local serving (OPR 2018). The project's total retail space would be approximately 29,150 SF and would be considered local serving. Therefore, the project retail portion would not result in a net increase in total VMT, and the project would meet the requirements of SMAQMD's Tier 2 GHG reduction BMP 3.

6.1.3 Significance of Impacts

Project construction GHG impacts would not exceed the SMAQMD's threshold and would be less than significant. Project operational GHG emissions would exceed the SMAQMD's screening level of 1,100 MT CO_2e threshold. However, the project would meet the VMT requirements of the SMAQMD's Tier 2 GHG reduction BMP 3. Because SMAQMD requires all land use development projects to implement the Tier 1 GHG reduction BMPs, the project's operational GHG emissions impact would be potentially significant.

6.1.4 Mitigation Framework

The project's 5 retail/restaurant buildings may require the use of natural gas, primarily for cooking appliances. The actual amount of natural gas use depends on the tenants for the buildings and the type of cooking appliance installed, neither of which has been determined at the time of this analysis. CalEEMod calculations using default natural gas use setting for the 5 proposed restaurants (3 restaurants with drive throughs totaling 10,450 SF and 2 restaurants without drive throughs totaling 4,380 SF) show a total non-title-24 natural gas use of 1,420,418 kBTU per year. Based on the CalEEMod default non-title 24 (e.g., cooking appliance) natural gas use for restaurants, project restaurant cooking appliances would result approximately 75.6 MT CO2e per year from the use of natural gas, or approximately 2,268 MT CO2e over the typical 30-year lifespan of commercial/retail projects. The actual project natural gas use may be lower than calculated in CalEEMod. Mitigation measure GHG-1 would require the project to implement the SMAQMD's Tier 1 GHG reduction BMP 1 and BMP 2 with no natural gas use allowed for building heating or hot water and options to either offset the 75.6 MT CO2e per year calculated in CalEEMod from cooking appliances, or offset GHG emissions calculated using natural gas consumption specifications for actual restaurant appliances.

The following mitigation measure would require the project to implement the SMAQMD Tier 1 GHG reduction BMPs or equivalent alternatives:

GHG-1 SMAQMD Tier 1 Best Management Practices for GHG Emission Reductions. The project shall implement the SMAQMD Tier 1 GHG Reduction Best Management Practices or implement equivalent alternate mitigation approved by the County. Prior to issuing each project building permit, the County shall verify that project documentation includes the following BMPs, or alternate equivalent mitigation described below for natural gas used by cooking appliances, and all applicable offset evidence has been submitted and meets standards defined below:

- **SMAQMD Tier 1 BMP 1** – The project buildings shall be designed and constructed without natural gas infrastructure, with exceptions only for natural gas required for restaurant cooking equipment. In the event that the project applicant has determined that use of natural gas is necessary for operation of any of the project's restaurant buildings (for cooking equipment only), the restaurant building(s) shall include the necessary electrical

infrastructure to facilitate the replacement of natural gas appliances with electrical appliances in the future, and the project applicant shall retire carbon offsets in a quantity sufficient to offset 100 percent of the project's GHG emissions resulting from the use of natural gas over the project building lifespan of 30 years. Building electrical infrastructure shall include sufficient power supply for the addition of electric commercial cooking appliances, sufficient panel space for electric cooking appliance circuits, and prewiring for electric cooking appliances from the panel to the kitchen area(s). The carbon offsets retired shall total a minimum of 0.15 MT CO_2e per square foot of restaurant space in any project building which would use natural gas for cooking appliances (based on project modeling disclosed within this analysis—2,268 MT CO_2e total over a 30-year period for all 5 restaurant buildings totaling 15,280 square feet).

Alternately, a lower amount of carbon offsets shall be retired based on calculations prepared by a qualified expert (and submitted to the County for verification) using natural gas consumption data for actual natural gas appliances to be installed (if any) in any project building restaurant space.

Payment of fees for the retirement of carbon offsets for each project building which would use natural gas shall be made:

- In the full amount to offset 30 years of natural gas use (as described above) prior to the issuance of the building permit; or

- At the discretion of the County, in periodic payments, provided that the quantities of carbon offsets retired, and the payment periods are specified in a contract entered into between the project Applicant, the County, and a County-approved carbon offset program or broker. Periodic payments shall continue for 30 years commencing with issuance of the building permit, or until the project Applicant submits updated plans to the County that verifies all natural gas appliances have been removed from the building or natural gas supply has been terminated.

Carbon offset retirement shall be accomplished through an accredited carbon offset program approved by the County. Prior to the issuance of any building permit that includes a restaurant using natural gas cooking equipment, the project applicant shall provide evidence to County that carbon offsets in the amounts discussed above have been retired. Such evidence must comply with the requirements described under *Reporting and Enforcement Standards* below.

Carbon Offset Standards – Eligible Registries, Acceptable Protocols and Defined Terms

"Carbon offset" shall mean an instrument, credit or other certification verifying the reduction of GHG emissions issued by the Climate Action Reserve, the American Carbon Registry, or Verra (previously, the Verified Carbon Standard). This shall include, but is not limited to, an instrument, credit or other certification issued by these registries for GHG reduction activities. The project shall neither purchase offsets from the Clean Development Mechanism (CDM) registry nor purchase offsets generated under CDM protocols. Further, no carbon offsets shall originate from international areas, as discussed under *Locational Performance Standards*, below. Qualifying carbon offsets presented for compliance with this mitigation measure may be used provided that the evidence required by the *Reporting and*

Enforcement Standards below is submitted to the County demonstrating that each registry shall continue its existing practice of requiring the following for the development and approval of protocols or methodologies:

1) Adherence to established GHG accounting principles set forth in the International Organization for Standardization (ISO) 14064, Part 2 or the World Resources Institute/World Business Council for Sustainable Development (WRI/WBCSD) Greenhouse Gas Protocol for Project Accounting; and

2) Oversight of the implementation of protocols and methodologies that define the eligibility of carbon offset projects and set forth standards for the estimation, monitoring and verification of GHG reductions achieved from such projects. The protocols and methodologies shall:

    a) Be developed by the registries through a transparent public and expert stakeholder review process that affords an opportunity for comment and is informed by science;

    b) Incorporate standardized offset crediting parameters that define whether and how much emissions reduction credit a carbon offset project should receive, having identified conservative project baselines and the length of the crediting period and considered potential leakage and quantification uncertainties;

    c) Establish data collection and monitoring procedures, mechanisms to ensure permanency in reductions, and additionality and geographic boundary provisions; and

    d) Adhere to the principles set forth in the program manuals of each of the aforementioned registries; as such manuals are updated from time to time. The current registry documentation includes the Climate Action Reserve's *Reserve Offset Program Manual* (November 2019) and *Climate Forward Program Manual* (March 2020); the American Carbon Registry's *Requirements and Specifications for the Quantification, Monitoring, Reporting, Verification, and Registration of Project-Based GHG Emissions Reductions and Removals* (July 2019); and Verra's *VCS Standard*, *Program Guide* and *Methodology Requirements* (September 2019).

The registry-administered protocols and methodologies for the carbon offset project types cited above – including updates to those protocols and methodologies as may occur from time to time by the registries in accordance with the registry documentation listed in the prior paragraph to ensure the continuing efficacy of the reduction activities – are eligible for use under this mitigation measure, provided that any updated protocols shall be provided for County review as required by *Reporting and Enforcement Standards* below prior to the County's acceptance of offsets based on such updated protocols.

Further, any carbon offset used to reduce the project's GHG emissions shall be a carbon offset that represents the past or forecasted reduction or sequestration of one metric ton of carbon dioxide equivalent that is "not otherwise required" (CEQA Guidelines §15126.4I(3)). Each carbon offset used to reduce GHG emissions shall achieve additional, real, permanent, quantifiable, verifiable, and enforceable reductions, which are defined for purposes of this mitigation measure as follows:

1) Additional means that the carbon offset is not otherwise required by law or regulation, and not any other GHG emissions reduction that otherwise would occur.

2) Real means that the GHG reduction underlying the carbon offset results from a demonstrable action or set of actions, and is quantified under the protocol or methodology using appropriate, accurate, and conservative methodologies that account for all GHG emissions sources and sinks within the boundary of the applicable carbon offset project, uncertainty, and the potential for activity-shifting leakage and market-shifting leakage.

3) Verifiable means that the GHG reduction underlying the carbon offset is well documented, transparent and set forth in a document prepared by an independent verification body that is accredited through the American National Standards Institute (ANSI).

4) Permanent means that the GHG reduction underlying the carbon offset is not reversible; or, when GHG reduction may be reversible, that a mechanism is in place to replace any reversed GHG emission reduction.

5) Quantifiable means the ability to accurately measure and calculate the GHG reduction relative to a project baseline in a reliable and replicable manner for all GHG emission sources and sinks included within the boundary of the carbon offset project, while accounting for uncertainty and leakage.

6) Enforceable means that the implementation of the GHG reduction activity must represent the legally binding commitment of the offset project developer to undertake and carry it out.

The protocols and methodologies cited previously establish and require carbon offset projects to comply with standards designed to achieve additional, real, permanent, quantifiable, verifiable and enforceable reductions. Additionally, the *Reporting and Enforcement Standards* below ensure that the emissions reductions required by this mitigation measure are enforceable against the project applicant, as the County has authority to hold the project applicant accountable and to take appropriate corrective action if the County determines that any carbon offsets do not comply with the requirements set forth in this mitigation measure.

The above definitions are provided as criteria and performance standards associated with the use of carbon offsets. Such criteria and performance standards are intended only to further construe the standards under CEQA for mitigation related to GHG emissions (see, e.g., CEQA Guidelines §15126.4(a), (c)), and are not intended to apply or incorporate the requirements of any other statutory or regulatory scheme not applicable to the project (e.g., the Cap-and-Trade Program).

Locational Performance Standards

All carbon offsets required to reduce the project's GHG emissions shall originate from the following geographic locations (in order of priority): (1) off-site, unincorporated areas of the County of Sacramento; (2) off-site, incorporated areas of the County of Sacramento; (3) off-

site areas within the State of California; and (4) off-site areas within the United States. No carbon offsets shall originate from off-site, international areas. As listed, geographic priorities would focus first on local reduction options to ensure that reduction efforts achieved locally would provide cross-over, co-benefits to other environmental resource areas.

For purposes of implementing this mitigation measure, the County shall require the carbon offsets to adhere to the following locational performance standards in order to reduce the project's operational GHG emissions:

1) The project shall use all feasible available carbon offsets within the County of Sacramento (the first priority is within unincorporated areas of the County and the second priority is within incorporated areas of the County). "Available," for purposes of this subdivision, means that the project applicant provides objective, verifiable evidence to the County documenting that such carbon offsets are available for retirement from carbon offset projects within the subject geography no later than at the time of application for grading permit issuance. The objective, verifiable evidence to be provided includes a market survey report that shall comply with the following content requirements:

    a) Identification of the carbon registry listings reviewed for carbon offset availability, including the related date of inquiry; and

    b) Identification of the geographic attributes of carbon offsets that are offered for sale and available for retirement.

2) In the event that a sufficient quantity of carbon offsets is not "available" in the County of Sacramento, the project shall obtain the remaining carbon offsets needed from within the State of California (third priority). For the definition of "available," see subdivision 1) immediately above.

3) In the event that a sufficient quantity of carbon offsets is not "available" in the County of Sacramento or State of California, the project shall obtain the remaining carbon offsets needed from within the United States (fourth priority). For the definition of "available," see subdivision 1) immediately above.

Reporting and Enforcement Standards

Over the course of build out of the project and prior to issuance of requested building permits, the project applicant shall submit reports to the County that identify the quantity of emission reductions required by this mitigation measure, as well as the carbon offsets to be retired to achieve compliance with this measure. For purposes of demonstrating that each offset is additional, real, permanent, quantifiable, verifiable and enforceable, the reports shall include: (i) the applicable protocol(s) and methodologies associated with the carbon offsets, (ii) the third-party verification report(s) and statement(s) affiliated with the carbon offset projects, (iii) the unique serial numbers assigned by the registry(ies) to the carbon offsets to be retired, which serves as evidence that the registry has determined the carbon offset project to have been implemented in accordance with the applicable protocol or methodology and ensures that the offsets cannot be further used in any manner, and (iv)

the locational attributes of the carbon offsets. The reports also shall append the market survey report described in the *Locational Performance Standards* provision above.

If the County determines that the project's carbon offsets do meet the requirements of this mitigation measure, the offsets can be used to reduce project GHG emissions and project permits shall be issued. If the County determines that the project's carbon offsets do not meet the requirements of this mitigation measure, the offsets cannot be used to reduce project GHG emissions and project permits shall not be issued. Additionally, the County may issue a notice of non-consistency and cease permitting activities in the event that the County determines the carbon offsets provided to reduce project GHG emissions are not compliant with the aforementioned standards. In the event of such an occurrence, project permitting activities shall not resume until the project applicant has demonstrated that the previously provided carbon offsets are compliant with the standards herein *or* has provided substitute carbon offsets achieving the standards of this mitigation measure in the quantity needed to achieve the required emission reduction.

- **SMAQMD Tier 1 BMP 2** – The project shall meet the current CALGreen Tier 2 standards, except the minimum number of electric vehicle capable spaces shall instead be electric vehicle ready, defined below:

    - Electric vehicle capable means that a raceway (the enclosed conduit that forms the physical pathway for electrical wiring to protect it from damage) and adequate panel capacity to accommodate future installation of a dedicated branch circuit and charging station(s) has been installed.

    - Electric vehicle ready means that all electric vehicle capable features have been installed and dedicated branch circuit(s) (electrical pre-wiring), circuit breakers, and other electrical components, including a receptacle (240-volt outlet) or junction box, needed to support future charging station(s) have been installed.

6.1.5 Significance After Mitigation

Project mitigated operational emissions are compared to the SMAQMD threshold in Table 15, *Mitigated Operational GHG Emissions*. The energy source emissions shown assume implementation of mitigation measure GHG-1 requiring all project buildings to be all-electric (no natural gas) with the exception of restaurant cooking equipment.

Table 15
MITIGATED OPERATIONAL GHG EMISSIONS

Emission Sources	2020 Emissions (MT CO_2e)
Area	2.0
Energy	449.3
Vehicular (Mobile)	7,260.3
Solid Waste	79.3
Water	13.8
Refrigerants	182.7
TOTAL[1]	**8,347.4**

Emission Sources	2020 Emissions (MT CO_2e)
SMAQMD Screening Level	*1,100*
Exceed Screening Level?	**Yes**

Source: CalEEMod; Threshold SMAQMD 2020c

[1] Totals may not sum due to rounding.

GHG = greenhouse gas; MT = metric tons; CO_2e = carbon dioxide equivalent

As shown in Table 15, mitigation measure GHG-1 would slightly reduce project energy source emissions (from 563.5 MT CO_2e per year to 449.3 MT CO_2e per year) in the first full year of project operation (2026). Project GHG emissions from energy sources would be expected to reduce further in future years as the State's electrical supply is decarbonized.

The SMAQMD considers land use development projects which implement the Tier 1 and Tier 2 BMPs (discussed in Section 4.2.2) to have less than significant GHG emissions impacts. Therefore, with implementation of mitigation measure GHG-1, the project would not generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment, and the impact would be less than significant with mitigation implemented.

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

6.2.1 Impacts

There are numerous State plans, policies, and regulations adopted for the purpose of reducing GHG emissions. The principal overall State plan and policy is AB 32, the California Global Warming Solutions Act of 2006. The quantitative goal of AB 32 is to reduce GHG emissions to 1990 levels by 2020. SB 32 would require further reductions of 40 percent below 1990 levels by 2030. Because the project's operational year is post-2020, the project aims to reach the quantitative goals set by SB 32. Statewide plans and regulations such as GHG emissions standards for vehicles (AB 1493), the LCFS, and regulations requiring an increasing fraction of electricity to be generated from renewable sources are being implemented at the statewide level; as such, compliance at the project level is not addressed. Therefore, the proposed project would not conflict with those plans and regulations.

The project site has a General Plan land use designation of Transit Oriented Development (TOD) and is zoned Shopping Center (SC), Light Commercial (LC), and Multiple Family Residential 40 (RD-40) The project would be consistent with the General Plan designations for the site. The project's retail portion would be consistent with the SC zone. However, the project's single-family residential portion would require a rezone from SC and LC to Residential 10 (RD-10). As discussed in Section 6.1.2, above, the Sacramento County Department of Transportation concluded that the project's residential portion would result in VMT 15 percent or more below the regional average. The project's retail portion would be considered local serving and would not result in a net increase in regional VMT. In addition, the project retail area would include sidewalk improvements along the project street frontages, internal sidewalks connection the retail buildings, a pedestrian connection to the project residential area, and bicycle racks and bicycle lockers near the project retail buildings. By providing pedestrian and bicycle improvements and providing pedestrian connections between project residential and retail areas, the project would promote alternative transportation and reduce VMT. Therefore, changes in regional VMT as a result of the project would be accounted for in the SACOG's RTP/SCS.

The project must also be constructed in accordance with the energy-efficiency standards, water reduction goals, and other standards contained in the applicable Title 24 Part 6 Building Energy Efficiency Standards and Part 11 (CALGreen) Building Standards, including the requirement for onsite solar electricity generation. As discussed in Section 6.1, implementation of mitigation measure GHG-1, would require the project to meet the CALGreen Tier 2 standards and be designed and constructed without natural gas infrastructure (or offset natural gas used for restaurant cooking appliances), and would ensure the project's compliance with SMAQMD's BMPs for the reduction of GHG emissions. With implantation of mitigation measure GHG-1, the project's GHG emissions, in relation to the County meeting the State GHG reduction mandates for the year 2030 and the State's net zero carbon emissions by 2045 mandate, would be less than significant. As discussed in Section 4.2.2, the SMAQMD's land use development project GHG emission thresholds are aligned with the CARB's 2022 Scoping Plan local action priority areas. Therefore, the project would not conflict with CARB's Scoping Plan.

6.2.2 Significance of Impacts

With the implementation of mitigation measure GHG-1, the project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs, and the impact would be less than significant.

6.2.3 Mitigation Framework

Impacts would be less than significant with the implementation of GHG-1.

6.2.4 Significance After Mitigation

Impacts related to conflicts with GHG reduction plans, policies, and regulations would be less than significant with the implementation of GHG-1.

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Appendix A

CalEEMod Output

Winding Ranch R5 Unmitigated NG Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Winding Ranch R5 Unmitigated NG
Construction Start Date	7/1/2024
Operational Year	2026
Lead Agency	Sacramento County
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.50
Precipitation (days)	38.2
Location	38.64794328844977, -121.32677761172882
County	Sacramento
City	Unincorporated
Air District	Sacramento Metropolitan AQMD
Air Basin	Sacramento Valley
TAZ	677
EDFZ	13
Electric Utility	Sacramento Municipal Utility District
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.21

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description

Parking Lot	292	1000sqft	6.71	0.00	21,780	—	—	—
Fast Food Restaurant with Drive Thru	10.4	1000sqft	0.24	10,450	35,035	—	—	—
Single Family Housing	81.0	Dwelling Unit	8.82	162,000	948,741	—	227	—
Automobile Care Center	1.49	1000sqft	0.03	1,485	0.00	—	—	—
Convenience Market with Gas Pumps	5.20	1000sqft	0.12	5,201	20,170	—	—	—
Strip Mall	8.67	1000sqft	0.20	8,670	27,280	—	—	—
Fast Food Restaurant w/o Drive Thru	4.83	1000sqft	0.11	4,830	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-10-A	Water Exposed Surfaces
Construction	C-10-B	Water Active Demolition Sites
Construction	C-12	Sweep Paved Roads
Energy	E-10-B	Establish Onsite Renewable Energy Systems: Solar Power

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	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—

Unmit.	15.3	43.1	37.8	0.09	1.71	20.6	22.3	1.58	10.4	11.9	7.06	9,307
Mit.	15.3	43.1	37.8	0.09	1.71	8.61	10.3	1.58	4.19	5.76	7.06	9,307
% Reduced	—	—	—	—	—	58%	54%	—	60%	52%	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	15.3	35.9	32.8	0.07	1.50	9.43	10.9	1.38	3.71	5.09	0.16	7,522
Mit.	15.3	35.9	32.8	0.07	1.50	3.82	5.32	1.38	1.48	2.86	0.16	7,522
% Reduced	—	—	—	—	—	60%	51%	—	60%	44%	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	5.94	8.60	11.1	0.02	0.34	1.81	2.15	0.31	0.71	1.02	0.90	2,345
Mit.	5.94	8.60	11.1	0.02	0.34	0.87	1.21	0.31	0.31	0.63	0.90	2,345
% Reduced	—	—	—	—	—	52%	44%	—	56%	39%	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.08	1.57	2.03	< 0.005	0.06	0.33	0.39	0.06	0.13	0.19	0.15	388
Mit.	1.08	1.57	2.03	< 0.005	0.06	0.16	0.22	0.06	0.06	0.11	0.15	388
% Reduced	—	—	—	—	—	52%	44%	—	56%	39%	—	—
Exceeds (Daily Max)	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	85.0	—	—	—	—	—	80.0	—	—	82.0	—	—
Unmit.	No	—	—	—	—	—	No	—	—	No	—	—
Mit.	No	—	—	—	—	—	No	—	—	No	—	—
Exceeds (Average Daily)	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	85.0	—	—	—	—	—	80.0	—	—	82.0	—	—
Unmit.	No	—	—	—	—	—	No	—	—	No	—	—
Mit.	No	—	—	—	—	—	No	—	—	No	—	—

2.2. Construction Emissions by Year, Unmitigated

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

Year	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
2024	4.06	43.1	37.8	0.09	1.71	20.6	22.3	1.58	10.4	11.9	7.06	9,307
2025	15.3	12.2	17.4	0.03	0.46	0.59	1.06	0.43	0.14	0.57	3.15	3,514
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
2024	3.84	35.9	32.8	0.07	1.50	9.43	10.9	1.38	3.71	5.09	0.16	7,522
2025	15.3	12.3	16.6	0.03	0.46	0.59	1.06	0.43	0.14	0.57	0.08	3,449
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.92	8.60	8.18	0.02	0.34	1.81	2.15	0.31	0.71	1.02	0.59	2,017
2025	5.94	8.24	11.1	0.02	0.32	0.38	0.69	0.29	0.09	0.38	0.90	2,345
Annual	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.17	1.57	1.49	< 0.005	0.06	0.33	0.39	0.06	0.13	0.19	0.10	334
2025	1.08	1.50	2.03	< 0.005	0.06	0.07	0.13	0.05	0.02	0.07	0.15	388

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	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
2024	4.06	43.1	37.8	0.09	1.71	8.61	10.3	1.58	4.19	5.76	7.06	9,307
2025	15.3	12.2	17.4	0.03	0.46	0.59	1.06	0.43	0.14	0.57	3.15	3,514
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—

2024	3.84	35.9	32.8	0.07	1.50	3.82	5.32	1.38	1.48	2.86	0.16	7,522
2025	15.3	12.3	16.6	0.03	0.46	0.59	1.06	0.43	0.14	0.57	0.08	3,449
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.92	8.60	8.18	0.02	0.34	0.87	1.21	0.31	0.31	0.63	0.59	2,017
2025	5.94	8.24	11.1	0.02	0.32	0.38	0.69	0.29	0.09	0.38	0.90	2,345
Annual	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.17	1.57	1.49	< 0.005	0.06	0.16	0.22	0.06	0.06	0.11	0.10	334
2025	1.08	1.50	2.03	< 0.005	0.06	0.07	0.13	0.05	0.02	0.07	0.15	388

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	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	27.5	22.8	221	0.48	0.46	40.0	40.5	0.44	10.2	10.6	1,272	54,819
Mit.	27.5	22.8	221	0.48	0.46	40.0	40.5	0.44	10.2	10.6	1,272	54,520
% Reduced	—	—	—	—	—	—	—	—	—	—	—	1%
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	24.6	26.6	179	0.44	0.46	40.0	40.5	0.43	10.2	10.6	1,108	50,486
Mit.	24.6	26.6	179	0.44	0.46	40.0	40.5	0.43	10.2	10.6	1,108	50,186
% Reduced	—	—	—	—	—	—	—	—	—	—	—	1%
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	25.1	25.0	182	0.45	0.46	39.1	39.5	0.44	9.92	10.4	1,176	51,408
Mit.	25.1	25.0	182	0.45	0.46	39.1	39.5	0.44	9.92	10.4	1,176	51,109
% Reduced	—	—	—	—	—	—	—	—	—	—	—	1%
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—

Unmit.	4.58	4.56	33.1	0.08	0.08	7.13	7.21	0.08	1.81	1.89	195	8,511
Mit.	4.58	4.56	33.1	0.08	0.08	7.13	7.21	0.08	1.81	1.89	195	8,462
% Reduced	—	—	—	—	—	—	—	—	—	—	—	1%
Exceeds (Daily Max)	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	65.0	65.0	—	—	—	—	80.0	—	—	80.0	—	—
Unmit.	No	No	—	—	—	—	No	—	—	No	—	—
Mit.	No	No	—	—	—	—	No	—	—	No	—	—
Exceeds (Average Daily)	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	65.0	65.0	—	—	—	—	80.0	—	—	80.0	—	—
Unmit.	No	No	—	—	—	—	No	—	—	No	—	—
Mit.	No	No	—	—	—	—	No	—	—	No	—	—

2.5. Operations Emissions by Sector, Unmitigated

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

Sector	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	22.1	21.4	214	0.48	0.35	40.0	40.4	0.33	10.2	10.5	169	49,432
Area	5.27	0.06	5.93	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	17.8
Energy	0.08	1.35	0.80	0.01	0.11	—	0.11	0.11	—	0.11	—	3,703
Water	—	—	—	—	—	—	—	—	—	—	—	83.3
Waste	—	—	—	—	—	—	—	—	—	—	—	479
Refrig.	—	—	—	—	—	—	—	—	—	—	1,103	1,103
Total	27.5	22.8	221	0.48	0.46	40.0	40.5	0.44	10.2	10.6	1,272	54,819

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	19.9	25.2	178	0.43	0.35	40.0	40.4	0.33	10.2	10.5	4.37	45,117
Area	4.64	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Energy	0.08	1.35	0.80	0.01	0.11	—	0.11	0.11	—	0.11	—	3,703
Water	—	—	—	—	—	—	—	—	—	—	—	83.3
Waste	—	—	—	—	—	—	—	—	—	—	—	479
Refrig.	—	—	—	—	—	—	—	—	—	—	1,103	1,103
Total	24.6	26.6	179	0.44	0.46	40.0	40.5	0.43	10.2	10.6	1,108	50,486
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	19.9	23.6	177	0.44	0.35	39.1	39.4	0.33	9.92	10.3	72.8	46,027
Area	5.07	0.04	4.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	12.2
Energy	0.08	1.35	0.80	0.01	0.11	—	0.11	0.11	—	0.11	—	3,703
Water	—	—	—	—	—	—	—	—	—	—	—	83.3
Waste	—	—	—	—	—	—	—	—	—	—	—	479
Refrig.	—	—	—	—	—	—	—	—	—	—	1,103	1,103
Total	25.1	25.0	182	0.45	0.46	39.1	39.5	0.44	9.92	10.4	1,176	51,408
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	3.64	4.31	32.3	0.08	0.06	7.13	7.19	0.06	1.81	1.87	12.1	7,620
Area	0.93	0.01	0.74	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.02
Energy	0.01	0.25	0.15	< 0.005	0.02	—	0.02	0.02	—	0.02	—	613
Water	—	—	—	—	—	—	—	—	—	—	—	13.8
Waste	—	—	—	—	—	—	—	—	—	—	—	79.3
Refrig.	—	—	—	—	—	—	—	—	—	—	183	183
Total	4.58	4.56	33.1	0.08	0.08	7.13	7.21	0.08	1.81	1.89	195	8,511

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	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	22.1	21.4	214	0.48	0.35	40.0	40.4	0.33	10.2	10.5	169	49,432
Area	5.27	0.06	5.93	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	17.8
Energy	0.08	1.35	0.80	0.01	0.11	—	0.11	0.11	—	0.11	—	3,404
Water	—	—	—	—	—	—	—	—	—	—	—	83.3
Waste	—	—	—	—	—	—	—	—	—	—	—	479
Refrig.	—	—	—	—	—	—	—	—	—	—	1,103	1,103
Total	27.5	22.8	221	0.48	0.46	40.0	40.5	0.44	10.2	10.6	1,272	54,520
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	19.9	25.2	178	0.43	0.35	40.0	40.4	0.33	10.2	10.5	4.37	45,117
Area	4.64	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Energy	0.08	1.35	0.80	0.01	0.11	—	0.11	0.11	—	0.11	—	3,404
Water	—	—	—	—	—	—	—	—	—	—	—	83.3
Waste	—	—	—	—	—	—	—	—	—	—	—	479
Refrig.	—	—	—	—	—	—	—	—	—	—	1,103	1,103
Total	24.6	26.6	179	0.44	0.46	40.0	40.5	0.43	10.2	10.6	1,108	50,186
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	19.9	23.6	177	0.44	0.35	39.1	39.4	0.33	9.92	10.3	72.8	46,027
Area	5.07	0.04	4.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	12.2
Energy	0.08	1.35	0.80	0.01	0.11	—	0.11	0.11	—	0.11	—	3,404
Water	—	—	—	—	—	—	—	—	—	—	—	83.3
Waste	—	—	—	—	—	—	—	—	—	—	—	479
Refrig.	—	—	—	—	—	—	—	—	—	—	1,103	1,103
Total	25.1	25.0	182	0.45	0.46	39.1	39.5	0.44	9.92	10.4	1,176	51,109

Annual	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	3.64	4.31	32.3	0.08	0.06	7.13	7.19	0.06	1.81	1.87	12.1	7,620
Area	0.93	0.01	0.74	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.02
Energy	0.01	0.25	0.15	< 0.005	0.02	—	0.02	0.02	—	0.02	—	564
Water	—	—	—	—	—	—	—	—	—	—	—	13.8
Waste	—	—	—	—	—	—	—	—	—	—	—	79.3
Refrig.	—	—	—	—	—	—	—	—	—	—	183	183
Total	4.58	4.56	33.1	0.08	0.08	7.13	7.21	0.08	1.81	1.89	195	8,462

3. Construction Emissions Details

3.1. Demolition (2024) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.85	26.4	23.2	0.04	1.12	—	1.12	1.03	—	1.03	—	4,104
Demolition	—	—	—	—	—	3.37	3.37	—	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	1.45	1.27	< 0.005	0.06	—	0.06	0.06	—	0.06	—	225
Demolition	—	—	—	—	—	0.18	0.18	—	0.03	0.03	—	—
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

Annual	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.26	0.23	< 0.005	0.01	—	0.01	0.01	—	0.01	—	37.2
Demolition	—	—	—	—	—	0.03	0.03	—	0.01	0.01	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.06	1.14	0.00	0.00	0.18	0.18	0.00	0.04	0.04	0.83	206
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
Hauling	0.09	5.34	1.98	0.03	0.05	0.72	0.77	0.05	0.19	0.24	5.95	3,007
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	0.02	10.3
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
Hauling	< 0.005	0.31	0.11	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	0.14	165
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	< 0.005	1.70
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
Hauling	< 0.005	0.06	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	0.02	27.2

3.2. Demolition (2024) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.85	26.4	23.2	0.04	1.12	—	1.12	1.03	—	1.03	—	4,104
Demolition	—	—	—	—	—	2.16	2.16	—	0.33	0.33	—	—
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	1.45	1.27	< 0.005	0.06	—	0.06	0.06	—	0.06	—	225
Demolition	—	—	—	—	—	0.12	0.12	—	0.02	0.02	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.26	0.23	< 0.005	0.01	—	0.01	0.01	—	0.01	—	37.2
Demolition	—	—	—	—	—	0.02	0.02	—	< 0.005	< 0.005	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.06	1.14	0.00	0.00	0.18	0.18	0.00	0.04	0.04	0.83	206
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
Hauling	0.09	5.34	1.98	0.03	0.05	0.72	0.77	0.05	0.19	0.24	5.95	3,007
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	0.02	10.3
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

Hauling	< 0.005	0.31	0.11	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	0.14	165
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	< 0.005	1.70
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
Hauling	< 0.005	0.06	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	0.02	27.2

3.3. Site Preparation (2024) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.88	37.5	34.4	0.06	1.66	—	1.66	1.52	—	1.52	—	5,981
Dust From Material Movement	—	—	—	—	—	19.7	19.7	—	10.1	10.1	—	—
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	1.03	0.94	< 0.005	0.05	—	0.05	0.04	—	0.04	—	164
Dust From Material Movement	—	—	—	—	—	0.54	0.54	—	0.28	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.19	0.17	< 0.005	0.01	—	0.01	0.01	—	0.01	—	27.1

Dust From Material Movement	—	—	—	—	—	0.10	0.10	—	0.05	0.05	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.07	1.30	0.00	0.00	0.20	0.20	0.00	0.05	0.05	0.95	235
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
Hauling	0.09	5.48	2.04	0.04	0.05	0.74	0.79	0.05	0.20	0.25	6.12	3,090
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	0.01	5.86
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
Hauling	< 0.005	0.16	0.06	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	0.07	84.6
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	< 0.005	0.97
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
Hauling	< 0.005	0.03	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.01	14.0

3.4. Site Preparation (2024) - Mitigated

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

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

Off-Road Equipment	3.88	37.5	34.4	0.06	1.66	—	1.66	1.52	—	1.52	—	5,981
Dust From Material Movement	—	—	—	—	—	7.68	7.68	—	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	1.03	0.94	< 0.005	0.05	—	0.05	0.04	—	0.04	—	164
Dust From Material Movement	—	—	—	—	—	0.21	0.21	—	0.11	0.11	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.19	0.17	< 0.005	0.01	—	0.01	0.01	—	0.01	—	27.1
Dust From Material Movement	—	—	—	—	—	0.04	0.04	—	0.02	0.02	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.07	1.30	0.00	0.00	0.20	0.20	0.00	0.05	0.05	0.95	235
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
Hauling	0.09	5.48	2.04	0.04	0.05	0.74	0.79	0.05	0.20	0.25	6.12	3,090
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	0.01	5.86
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
Hauling	< 0.005	0.16	0.06	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	0.07	84.6
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	< 0.005	0.97
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
Hauling	< 0.005	0.03	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.01	14.0

3.5. Grading (2024) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.75	35.8	31.7	0.07	1.50	—	1.50	1.38	—	1.38	—	7,288
Dust From Material Movement	—	—	—	—	—	9.20	9.20	—	3.65	3.65	—	—
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.75	35.8	31.7	0.07	1.50	—	1.50	1.38	—	1.38	—	7,288
Dust From Material Movement	—	—	—	—	—	9.20	9.20	—	3.65	3.65	—	—
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.36	3.44	3.04	0.01	0.14	—	0.14	0.13	—	0.13	—	699
Dust From Material Movement	—	—	—	—	—	0.88	0.88	—	0.35	0.35	—	—
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	0.63	0.55	< 0.005	0.03	—	0.03	0.02	—	0.02	—	116
Dust From Material Movement	—	—	—	—	—	0.16	0.16	—	0.06	0.06	—	—
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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.07	1.46	0.00	0.00	0.23	0.23	0.00	0.05	0.05	1.07	265
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
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.10	1.07	0.00	0.00	0.23	0.23	0.00	0.05	0.05	0.03	234
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
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.11	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	0.04	23.1
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
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.01	3.82

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
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

3.6. Grading (2024) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.75	35.8	31.7	0.07	1.50	—	1.50	1.38	—	1.38	—	7,288
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.75	35.8	31.7	0.07	1.50	—	1.50	1.38	—	1.38	—	7,288
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.36	3.44	3.04	0.01	0.14	—	0.14	0.13	—	0.13	—	699
Dust From Material Movement	—	—	—	—	—	0.34	0.34	—	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.07	0.63	0.55	< 0.005	0.03	—	0.03	0.02	—	0.02	—	116
Dust From Material Movement	—	—	—	—	—	0.06	0.06	—	0.02	0.02	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.07	1.46	0.00	0.00	0.23	0.23	0.00	0.05	0.05	1.07	265
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
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.10	1.07	0.00	0.00	0.23	0.23	0.00	0.05	0.05	0.03	234
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
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.11	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	0.04	23.1
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
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.01	3.82
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
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

3.7. Building Construction (2024) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.20	11.2	13.1	0.02	0.50	—	0.50	0.46	—	0.46	—	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	1.38	1.62	< 0.005	0.06	—	0.06	0.06	—	0.06	—	297
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.25	0.30	< 0.005	0.01	—	0.01	0.01	—	0.01	—	49.1
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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.16	0.18	1.93	0.00	0.00	0.41	0.41	0.00	0.10	0.10	0.05	421
Vendor	0.02	0.82	0.28	< 0.005	0.01	0.10	0.11	0.01	0.03	0.03	0.03	421
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.24	0.00	0.00	0.05	0.05	0.00	0.01	0.01	0.10	53.4
Vendor	< 0.005	0.10	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	0.05	52.0
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	0.02	8.84
Vendor	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.01	8.61
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

3.8. Building Construction (2024) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.20	11.2	13.1	0.02	0.50	—	0.50	0.46	—	0.46	—	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	1.38	1.62	< 0.005	0.06	—	0.06	0.06	—	0.06	—	297
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.25	0.30	< 0.005	0.01	—	0.01	0.01	—	0.01	—	49.1
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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.16	0.18	1.93	0.00	0.00	0.41	0.41	0.00	0.10	0.10	0.05	421
Vendor	0.02	0.82	0.28	< 0.005	0.01	0.10	0.11	0.01	0.03	0.03	0.03	421
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.24	0.00	0.00	0.05	0.05	0.00	0.01	0.01	0.10	53.4
Vendor	< 0.005	0.10	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	0.05	52.0
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	0.02	8.84
Vendor	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.01	8.61
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

3.9. Building Construction (2025) - 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	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	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

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.79	7.30	9.11	0.02	0.30	—	0.30	0.28	—	0.28	—	1,681
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	1.33	1.66	< 0.005	0.06	—	0.06	0.05	—	0.05	—	278
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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.17	0.12	2.44	0.00	0.00	0.41	0.41	0.00	0.10	0.10	1.77	466
Vendor	0.02	0.72	0.27	< 0.005	0.01	0.10	0.11	0.01	0.03	0.03	1.03	415
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.15	0.15	1.80	0.00	0.00	0.41	0.41	0.00	0.10	0.10	0.05	413
Vendor	0.01	0.77	0.27	< 0.005	0.01	0.10	0.11	0.01	0.03	0.03	0.03	414
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.11	0.09	1.28	0.00	0.00	0.28	0.28	0.00	0.07	0.07	0.53	297
Vendor	0.01	0.53	0.19	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	0.31	289
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.23	0.00	0.00	0.05	0.05	0.00	0.01	0.01	0.09	49.1
Vendor	< 0.005	0.10	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	0.05	47.9
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

3.10. Building Construction (2025) - 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	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.79	7.30	9.11	0.02	0.30	—	0.30	0.28	—	0.28	—	1,681
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	1.33	1.66	< 0.005	0.06	—	0.06	0.05	—	0.05	—	278
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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.17	0.12	2.44	0.00	0.00	0.41	0.41	0.00	0.10	0.10	1.77	466
Vendor	0.02	0.72	0.27	< 0.005	0.01	0.10	0.11	0.01	0.03	0.03	1.03	415
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

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.15	0.15	1.80	0.00	0.00	0.41	0.41	0.00	0.10	0.10	0.05	413
Vendor	0.01	0.77	0.27	< 0.005	0.01	0.10	0.11	0.01	0.03	0.03	0.03	414
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.11	0.09	1.28	0.00	0.00	0.28	0.28	0.00	0.07	0.07	0.53	297
Vendor	0.01	0.53	0.19	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	0.31	289
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.23	0.00	0.00	0.05	0.05	0.00	0.01	0.01	0.09	49.1
Vendor	< 0.005	0.10	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	0.05	47.9
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

3.11. Paving (2024) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.85	7.81	10.0	0.01	0.39	—	0.39	0.36	—	0.36	—	1,517
Paving	0.88	—	—	—	—	—	—	—	—	—	—	—
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.05	0.43	0.55	< 0.005	0.02	—	0.02	0.02	—	0.02	—	83.1
Paving	0.05	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.08	0.10	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	13.8
Paving	0.01	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.07	0.72	0.00	0.00	0.15	0.15	0.00	0.04	0.04	0.02	156
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
Hauling	0.08	5.14	1.79	0.03	0.05	0.64	0.69	0.05	0.17	0.22	0.14	2,686
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	0.02	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
Hauling	< 0.005	0.28	0.10	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	0.13	147
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	< 0.005	1.46
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
Hauling	< 0.005	0.05	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	0.02	24.4

3.12. Paving (2024) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.85	7.81	10.0	0.01	0.39	—	0.39	0.36	—	0.36	—	1,517
Paving	0.88	—	—	—	—	—	—	—	—	—	—	—
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.43	0.55	< 0.005	0.02	—	0.02	0.02	—	0.02	—	83.1
Paving	0.05	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.08	0.10	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	13.8
Paving	0.01	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.07	0.72	0.00	0.00	0.15	0.15	0.00	0.04	0.04	0.02	156
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
Hauling	0.08	5.14	1.79	0.03	0.05	0.64	0.69	0.05	0.17	0.22	0.14	2,686
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	0.02	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
Hauling	< 0.005	0.28	0.10	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	0.13	147
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	< 0.005	1.46
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
Hauling	< 0.005	0.05	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	0.02	24.4

3.13. Architectural Coating (2025) - 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	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	0.88	1.14	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134
Architectural Coatings	13.9	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	0.88	1.14	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134
Architectural Coatings	13.9	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.32	0.41	< 0.005	0.01	—	0.01	0.01	—	0.01	—	48.1

Architectural Coatings	4.97	—	—	—	—	—	—	—	—	—	—	—
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.06	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.96
Architectural Coatings	0.91	—	—	—	—	—	—	—	—	—	—	—
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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.02	0.49	0.00	0.00	0.08	0.08	0.00	0.02	0.02	0.35	93.3
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
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.36	0.00	0.00	0.08	0.08	0.00	0.02	0.02	0.01	82.6
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
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.13	0.00	0.00	0.03	0.03	0.00	0.01	0.01	0.05	30.5
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
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	0.01	5.05
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
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

3.14. Architectural Coating (2025) - 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	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	0.88	1.14	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134
Architectural Coatings	13.9	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	0.88	1.14	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134
Architectural Coatings	13.9	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.32	0.41	< 0.005	0.01	—	0.01	0.01	—	0.01	—	48.1
Architectural Coatings	4.97	—	—	—	—	—	—	—	—	—	—	—
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.06	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.96
Architectural Coatings	0.91	—	—	—	—	—	—	—	—	—	—	—
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

Offsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.02	0.49	0.00	0.00	0.08	0.08	0.00	0.02	0.02	0.35	93.3
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
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.36	0.00	0.00	0.08	0.08	0.00	0.02	0.02	0.01	82.6
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
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.13	0.00	0.00	0.03	0.03	0.00	0.01	0.01	0.05	30.5
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
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	0.01	5.05
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
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

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	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fast Food Restaurant with Drive Thru	10.7	10.3	102	0.23	0.17	19.1	19.3	0.16	4.86	5.01	80.6	23,618
Single Family Housing	3.86	3.85	38.6	0.09	0.06	7.27	7.33	0.06	1.85	1.90	30.6	8,963
Automobile Care Center	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Convenience Market with Gas Pumps	4.28	4.12	41.1	0.09	0.07	7.67	7.74	0.06	1.95	2.01	32.3	9,478
Strip Mall	1.60	1.54	15.4	0.03	0.03	2.87	2.90	0.02	0.73	0.75	12.1	3,550
Fast Food Restaurant w/o Drive Thru	1.73	1.66	16.6	0.04	0.03	3.10	3.12	0.03	0.79	0.81	13.0	3,823
Total	22.1	21.4	214	0.48	0.35	40.0	40.4	0.33	10.2	10.5	169	49,432
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fast Food Restaurant with Drive Thru	9.59	12.1	85.4	0.21	0.17	19.1	19.3	0.16	4.86	5.01	2.09	21,557
Single Family Housing	3.48	4.53	31.9	0.08	0.06	7.27	7.33	0.06	1.85	1.90	0.79	8,179
Automobile Care Center	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Convenience Market with Gas Pumps	3.85	4.84	34.3	0.08	0.07	7.67	7.74	0.06	1.95	2.01	0.84	8,651
Strip Mall	1.44	1.81	12.8	0.03	0.03	2.87	2.90	0.02	0.73	0.75	0.31	3,240

Fast Food Restaurant w/o Drive Thru	1.55	1.95	13.8	0.03	0.03	3.10	3.12	0.03	0.79	0.81	0.34	3,490
Total	19.9	25.2	178	0.43	0.35	40.0	40.4	0.33	10.2	10.5	4.37	45,117
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fast Food Restaurant with Drive Thru	1.75	2.06	15.4	0.04	0.03	3.40	3.43	0.03	0.87	0.89	5.76	3,641
Single Family Housing	0.64	0.77	5.79	0.01	0.01	1.29	1.31	0.01	0.33	0.34	2.19	1,382
Automobile Care Center	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Convenience Market with Gas Pumps	0.70	0.83	6.20	0.02	0.01	1.37	1.38	0.01	0.35	0.36	2.31	1,461
Strip Mall	0.26	0.31	2.32	0.01	< 0.005	0.51	0.52	< 0.005	0.13	0.13	0.87	547
Fast Food Restaurant w/o Drive Thru	0.28	0.33	2.50	0.01	< 0.005	0.55	0.56	< 0.005	0.14	0.14	0.93	589
Total	3.64	4.31	32.3	0.08	0.06	7.13	7.19	0.06	1.81	1.87	12.1	7,620

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	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Fast Food Restaurant with Drive Thru	10.7	10.3	102	0.23	0.17	19.1	19.3	0.16	4.86	5.01	80.6	23,618
Single Family Housing	3.86	3.85	38.6	0.09	0.06	7.27	7.33	0.06	1.85	1.90	30.6	8,963
Automobile Care Center	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Convenience Market with Gas Pumps	4.28	4.12	41.1	0.09	0.07	7.67	7.74	0.06	1.95	2.01	32.3	9,478
Strip Mall	1.60	1.54	15.4	0.03	0.03	2.87	2.90	0.02	0.73	0.75	12.1	3,550
Fast Food Restaurant w/o Drive Thru	1.73	1.66	16.6	0.04	0.03	3.10	3.12	0.03	0.79	0.81	13.0	3,823
Total	22.1	21.4	214	0.48	0.35	40.0	40.4	0.33	10.2	10.5	169	49,432
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fast Food Restaurant with Drive Thru	9.59	12.1	85.4	0.21	0.17	19.1	19.3	0.16	4.86	5.01	2.09	21,557
Single Family Housing	3.48	4.53	31.9	0.08	0.06	7.27	7.33	0.06	1.85	1.90	0.79	8,179
Automobile Care Center	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Convenience Market with Gas Pumps	3.85	4.84	34.3	0.08	0.07	7.67	7.74	0.06	1.95	2.01	0.84	8,651
Strip Mall	1.44	1.81	12.8	0.03	0.03	2.87	2.90	0.02	0.73	0.75	0.31	3,240
Fast Food Restaurant w/o Drive Thru	1.55	1.95	13.8	0.03	0.03	3.10	3.12	0.03	0.79	0.81	0.34	3,490
Total	19.9	25.2	178	0.43	0.35	40.0	40.4	0.33	10.2	10.5	4.37	45,117

Annual	—	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fast Food Restaurant with Drive Thru	1.75	2.06	15.4	0.04	0.03	3.40	3.43	0.03	0.87	0.89	5.76	3,641
Single Family Housing	0.64	0.77	5.79	0.01	0.01	1.29	1.31	0.01	0.33	0.34	2.19	1,382
Automobile Care Center	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Convenience Market with Gas Pumps	0.70	0.83	6.20	0.02	0.01	1.37	1.38	0.01	0.35	0.36	2.31	1,461
Strip Mall	0.26	0.31	2.32	0.01	< 0.005	0.51	0.52	< 0.005	0.13	0.13	0.87	547
Fast Food Restaurant w/o Drive Thru	0.28	0.33	2.50	0.01	< 0.005	0.55	0.56	< 0.005	0.14	0.14	0.93	589
Total	3.64	4.31	32.3	0.08	0.06	7.13	7.19	0.06	1.81	1.87	12.1	7,620

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	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	196
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	313

Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	553
Automobile Care Center	—	—	—	—	—	—	—	—	—	—	—	571
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	189
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	62.2
Fast Food Restaurant w/o Drive Thru	—	—	—	—	—	—	—	—	—	—	—	145
Total	—	—	—	—	—	—	—	—	—	—	—	2,030
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	196
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	313
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	553
Automobile Care Center	—	—	—	—	—	—	—	—	—	—	—	571
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	189
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	62.2
Fast Food Restaurant w/o Drive Thru	—	—	—	—	—	—	—	—	—	—	—	145
Total	—	—	—	—	—	—	—	—	—	—	—	2,030
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	32.5

Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	51.8
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	91.6
Automobile Care Center	—	—	—	—	—	—	—	—	—	—	—	94.6
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	31.3
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	10.3
Fast Food Restaurant w/o Drive Thru	—	—	—	—	—	—	—	—	—	—	—	23.9
Total	—	—	—	—	—	—	—	—	—	—	—	336

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	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	196
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	307
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	313
Automobile Care Center	—	—	—	—	—	—	—	—	—	—	—	571

Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	170
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	30.8
Fast Food Restaurant w/o Drive Thru	—	—	—	—	—	—	—	—	—	—	—	142
Total	—	—	—	—	—	—	—	—	—	—	—	1,731
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	196
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	307
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	313
Automobile Care Center	—	—	—	—	—	—	—	—	—	—	—	571
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	170
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	30.8
Fast Food Restaurant w/o Drive Thru	—	—	—	—	—	—	—	—	—	—	—	142
Total	—	—	—	—	—	—	—	—	—	—	—	1,731
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	32.5
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	50.9

Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	51.8
Automobile Care Center	—	—	—	—	—	—	—	—	—	—	—	94.6
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	28.2
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	5.09
Fast Food Restaurant w/o Drive Thru	—	—	—	—	—	—	—	—	—	—	—	23.5
Total	—	—	—	—	—	—	—	—	—	—	—	287

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	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Fast Food Restaurant with Drive Thru	0.02	0.34	0.28	< 0.005	0.03	—	0.03	0.03	—	0.03	—	404
Single Family Housing	0.05	0.80	0.34	0.01	0.07	—	0.07	0.07	—	0.07	—	1,024
Automobile Care Center	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Convenience Market with Gas Pumps	< 0.005	0.03	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	33.6
Strip Mall	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	24.5

Fast Food Restaurant w/o Drive Thru	0.01	0.16	0.13	< 0.005	0.01	—	0.01	0.01	—	0.01	—	187
Total	0.08	1.35	0.80	0.01	0.11	—	0.11	0.11	—	0.11	—	1,673
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Fast Food Restaurant with Drive Thru	0.02	0.34	0.28	< 0.005	0.03	—	0.03	0.03	—	0.03	—	404
Single Family Housing	0.05	0.80	0.34	0.01	0.07	—	0.07	0.07	—	0.07	—	1,024
Automobile Care Center	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Convenience Market with Gas Pumps	< 0.005	0.03	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	33.6
Strip Mall	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	24.5
Fast Food Restaurant w/o Drive Thru	0.01	0.16	0.13	< 0.005	0.01	—	0.01	0.01	—	0.01	—	187
Total	0.08	1.35	0.80	0.01	0.11	—	0.11	0.11	—	0.11	—	1,673
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Fast Food Restaurant with Drive Thru	< 0.005	0.06	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	66.9
Single Family Housing	0.01	0.15	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	170
Automobile Care Center	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00

Convenience Market with Gas Pumps	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.57
Strip Mall	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.06
Fast Food Restaurant w/o Drive Thru	< 0.005	0.03	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	30.9
Total	0.01	0.25	0.15	< 0.005	0.02	—	0.02	0.02	—	0.02	—	277

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	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Fast Food Restaurant with Drive Thru	0.02	0.34	0.28	< 0.005	0.03	—	0.03	0.03	—	0.03	—	404
Single Family Housing	0.05	0.80	0.34	0.01	0.07	—	0.07	0.07	—	0.07	—	1,024
Automobile Care Center	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Convenience Market with Gas Pumps	< 0.005	0.03	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	33.6
Strip Mall	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	24.5
Fast Food Restaurant w/o Drive Thru	0.01	0.16	0.13	< 0.005	0.01	—	0.01	0.01	—	0.01	—	187
Total	0.08	1.35	0.80	0.01	0.11	—	0.11	0.11	—	0.11	—	1,673

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Fast Food Restaurant with Drive Thru	0.02	0.34	0.28	< 0.005	0.03	—	0.03	0.03	—	0.03	—	404
Single Family Housing	0.05	0.80	0.34	0.01	0.07	—	0.07	0.07	—	0.07	—	1,024
Automobile Care Center	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Convenience Market with Gas Pumps	< 0.005	0.03	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	33.6
Strip Mall	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	24.5
Fast Food Restaurant w/o Drive Thru	0.01	0.16	0.13	< 0.005	0.01	—	0.01	0.01	—	0.01	—	187
Total	0.08	1.35	0.80	0.01	0.11	—	0.11	0.11	—	0.11	—	1,673
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Fast Food Restaurant with Drive Thru	< 0.005	0.06	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	66.9
Single Family Housing	0.01	0.15	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	170
Automobile Care Center	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Convenience Market with Gas Pumps	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.57
Strip Mall	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.06

Fast Food Restaurant w/o Drive Thru	< 0.005	0.03	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	30.9
Total	0.01	0.25	0.15	< 0.005	0.02	—	0.02	0.02	—	0.02	—	277

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	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Consumer Products	4.15	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.50	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.63	0.06	5.93	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	17.8
Total	5.27	0.06	5.93	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	17.8
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Consumer Products	4.15	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.50	—	—	—	—	—	—	—	—	—	—	—
Total	4.64	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00

Consumer Products	0.76	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.09	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.08	0.01	0.74	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.02
Total	0.93	0.01	0.74	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.02

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	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Consumer Products	4.15	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.50	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.63	0.06	5.93	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	17.8
Total	5.27	0.06	5.93	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	17.8
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Consumer Products	4.15	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.50	—	—	—	—	—	—	—	—	—	—	—
Total	4.64	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—

Hearths	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Consumer Products	0.76	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.09	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.08	0.01	0.74	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.02
Total	0.93	0.01	0.74	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.02

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	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.38
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	19.0
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	36.5
Automobile Care Center	—	—	—	—	—	—	—	—	—	—	—	12.2
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	2.58
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	4.19
Fast Food Restaurant w/o Drive Thru	—	—	—	—	—	—	—	—	—	—	—	8.48

Total	—	—	—	—	—	—	—	—	—	—	—	83.3
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.38
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	19.0
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	36.5
Automobile Care Center	—	—	—	—	—	—	—	—	—	—	—	12.2
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	2.58
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	4.19
Fast Food Restaurant w/o Drive Thru	—	—	—	—	—	—	—	—	—	—	—	8.48
Total	—	—	—	—	—	—	—	—	—	—	—	83.3
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.06
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	3.14
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	6.05
Automobile Care Center	—	—	—	—	—	—	—	—	—	—	—	2.02
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	0.43
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	0.69

Fast Food Restaurant w/o Drive Thru	—	—	—	—	—	—	—	—	—	—	—	1.40
Total	—	—	—	—	—	—	—	—	—	—	—	13.8

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	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.38
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	19.0
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	36.5
Automobile Care Center	—	—	—	—	—	—	—	—	—	—	—	12.2
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	2.58
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	4.19
Fast Food Restaurant w/o Drive Thru	—	—	—	—	—	—	—	—	—	—	—	8.48
Total	—	—	—	—	—	—	—	—	—	—	—	83.3
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.38

Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	19.0
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	36.5
Automobile Care Center	—	—	—	—	—	—	—	—	—	—	—	12.2
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	2.58
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	4.19
Fast Food Restaurant w/o Drive Thru	—	—	—	—	—	—	—	—	—	—	—	8.48
Total	—	—	—	—	—	—	—	—	—	—	—	83.3
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.06
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	3.14
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	6.05
Automobile Care Center	—	—	—	—	—	—	—	—	—	—	—	2.02
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	0.43
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	0.69
Fast Food Restaurant w/o Drive Thru	—	—	—	—	—	—	—	—	—	—	—	1.40
Total	—	—	—	—	—	—	—	—	—	—	—	13.8

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	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	227
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	101
Automobile Care Center	—	—	—	—	—	—	—	—	—	—	—	0.00
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	29.5
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	17.2
Fast Food Restaurant w/o Drive Thru	—	—	—	—	—	—	—	—	—	—	—	105
Total	—	—	—	—	—	—	—	—	—	—	—	479
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	227

Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	101
Automobile Care Center	—	—	—	—	—	—	—	—	—	—	—	0.00
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	29.5
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	17.2
Fast Food Restaurant w/o Drive Thru	—	—	—	—	—	—	—	—	—	—	—	105
Total	—	—	—	—	—	—	—	—	—	—	—	479
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	37.6
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	16.7
Automobile Care Center	—	—	—	—	—	—	—	—	—	—	—	0.00
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	4.88
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	2.84
Fast Food Restaurant w/o Drive Thru	—	—	—	—	—	—	—	—	—	—	—	17.4
Total	—	—	—	—	—	—	—	—	—	—	—	79.3

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	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	227
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	101
Automobile Care Center	—	—	—	—	—	—	—	—	—	—	—	0.00
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	29.5
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	17.2
Fast Food Restaurant w/o Drive Thru	—	—	—	—	—	—	—	—	—	—	—	105
Total	—	—	—	—	—	—	—	—	—	—	—	479
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	227
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	101
Automobile Care Center	—	—	—	—	—	—	—	—	—	—	—	0.00

Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	29.5
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	17.2
Fast Food Restaurant w/o Drive Thru	—	—	—	—	—	—	—	—	—	—	—	105
Total	—	—	—	—	—	—	—	—	—	—	—	479
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	37.6
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	16.7
Automobile Care Center	—	—	—	—	—	—	—	—	—	—	—	0.00
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	4.88
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	2.84
Fast Food Restaurant w/o Drive Thru	—	—	—	—	—	—	—	—	—	—	—	17.4
Total	—	—	—	—	—	—	—	—	—	—	—	79.3

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	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	16.3	16.3
Single Family Housing	—	—	—	—	—	—	—	—	—	—	1.16	1.16
Automobile Care Center	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	1,078	1,078
Strip Mall	—	—	—	—	—	—	—	—	—	—	0.05	0.05
Fast Food Restaurant w/o Drive Thru	—	—	—	—	—	—	—	—	—	—	7.55	7.55
Total	—	—	—	—	—	—	—	—	—	—	1,103	1,103
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	16.3	16.3
Single Family Housing	—	—	—	—	—	—	—	—	—	—	1.16	1.16
Automobile Care Center	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	1,078	1,078
Strip Mall	—	—	—	—	—	—	—	—	—	—	0.05	0.05

Fast Food Restaurant w/o Drive Thru	—	—	—	—	—	—	—	—	—	—	7.55	7.55
Total	—	—	—	—	—	—	—	—	—	—	1,103	1,103
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	2.70	2.70
Single Family Housing	—	—	—	—	—	—	—	—	—	—	0.19	0.19
Automobile Care Center	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	179	179
Strip Mall	—	—	—	—	—	—	—	—	—	—	0.01	0.01
Fast Food Restaurant w/o Drive Thru	—	—	—	—	—	—	—	—	—	—	1.25	1.25
Total	—	—	—	—	—	—	—	—	—	—	183	183

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	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	16.3	16.3
Single Family Housing	—	—	—	—	—	—	—	—	—	—	1.16	1.16

Automobile Care Center	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	1,078	1,078
Strip Mall	—	—	—	—	—	—	—	—	—	—	0.05	0.05
Fast Food Restaurant w/o Drive Thru	—	—	—	—	—	—	—	—	—	—	7.55	7.55
Total	—	—	—	—	—	—	—	—	—	—	1,103	1,103
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	16.3	16.3
Single Family Housing	—	—	—	—	—	—	—	—	—	—	1.16	1.16
Automobile Care Center	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	1,078	1,078
Strip Mall	—	—	—	—	—	—	—	—	—	—	0.05	0.05
Fast Food Restaurant w/o Drive Thru	—	—	—	—	—	—	—	—	—	—	7.55	7.55
Total	—	—	—	—	—	—	—	—	—	—	1,103	1,103
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	2.70	2.70
Single Family Housing	—	—	—	—	—	—	—	—	—	—	0.19	0.19

Automobile Care Center	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	179	179
Strip Mall	—	—	—	—	—	—	—	—	—	—	0.01	0.01
Fast Food Restaurant w/o Drive Thru	—	—	—	—	—	—	—	—	—	—	1.25	1.25
Total	—	—	—	—	—	—	—	—	—	—	183	183

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	R	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	R	CO2e

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

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

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

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	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	R	CO2e

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

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

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

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	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	R	CO2e

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

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

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

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

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e

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

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

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

Species	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—

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

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	R	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	R	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	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—

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

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	7/1/2024	7/29/2024	5.00	20.0	—
Site Preparation	Site Preparation	7/30/2024	8/13/2024	5.00	10.0	—
Grading	Grading	8/14/2024	10/1/2024	5.00	35.0	—
Building Construction	Building Construction	10/30/2024	12/23/2025	5.00	300	—
Paving	Paving	10/2/2024	10/29/2024	5.00	20.0	—
Architectural Coating	Architectural Coating	6/24/2025	12/23/2025	5.00	131	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

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

Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Demolition	Excavators	Diesel	Average	3.00	8.00	36.0	0.38
Demolition	Rubber Tired Dozers	Diesel	Average	2.00	8.00	367	0.40
Demolition	Off-Highway Trucks	Diesel	Average	1.00	4.00	376	0.38
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Site Preparation	Off-Highway Trucks	Diesel	Average	1.00	4.00	376	0.38
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Grading	Off-Highway Trucks	Diesel	Average	1.00	4.00	376	0.38
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.2.2. Mitigated

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

Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Demolition	Excavators	Diesel	Average	3.00	8.00	36.0	0.38
Demolition	Rubber Tired Dozers	Diesel	Average	2.00	8.00	367	0.40
Demolition	Off-Highway Trucks	Diesel	Average	1.00	4.00	376	0.38
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Site Preparation	Off-Highway Trucks	Diesel	Average	1.00	4.00	376	0.38
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Grading	Off-Highway Trucks	Diesel	Average	1.00	4.00	376	0.38
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	17.5	14.3	LDA,LDT1,LDT2
Demolition	Vendor	—	8.80	HHDT,MHDT
Demolition	Hauling	37.8	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	20.0	14.3	LDA,LDT1,LDT2
Site Preparation	Vendor	—	8.80	HHDT,MHDT
Site Preparation	Hauling	38.8	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	22.5	14.3	LDA,LDT1,LDT2
Grading	Vendor	—	8.80	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	40.5	14.3	LDA,LDT1,LDT2
Building Construction	Vendor	13.7	8.80	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	14.3	LDA,LDT1,LDT2
Paving	Vendor	—	8.80	HHDT,MHDT
Paving	Hauling	33.8	20.0	HHDT
Paving	Onsite truck	—	—	HHDT

Architectural Coating	—	—	—	—
Architectural Coating	Worker	8.10	14.3	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	8.80	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
Demolition	—	—	—	—
Demolition	Worker	17.5	14.3	LDA,LDT1,LDT2
Demolition	Vendor	—	8.80	HHDT,MHDT
Demolition	Hauling	37.8	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	20.0	14.3	LDA,LDT1,LDT2
Site Preparation	Vendor	—	8.80	HHDT,MHDT
Site Preparation	Hauling	38.8	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	22.5	14.3	LDA,LDT1,LDT2
Grading	Vendor	—	8.80	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	40.5	14.3	LDA,LDT1,LDT2
Building Construction	Vendor	13.7	8.80	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT

Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	14.3	LDA,LDT1,LDT2
Paving	Vendor	—	8.80	HHDT,MHDT
Paving	Hauling	33.8	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	8.10	14.3	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	8.80	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	328,050	109,350	45,954	15,318	17,541

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (Ton of Debris)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	3,020	—
Site Preparation	—	3,100	15.0	0.00	—

Grading	—	—	105	0.00	—
Paving	0.00	0.00	0.00	0.00	7.60

5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Parking Lot	6.71	100%
Fast Food Restaurant with Drive Thru	0.00	0%
Single Family Housing	0.89	0%
Automobile Care Center	0.00	0%
Convenience Market with Gas Pumps	0.00	0%
Strip Mall	0.00	0%
Fast Food Restaurant w/o Drive Thru	0.00	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2024	0.00	312	0.01	< 0.005
2025	0.00	295	0.01	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Fast Food Restaurant with Drive Thru	2,335	2,335	2,335	852,275	26,957	26,957	26,957	9,839,424
Single Family Housing	831	831	831	303,337	10,243	10,243	10,243	3,738,723
Automobile Care Center	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Convenience Market with Gas Pumps	937	937	937	342,004	10,818	10,818	10,818	3,948,404
Strip Mall	351	351	351	128,114	4,052	4,052	4,052	1,479,058
Fast Food Restaurant w/o Drive Thru	378	378	378	137,970	4,364	4,364	4,364	1,592,851

5.9.2. Mitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fast Food Restaurant with Drive Thru	2,335	2,335	2,335	852,275	26,957	26,957	26,957	9,839,424
Single Family Housing	831	831	831	303,337	10,243	10,243	10,243	3,738,723
Automobile Care Center	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Convenience Market with Gas Pumps	937	937	937	342,004	10,818	10,818	10,818	3,948,404
Strip Mall	351	351	351	128,114	4,052	4,052	4,052	1,479,058
Fast Food Restaurant w/o Drive Thru	378	378	378	137,970	4,364	4,364	4,364	1,592,851

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

Hearth Type	Unmitigated (number)
Single Family Housing	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	81
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)
Single Family Housing	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	81
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)
328050	109,350	45,954	15,318	17,541

5.10.3. Landscape Equipment

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

5.10.4. Landscape Equipment - Mitigated

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

5.11. Operational Energy Consumption

5.11.1. Unmitigated

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

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Parking Lot	256,099	279	0.0129	0.0017	0.00
Fast Food Restaurant with Drive Thru	408,192	279	0.0129	0.0017	1,257,596
Single Family Housing	721,566	279	0.0129	0.0017	3,185,822
Automobile Care Center	745,400	279	0.0129	0.0017	0.00
Convenience Market with Gas Pumps	246,744	279	0.0129	0.0017	104,636

Strip Mall	81,163	279	0.0129	0.0017	76,338
Fast Food Restaurant w/o Drive Thru	188,667	279	0.0129	0.0017	581,262

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)
Parking Lot	256,099	279	0.0129	0.0017	0.00
Fast Food Restaurant with Drive Thru	400,713	279	0.0129	0.0017	1,257,596
Single Family Housing	407,859	279	0.0129	0.0017	3,185,822
Automobile Care Center	745,400	279	0.0129	0.0017	0.00
Convenience Market with Gas Pumps	222,128	279	0.0129	0.0017	104,636
Strip Mall	40,121	279	0.0129	0.0017	76,338
Fast Food Restaurant w/o Drive Thru	185,210	279	0.0129	0.0017	581,262

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Parking Lot	0.00	304,187
Fast Food Restaurant with Drive Thru	3,171,927	489,311
Single Family Housing	2,855,979	16,194,986
Automobile Care Center	2,104,000	0.00
Convenience Market with Gas Pumps	385,177	281,701
Strip Mall	642,209	381,002
Fast Food Restaurant w/o Drive Thru	1,466,068	0.00

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Parking Lot	0.00	304,187
Fast Food Restaurant with Drive Thru	3,171,927	489,311
Single Family Housing	2,855,979	16,194,986
Automobile Care Center	2,104,000	0.00
Convenience Market with Gas Pumps	385,177	281,701
Strip Mall	642,209	381,002
Fast Food Restaurant w/o Drive Thru	1,466,068	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Parking Lot	0.00	—
Fast Food Restaurant with Drive Thru	120	—
Single Family Housing	53.4	—
Automobile Care Center	0.00	—
Convenience Market with Gas Pumps	15.6	—
Strip Mall	9.10	—
Fast Food Restaurant w/o Drive Thru	55.6	—

5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Parking Lot	0.00	—
Fast Food Restaurant with Drive Thru	120	—

Single Family Housing	53.4	—
Automobile Care Center	0.00	—
Convenience Market with Gas Pumps	15.6	—
Strip Mall	9.10	—
Fast Food Restaurant w/o Drive Thru	55.6	—

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
Fast Food Restaurant with Drive Thru	Household refrigerators and/or freezers	R-134a	1,430	0.00	0.60	0.00	1.00
Fast Food Restaurant with Drive Thru	Other commercial A/C and heat pumps	R-410A	2,088	1.80	4.00	4.00	18.0
Fast Food Restaurant with Drive Thru	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0
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
Automobile Care Center	Other commercial A/C and heat pumps	R-410A	2,088	0.00	4.00	4.00	18.0
Automobile Care Center	Supermarket refrigeration and condensing units	R-404A	3,922	0.00	16.5	16.5	18.0
Convenience Market with Gas Pumps	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Convenience Market with Gas Pumps	Supermarket refrigeration and condensing units	R-404A	3,922	26.5	16.5	16.5	18.0

Strip Mall	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Strip Mall	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00
Strip Mall	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0
Fast Food Restaurant w/o Drive Thru	Household refrigerators and/or freezers	R-134a	1,430	0.00	0.60	0.00	1.00
Fast Food Restaurant w/o Drive Thru	Other commercial A/C and heat pumps	R-410A	2,088	1.80	4.00	4.00	18.0
Fast Food Restaurant w/o Drive Thru	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0

5.14.2. Mitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Fast Food Restaurant with Drive Thru	Household refrigerators and/or freezers	R-134a	1,430	0.00	0.60	0.00	1.00
Fast Food Restaurant with Drive Thru	Other commercial A/C and heat pumps	R-410A	2,088	1.80	4.00	4.00	18.0
Fast Food Restaurant with Drive Thru	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0
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
Automobile Care Center	Other commercial A/C and heat pumps	R-410A	2,088	0.00	4.00	4.00	18.0
Automobile Care Center	Supermarket refrigeration and condensing units	R-404A	3,922	0.00	16.5	16.5	18.0

Convenience Market with Gas Pumps	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Convenience Market with Gas Pumps	Supermarket refrigeration and condensing units	R-404A	3,922	26.5	16.5	16.5	18.0
Strip Mall	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Strip Mall	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00
Strip Mall	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0
Fast Food Restaurant w/o Drive Thru	Household refrigerators and/or freezers	R-134a	1,430	0.00	0.60	0.00	1.00
Fast Food Restaurant w/o Drive Thru	Other commercial A/C and heat pumps	R-410A	2,088	1.80	4.00	4.00	18.0
Fast Food Restaurant w/o Drive Thru	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

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

5.15.2. Mitigated

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

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

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

5.16.2. Process Boilers

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

5.17. User Defined

Equipment Type	Fuel Type

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)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

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

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	24.1	annual days of extreme heat
Extreme Precipitation	6.45	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	0.69	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score

Temperature and Extreme Heat	2	0	0	N/A
Extreme Precipitation	2	0	0	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	1	0	0	N/A
Flooding	0	0	0	N/A
Drought	0	0	0	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	2	1	1	3
Extreme Precipitation	2	1	1	3
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	1	1	1	2
Flooding	1	1	1	2
Drought	1	1	1	2
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

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

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	62.5
AQ-PM	34.1
AQ-DPM	10.6
Drinking Water	31.4
Lead Risk Housing	45.3
Pesticides	0.00
Toxic Releases	19.1
Traffic	22.5
Effect Indicators	—
CleanUp Sites	71.6
Groundwater	30.9
Haz Waste Facilities/Generators	43.3
Impaired Water Bodies	51.2
Solid Waste	0.00
Sensitive Population	—
Asthma	88.7
Cardio-vascular	62.6
Low Birth Weights	87.7
Socioeconomic Factor Indicators	—

Education	31.4
Housing	27.2
Linguistic	39.2
Poverty	42.1
Unemployment	57.2

7.2. Healthy Places Index Scores

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

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	51.53342743
Employed	42.62799949
Median HI	40.48505069
Education	—
Bachelor's or higher	63.45438214
High school enrollment	100
Preschool enrollment	5.877069165
Transportation	—
Auto Access	32.77300141
Active commuting	56.71756705
Social	—
2-parent households	67.63762351
Voting	85.51263955
Neighborhood	—
Alcohol availability	44.96342872
Park access	20.92903888
Retail density	50.93032208

Supermarket access	55.20338766
Tree canopy	92.48043116
Housing	—
Homeownership	48.67188503
Housing habitability	72.66777878
Low-inc homeowner severe housing cost burden	95.66277428
Low-inc renter severe housing cost burden	61.59373797
Uncrowded housing	70.21686129
Health Outcomes	—
Insured adults	70.78147055
Arthritis	0.0
Asthma ER Admissions	6.0
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	57.2
Cognitively Disabled	6.9
Physically Disabled	10.8
Heart Attack ER Admissions	48.8
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	95.3
Physical Health Not Good	0.0

Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	23.1
Elderly	20.5
English Speaking	68.2
Foreign-born	8.7
Outdoor Workers	59.0
Climate Change Adaptive Capacity	—
Impervious Surface Cover	66.4
Traffic Density	65.1
Traffic Access	23.0
Other Indices	—
Hardship	27.0
Other Decision Support	—
2016 Voting	76.2

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	47.0
Healthy Places Index Score for Project Location (b)	53.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No

Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

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

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Land uses and building sizes per site plan dated March 21, 2023. Single family home average size 2,000 SF (162,000 SF total) per project applicant. Automobile Care Center = car wash portion of convenience store/gas station. Parking lot includes retail area driveways, parking lots and sidewalks, and residential area streets and sidewalks. Retail landscape areas per landscape plan. Landscaping in Lots C, D, and F (0.5 acres/21,780 SF) included in parking lot land use. Residential landscape area per default.
Construction: Construction Phases	Grading increased from 30 days to 35 days to account for rough grading in Lot A. Architectural coating assumed to occur concurrently with last 6 months of building construction.
Construction: Off-Road Equipment	Off-Highway Truck = water truck
Construction: Trips and VMT	Based on paved area, 5,414 CY aggregate, asphalt, and concrete assumed to be imported during paving, 338 loads (676 round trips) assuming 16 CY per double trailer load.
Operations: Vehicle Data	Trip rates from Updated Winding Ranch Trip Generation memorandum (Wood Rodgers December 12, 2023). Trip rates include pass by reductions and internal capture, therefore, all trip purposes set to 100% primary.
Operations: Energy Use	Car wash (Automobile Care Center) energy use estimated from car wash industry survey averages for an automated conveyor wash business.

Operations: Water and Waste Water	Car wash (Automobile Care Center) water use estimated from car wash industry survey averages for an automated conveyor wash business.
Operations: Solid Waste	Car wash (Automobile Care Center) solid waste included with Convenience Market/Gas Station.
Operations: Refrigerants	Car wash (Automobile Care Center) would not have air-conditioning or refrigeration systems.

Winding Ranch R5 Mitigated NG Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Winding Ranch R5 Mitigated NG
Construction Start Date	7/1/2024
Operational Year	2026
Lead Agency	Sacramento County
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.50
Precipitation (days)	38.2
Location	38.64794328844977, -121.32677761172882
County	Sacramento
City	Unincorporated
Air District	Sacramento Metropolitan AQMD
Air Basin	Sacramento Valley
TAZ	677
EDFZ	13
Electric Utility	Sacramento Municipal Utility District
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.21

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description

Parking Lot	292	1000sqft	6.71	0.00	21,780	—	—	—
Fast Food Restaurant with Drive Thru	10.4	1000sqft	0.24	10,450	35,035	—	—	—
Single Family Housing	81.0	Dwelling Unit	8.82	162,000	948,741	—	227	—
Automobile Care Center	1.49	1000sqft	0.03	1,485	0.00	—	—	—
Convenience Market with Gas Pumps	5.20	1000sqft	0.12	5,201	20,170	—	—	—
Strip Mall	8.67	1000sqft	0.20	8,670	27,280	—	—	—
Fast Food Restaurant w/o Drive Thru	4.83	1000sqft	0.11	4,830	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-10-A	Water Exposed Surfaces
Construction	C-10-B	Water Active Demolition Sites
Construction	C-12	Sweep Paved Roads
Energy	E-10-B	Establish Onsite Renewable Energy Systems: Solar Power

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	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—

Unmit.	15.3	43.1	37.8	0.09	1.71	20.6	22.3	1.58	10.4	11.9	7.06	9,307
Mit.	15.3	43.1	37.8	0.09	1.71	8.61	10.3	1.58	4.19	5.76	7.06	9,307
% Reduced	—	—	—	—	—	58%	54%	—	60%	52%	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	15.3	35.9	32.8	0.07	1.50	9.43	10.9	1.38	3.71	5.09	0.16	7,522
Mit.	15.3	35.9	32.8	0.07	1.50	3.82	5.32	1.38	1.48	2.86	0.16	7,522
% Reduced	—	—	—	—	—	60%	51%	—	60%	44%	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	5.94	8.60	11.1	0.02	0.34	1.81	2.15	0.31	0.71	1.02	0.90	2,345
Mit.	5.94	8.60	11.1	0.02	0.34	0.87	1.21	0.31	0.31	0.63	0.90	2,345
% Reduced	—	—	—	—	—	52%	44%	—	56%	39%	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.08	1.57	2.03	< 0.005	0.06	0.33	0.39	0.06	0.13	0.19	0.15	388
Mit.	1.08	1.57	2.03	< 0.005	0.06	0.16	0.22	0.06	0.06	0.11	0.15	388
% Reduced	—	—	—	—	—	52%	44%	—	56%	39%	—	—
Exceeds (Daily Max)	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	85.0	—	—	—	—	—	80.0	—	—	82.0	—	—
Unmit.	No	—	—	—	—	—	No	—	—	No	—	—
Mit.	No	—	—	—	—	—	No	—	—	No	—	—
Exceeds (Average Daily)	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	85.0	—	—	—	—	—	80.0	—	—	82.0	—	—
Unmit.	No	—	—	—	—	—	No	—	—	No	—	—
Mit.	No	—	—	—	—	—	No	—	—	No	—	—

2.2. Construction Emissions by Year, Unmitigated

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

Year	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
2024	4.06	43.1	37.8	0.09	1.71	20.6	22.3	1.58	10.4	11.9	7.06	9,307
2025	15.3	12.2	17.4	0.03	0.46	0.59	1.06	0.43	0.14	0.57	3.15	3,514
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
2024	3.84	35.9	32.8	0.07	1.50	9.43	10.9	1.38	3.71	5.09	0.16	7,522
2025	15.3	12.3	16.6	0.03	0.46	0.59	1.06	0.43	0.14	0.57	0.08	3,449
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.92	8.60	8.18	0.02	0.34	1.81	2.15	0.31	0.71	1.02	0.59	2,017
2025	5.94	8.24	11.1	0.02	0.32	0.38	0.69	0.29	0.09	0.38	0.90	2,345
Annual	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.17	1.57	1.49	< 0.005	0.06	0.33	0.39	0.06	0.13	0.19	0.10	334
2025	1.08	1.50	2.03	< 0.005	0.06	0.07	0.13	0.05	0.02	0.07	0.15	388

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	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
2024	4.06	43.1	37.8	0.09	1.71	8.61	10.3	1.58	4.19	5.76	7.06	9,307
2025	15.3	12.2	17.4	0.03	0.46	0.59	1.06	0.43	0.14	0.57	3.15	3,514
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—

2024	3.84	35.9	32.8	0.07	1.50	3.82	5.32	1.38	1.48	2.86	0.16	7,522
2025	15.3	12.3	16.6	0.03	0.46	0.59	1.06	0.43	0.14	0.57	0.08	3,449
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.92	8.60	8.18	0.02	0.34	0.87	1.21	0.31	0.31	0.63	0.59	2,017
2025	5.94	8.24	11.1	0.02	0.32	0.38	0.69	0.29	0.09	0.38	0.90	2,345
Annual	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.17	1.57	1.49	< 0.005	0.06	0.16	0.22	0.06	0.06	0.11	0.10	334
2025	1.08	1.50	2.03	< 0.005	0.06	0.07	0.13	0.05	0.02	0.07	0.15	388

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	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	27.4	21.9	220	0.48	0.38	40.0	40.4	0.36	10.2	10.5	1,272	54,453
Mit.	27.4	21.9	220	0.48	0.38	40.0	40.4	0.36	10.2	10.5	1,272	53,830
% Reduced	—	—	—	—	—	—	—	—	—	—	—	1%
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	24.6	25.6	179	0.44	0.38	40.0	40.4	0.36	10.2	10.5	1,108	50,119
Mit.	24.6	25.6	179	0.44	0.38	40.0	40.4	0.36	10.2	10.5	1,108	49,496
% Reduced	—	—	—	—	—	—	—	—	—	—	—	1%
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	25.0	24.0	181	0.45	0.38	39.1	39.4	0.36	9.92	10.3	1,176	51,042
Mit.	25.0	24.0	181	0.45	0.38	39.1	39.4	0.36	9.92	10.3	1,176	50,419
% Reduced	—	—	—	—	—	—	—	—	—	—	—	1%
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—

Unmit.	4.57	4.38	33.1	0.08	0.07	7.13	7.20	0.07	1.81	1.88	195	8,451
Mit.	4.57	4.38	33.1	0.08	0.07	7.13	7.20	0.07	1.81	1.88	195	8,347
% Reduced	—	—	—	—	—	—	—	—	—	—	—	1%
Exceeds (Daily Max)	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	65.0	65.0	—	—	—	—	80.0	—	—	80.0	—	—
Unmit.	No	No	—	—	—	—	No	—	—	No	—	—
Mit.	No	No	—	—	—	—	No	—	—	No	—	—
Exceeds (Average Daily)	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	65.0	65.0	—	—	—	—	80.0	—	—	80.0	—	—
Unmit.	No	No	—	—	—	—	No	—	—	No	—	—
Mit.	No	No	—	—	—	—	No	—	—	No	—	—

2.5. Operations Emissions by Sector, Unmitigated

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

Sector	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	22.1	21.4	214	0.48	0.35	40.0	40.4	0.33	10.2	10.5	169	49,432
Area	5.27	0.06	5.93	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	17.8
Energy	0.02	0.38	0.32	< 0.005	0.03	—	0.03	0.03	—	0.03	—	3,337
Water	—	—	—	—	—	—	—	—	—	—	—	83.3
Waste	—	—	—	—	—	—	—	—	—	—	—	479
Refrig.	—	—	—	—	—	—	—	—	—	—	1,103	1,103
Total	27.4	21.9	220	0.48	0.38	40.0	40.4	0.36	10.2	10.5	1,272	54,453

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	19.9	25.2	178	0.43	0.35	40.0	40.4	0.33	10.2	10.5	4.37	45,117
Area	4.64	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Energy	0.02	0.38	0.32	< 0.005	0.03	—	0.03	0.03	—	0.03	—	3,337
Water	—	—	—	—	—	—	—	—	—	—	—	83.3
Waste	—	—	—	—	—	—	—	—	—	—	—	479
Refrig.	—	—	—	—	—	—	—	—	—	—	1,103	1,103
Total	24.6	25.6	179	0.44	0.38	40.0	40.4	0.36	10.2	10.5	1,108	50,119
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	19.9	23.6	177	0.44	0.35	39.1	39.4	0.33	9.92	10.3	72.8	46,027
Area	5.07	0.04	4.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	12.2
Energy	0.02	0.38	0.32	< 0.005	0.03	—	0.03	0.03	—	0.03	—	3,337
Water	—	—	—	—	—	—	—	—	—	—	—	83.3
Waste	—	—	—	—	—	—	—	—	—	—	—	479
Refrig.	—	—	—	—	—	—	—	—	—	—	1,103	1,103
Total	25.0	24.0	181	0.45	0.38	39.1	39.4	0.36	9.92	10.3	1,176	51,042
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	3.64	4.31	32.3	0.08	0.06	7.13	7.19	0.06	1.81	1.87	12.1	7,620
Area	0.93	0.01	0.74	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.02
Energy	< 0.005	0.07	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	552
Water	—	—	—	—	—	—	—	—	—	—	—	13.8
Waste	—	—	—	—	—	—	—	—	—	—	—	79.3
Refrig.	—	—	—	—	—	—	—	—	—	—	183	183
Total	4.57	4.38	33.1	0.08	0.07	7.13	7.20	0.07	1.81	1.88	195	8,451

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	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	22.1	21.4	214	0.48	0.35	40.0	40.4	0.33	10.2	10.5	169	49,432
Area	5.27	0.06	5.93	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	17.8
Energy	0.02	0.38	0.32	< 0.005	0.03	—	0.03	0.03	—	0.03	—	2,714
Water	—	—	—	—	—	—	—	—	—	—	—	83.3
Waste	—	—	—	—	—	—	—	—	—	—	—	479
Refrig.	—	—	—	—	—	—	—	—	—	—	1,103	1,103
Total	27.4	21.9	220	0.48	0.38	40.0	40.4	0.36	10.2	10.5	1,272	53,830
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	19.9	25.2	178	0.43	0.35	40.0	40.4	0.33	10.2	10.5	4.37	45,117
Area	4.64	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Energy	0.02	0.38	0.32	< 0.005	0.03	—	0.03	0.03	—	0.03	—	2,714
Water	—	—	—	—	—	—	—	—	—	—	—	83.3
Waste	—	—	—	—	—	—	—	—	—	—	—	479
Refrig.	—	—	—	—	—	—	—	—	—	—	1,103	1,103
Total	24.6	25.6	179	0.44	0.38	40.0	40.4	0.36	10.2	10.5	1,108	49,496
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	19.9	23.6	177	0.44	0.35	39.1	39.4	0.33	9.92	10.3	72.8	46,027
Area	5.07	0.04	4.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	12.2
Energy	0.02	0.38	0.32	< 0.005	0.03	—	0.03	0.03	—	0.03	—	2,714
Water	—	—	—	—	—	—	—	—	—	—	—	83.3
Waste	—	—	—	—	—	—	—	—	—	—	—	479
Refrig.	—	—	—	—	—	—	—	—	—	—	1,103	1,103
Total	25.0	24.0	181	0.45	0.38	39.1	39.4	0.36	9.92	10.3	1,176	50,419

Annual	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	3.64	4.31	32.3	0.08	0.06	7.13	7.19	0.06	1.81	1.87	12.1	7,620
Area	0.93	0.01	0.74	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.02
Energy	< 0.005	0.07	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	449
Water	—	—	—	—	—	—	—	—	—	—	—	13.8
Waste	—	—	—	—	—	—	—	—	—	—	—	79.3
Refrig.	—	—	—	—	—	—	—	—	—	—	183	183
Total	4.57	4.38	33.1	0.08	0.07	7.13	7.20	0.07	1.81	1.88	195	8,347

3. Construction Emissions Details

3.1. Demolition (2024) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.85	26.4	23.2	0.04	1.12	—	1.12	1.03	—	1.03	—	4,104
Demolition	—	—	—	—	—	3.37	3.37	—	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	1.45	1.27	< 0.005	0.06	—	0.06	0.06	—	0.06	—	225
Demolition	—	—	—	—	—	0.18	0.18	—	0.03	0.03	—	—
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

Annual	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.26	0.23	< 0.005	0.01	—	0.01	0.01	—	0.01	—	37.2
Demolition	—	—	—	—	—	0.03	0.03	—	0.01	0.01	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.06	1.14	0.00	0.00	0.18	0.18	0.00	0.04	0.04	0.83	206
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
Hauling	0.09	5.34	1.98	0.03	0.05	0.72	0.77	0.05	0.19	0.24	5.95	3,007
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	0.02	10.3
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
Hauling	< 0.005	0.31	0.11	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	0.14	165
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	< 0.005	1.70
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
Hauling	< 0.005	0.06	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	0.02	27.2

3.2. Demolition (2024) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.85	26.4	23.2	0.04	1.12	—	1.12	1.03	—	1.03	—	4,104
Demolition	—	—	—	—	—	2.16	2.16	—	0.33	0.33	—	—
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	1.45	1.27	< 0.005	0.06	—	0.06	0.06	—	0.06	—	225
Demolition	—	—	—	—	—	0.12	0.12	—	0.02	0.02	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.26	0.23	< 0.005	0.01	—	0.01	0.01	—	0.01	—	37.2
Demolition	—	—	—	—	—	0.02	0.02	—	< 0.005	< 0.005	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.06	1.14	0.00	0.00	0.18	0.18	0.00	0.04	0.04	0.83	206
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
Hauling	0.09	5.34	1.98	0.03	0.05	0.72	0.77	0.05	0.19	0.24	5.95	3,007
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	0.02	10.3
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

Hauling	< 0.005	0.31	0.11	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	0.14	165
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	< 0.005	1.70
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
Hauling	< 0.005	0.06	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	0.02	27.2

3.3. Site Preparation (2024) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.88	37.5	34.4	0.06	1.66	—	1.66	1.52	—	1.52	—	5,981
Dust From Material Movement	—	—	—	—	—	19.7	19.7	—	10.1	10.1	—	—
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	1.03	0.94	< 0.005	0.05	—	0.05	0.04	—	0.04	—	164
Dust From Material Movement	—	—	—	—	—	0.54	0.54	—	0.28	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.19	0.17	< 0.005	0.01	—	0.01	0.01	—	0.01	—	27.1

Dust From Material Movement	—	—	—	—	—	0.10	0.10	—	0.05	0.05	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.07	1.30	0.00	0.00	0.20	0.20	0.00	0.05	0.05	0.95	235
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
Hauling	0.09	5.48	2.04	0.04	0.05	0.74	0.79	0.05	0.20	0.25	6.12	3,090
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	0.01	5.86
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
Hauling	< 0.005	0.16	0.06	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	0.07	84.6
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	< 0.005	0.97
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
Hauling	< 0.005	0.03	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.01	14.0

3.4. Site Preparation (2024) - Mitigated

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

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

Off-Road Equipment	3.88	37.5	34.4	0.06	1.66	—	1.66	1.52	—	1.52	—	5,981
Dust From Material Movement	—	—	—	—	—	7.68	7.68	—	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	1.03	0.94	< 0.005	0.05	—	0.05	0.04	—	0.04	—	164
Dust From Material Movement	—	—	—	—	—	0.21	0.21	—	0.11	0.11	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.19	0.17	< 0.005	0.01	—	0.01	0.01	—	0.01	—	27.1
Dust From Material Movement	—	—	—	—	—	0.04	0.04	—	0.02	0.02	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.07	1.30	0.00	0.00	0.20	0.20	0.00	0.05	0.05	0.95	235
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
Hauling	0.09	5.48	2.04	0.04	0.05	0.74	0.79	0.05	0.20	0.25	6.12	3,090
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	0.01	5.86
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
Hauling	< 0.005	0.16	0.06	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	0.07	84.6
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	< 0.005	0.97
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
Hauling	< 0.005	0.03	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.01	14.0

3.5. Grading (2024) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.75	35.8	31.7	0.07	1.50	—	1.50	1.38	—	1.38	—	7,288
Dust From Material Movement	—	—	—	—	—	9.20	9.20	—	3.65	3.65	—	—
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.75	35.8	31.7	0.07	1.50	—	1.50	1.38	—	1.38	—	7,288
Dust From Material Movement	—	—	—	—	—	9.20	9.20	—	3.65	3.65	—	—
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.36	3.44	3.04	0.01	0.14	—	0.14	0.13	—	0.13	—	699
Dust From Material Movement	—	—	—	—	—	0.88	0.88	—	0.35	0.35	—	—
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	0.63	0.55	< 0.005	0.03	—	0.03	0.02	—	0.02	—	116
Dust From Material Movement	—	—	—	—	—	0.16	0.16	—	0.06	0.06	—	—
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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.07	1.46	0.00	0.00	0.23	0.23	0.00	0.05	0.05	1.07	265
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
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.10	1.07	0.00	0.00	0.23	0.23	0.00	0.05	0.05	0.03	234
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
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.11	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	0.04	23.1
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
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.01	3.82

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
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

3.6. Grading (2024) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.75	35.8	31.7	0.07	1.50	—	1.50	1.38	—	1.38	—	7,288
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.75	35.8	31.7	0.07	1.50	—	1.50	1.38	—	1.38	—	7,288
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.36	3.44	3.04	0.01	0.14	—	0.14	0.13	—	0.13	—	699
Dust From Material Movement	—	—	—	—	—	0.34	0.34	—	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.07	0.63	0.55	< 0.005	0.03	—	0.03	0.02	—	0.02	—	116
Dust From Material Movement	—	—	—	—	—	0.06	0.06	—	0.02	0.02	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.07	1.46	0.00	0.00	0.23	0.23	0.00	0.05	0.05	1.07	265
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
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.10	1.07	0.00	0.00	0.23	0.23	0.00	0.05	0.05	0.03	234
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
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.11	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	0.04	23.1
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
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.01	3.82
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
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

3.7. Building Construction (2024) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.20	11.2	13.1	0.02	0.50	—	0.50	0.46	—	0.46	—	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	1.38	1.62	< 0.005	0.06	—	0.06	0.06	—	0.06	—	297
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.25	0.30	< 0.005	0.01	—	0.01	0.01	—	0.01	—	49.1
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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.16	0.18	1.93	0.00	0.00	0.41	0.41	0.00	0.10	0.10	0.05	421
Vendor	0.02	0.82	0.28	< 0.005	0.01	0.10	0.11	0.01	0.03	0.03	0.03	421
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.24	0.00	0.00	0.05	0.05	0.00	0.01	0.01	0.10	53.4
Vendor	< 0.005	0.10	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	0.05	52.0
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	0.02	8.84
Vendor	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.01	8.61
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

3.8. Building Construction (2024) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.20	11.2	13.1	0.02	0.50	—	0.50	0.46	—	0.46	—	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	1.38	1.62	< 0.005	0.06	—	0.06	0.06	—	0.06	—	297
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.25	0.30	< 0.005	0.01	—	0.01	0.01	—	0.01	—	49.1
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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.16	0.18	1.93	0.00	0.00	0.41	0.41	0.00	0.10	0.10	0.05	421
Vendor	0.02	0.82	0.28	< 0.005	0.01	0.10	0.11	0.01	0.03	0.03	0.03	421
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.24	0.00	0.00	0.05	0.05	0.00	0.01	0.01	0.10	53.4
Vendor	< 0.005	0.10	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	0.05	52.0
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	0.02	8.84
Vendor	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.01	8.61
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

3.9. Building Construction (2025) - 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	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	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

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.79	7.30	9.11	0.02	0.30	—	0.30	0.28	—	0.28	—	1,681
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	1.33	1.66	< 0.005	0.06	—	0.06	0.05	—	0.05	—	278
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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.17	0.12	2.44	0.00	0.00	0.41	0.41	0.00	0.10	0.10	1.77	466
Vendor	0.02	0.72	0.27	< 0.005	0.01	0.10	0.11	0.01	0.03	0.03	1.03	415
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.15	0.15	1.80	0.00	0.00	0.41	0.41	0.00	0.10	0.10	0.05	413
Vendor	0.01	0.77	0.27	< 0.005	0.01	0.10	0.11	0.01	0.03	0.03	0.03	414
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.11	0.09	1.28	0.00	0.00	0.28	0.28	0.00	0.07	0.07	0.53	297
Vendor	0.01	0.53	0.19	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	0.31	289
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.23	0.00	0.00	0.05	0.05	0.00	0.01	0.01	0.09	49.1
Vendor	< 0.005	0.10	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	0.05	47.9
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

3.10. Building Construction (2025) - 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	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.79	7.30	9.11	0.02	0.30	—	0.30	0.28	—	0.28	—	1,681
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	1.33	1.66	< 0.005	0.06	—	0.06	0.05	—	0.05	—	278
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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.17	0.12	2.44	0.00	0.00	0.41	0.41	0.00	0.10	0.10	1.77	466
Vendor	0.02	0.72	0.27	< 0.005	0.01	0.10	0.11	0.01	0.03	0.03	1.03	415
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

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.15	0.15	1.80	0.00	0.00	0.41	0.41	0.00	0.10	0.10	0.05	413
Vendor	0.01	0.77	0.27	< 0.005	0.01	0.10	0.11	0.01	0.03	0.03	0.03	414
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.11	0.09	1.28	0.00	0.00	0.28	0.28	0.00	0.07	0.07	0.53	297
Vendor	0.01	0.53	0.19	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	0.31	289
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.23	0.00	0.00	0.05	0.05	0.00	0.01	0.01	0.09	49.1
Vendor	< 0.005	0.10	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	0.05	47.9
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

3.11. Paving (2024) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.85	7.81	10.0	0.01	0.39	—	0.39	0.36	—	0.36	—	1,517
Paving	0.88	—	—	—	—	—	—	—	—	—	—	—
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.05	0.43	0.55	< 0.005	0.02	—	0.02	0.02	—	0.02	—	83.1
Paving	0.05	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.08	0.10	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	13.8
Paving	0.01	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.07	0.72	0.00	0.00	0.15	0.15	0.00	0.04	0.04	0.02	156
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
Hauling	0.08	5.14	1.79	0.03	0.05	0.64	0.69	0.05	0.17	0.22	0.14	2,686
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	0.02	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
Hauling	< 0.005	0.28	0.10	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	0.13	147
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	< 0.005	1.46
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
Hauling	< 0.005	0.05	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	0.02	24.4

3.12. Paving (2024) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.85	7.81	10.0	0.01	0.39	—	0.39	0.36	—	0.36	—	1,517
Paving	0.88	—	—	—	—	—	—	—	—	—	—	—
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.43	0.55	< 0.005	0.02	—	0.02	0.02	—	0.02	—	83.1
Paving	0.05	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.08	0.10	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	13.8
Paving	0.01	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.07	0.72	0.00	0.00	0.15	0.15	0.00	0.04	0.04	0.02	156
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
Hauling	0.08	5.14	1.79	0.03	0.05	0.64	0.69	0.05	0.17	0.22	0.14	2,686
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	0.02	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
Hauling	< 0.005	0.28	0.10	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	0.13	147
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	< 0.005	1.46
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
Hauling	< 0.005	0.05	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	0.02	24.4

3.13. Architectural Coating (2025) - 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	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	0.88	1.14	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134
Architectural Coatings	13.9	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	0.88	1.14	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134
Architectural Coatings	13.9	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.32	0.41	< 0.005	0.01	—	0.01	0.01	—	0.01	—	48.1

Architectural Coatings	4.97	—	—	—	—	—	—	—	—	—	—	—
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.06	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.96
Architectural Coatings	0.91	—	—	—	—	—	—	—	—	—	—	—
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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.02	0.49	0.00	0.00	0.08	0.08	0.00	0.02	0.02	0.35	93.3
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
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.36	0.00	0.00	0.08	0.08	0.00	0.02	0.02	0.01	82.6
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
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.13	0.00	0.00	0.03	0.03	0.00	0.01	0.01	0.05	30.5
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
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	0.01	5.05
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
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

3.14. Architectural Coating (2025) - 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	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	0.88	1.14	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134
Architectural Coatings	13.9	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	0.88	1.14	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134
Architectural Coatings	13.9	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.32	0.41	< 0.005	0.01	—	0.01	0.01	—	0.01	—	48.1
Architectural Coatings	4.97	—	—	—	—	—	—	—	—	—	—	—
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.06	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.96
Architectural Coatings	0.91	—	—	—	—	—	—	—	—	—	—	—
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

Offsite	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.02	0.49	0.00	0.00	0.08	0.08	0.00	0.02	0.02	0.35	93.3
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
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.36	0.00	0.00	0.08	0.08	0.00	0.02	0.02	0.01	82.6
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
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.13	0.00	0.00	0.03	0.03	0.00	0.01	0.01	0.05	30.5
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
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	0.01	5.05
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
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

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	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fast Food Restaurant with Drive Thru	10.7	10.3	102	0.23	0.17	19.1	19.3	0.16	4.86	5.01	80.6	23,618
Single Family Housing	3.86	3.85	38.6	0.09	0.06	7.27	7.33	0.06	1.85	1.90	30.6	8,963
Automobile Care Center	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Convenience Market with Gas Pumps	4.28	4.12	41.1	0.09	0.07	7.67	7.74	0.06	1.95	2.01	32.3	9,478
Strip Mall	1.60	1.54	15.4	0.03	0.03	2.87	2.90	0.02	0.73	0.75	12.1	3,550
Fast Food Restaurant w/o Drive Thru	1.73	1.66	16.6	0.04	0.03	3.10	3.12	0.03	0.79	0.81	13.0	3,823
Total	22.1	21.4	214	0.48	0.35	40.0	40.4	0.33	10.2	10.5	169	49,432
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fast Food Restaurant with Drive Thru	9.59	12.1	85.4	0.21	0.17	19.1	19.3	0.16	4.86	5.01	2.09	21,557
Single Family Housing	3.48	4.53	31.9	0.08	0.06	7.27	7.33	0.06	1.85	1.90	0.79	8,179
Automobile Care Center	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Convenience Market with Gas Pumps	3.85	4.84	34.3	0.08	0.07	7.67	7.74	0.06	1.95	2.01	0.84	8,651
Strip Mall	1.44	1.81	12.8	0.03	0.03	2.87	2.90	0.02	0.73	0.75	0.31	3,240

Fast Food Restaurant w/o Drive Thru	1.55	1.95	13.8	0.03	0.03	3.10	3.12	0.03	0.79	0.81	0.34	3,490
Total	19.9	25.2	178	0.43	0.35	40.0	40.4	0.33	10.2	10.5	4.37	45,117
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fast Food Restaurant with Drive Thru	1.75	2.06	15.4	0.04	0.03	3.40	3.43	0.03	0.87	0.89	5.76	3,641
Single Family Housing	0.64	0.77	5.79	0.01	0.01	1.29	1.31	0.01	0.33	0.34	2.19	1,382
Automobile Care Center	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Convenience Market with Gas Pumps	0.70	0.83	6.20	0.02	0.01	1.37	1.38	0.01	0.35	0.36	2.31	1,461
Strip Mall	0.26	0.31	2.32	0.01	< 0.005	0.51	0.52	< 0.005	0.13	0.13	0.87	547
Fast Food Restaurant w/o Drive Thru	0.28	0.33	2.50	0.01	< 0.005	0.55	0.56	< 0.005	0.14	0.14	0.93	589
Total	3.64	4.31	32.3	0.08	0.06	7.13	7.19	0.06	1.81	1.87	12.1	7,620

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	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Fast Food Restaurant with Drive Thru	10.7	10.3	102	0.23	0.17	19.1	19.3	0.16	4.86	5.01	80.6	23,618
Single Family Housing	3.86	3.85	38.6	0.09	0.06	7.27	7.33	0.06	1.85	1.90	30.6	8,963
Automobile Care Center	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Convenience Market with Gas Pumps	4.28	4.12	41.1	0.09	0.07	7.67	7.74	0.06	1.95	2.01	32.3	9,478
Strip Mall	1.60	1.54	15.4	0.03	0.03	2.87	2.90	0.02	0.73	0.75	12.1	3,550
Fast Food Restaurant w/o Drive Thru	1.73	1.66	16.6	0.04	0.03	3.10	3.12	0.03	0.79	0.81	13.0	3,823
Total	22.1	21.4	214	0.48	0.35	40.0	40.4	0.33	10.2	10.5	169	49,432
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fast Food Restaurant with Drive Thru	9.59	12.1	85.4	0.21	0.17	19.1	19.3	0.16	4.86	5.01	2.09	21,557
Single Family Housing	3.48	4.53	31.9	0.08	0.06	7.27	7.33	0.06	1.85	1.90	0.79	8,179
Automobile Care Center	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Convenience Market with Gas Pumps	3.85	4.84	34.3	0.08	0.07	7.67	7.74	0.06	1.95	2.01	0.84	8,651
Strip Mall	1.44	1.81	12.8	0.03	0.03	2.87	2.90	0.02	0.73	0.75	0.31	3,240
Fast Food Restaurant w/o Drive Thru	1.55	1.95	13.8	0.03	0.03	3.10	3.12	0.03	0.79	0.81	0.34	3,490
Total	19.9	25.2	178	0.43	0.35	40.0	40.4	0.33	10.2	10.5	4.37	45,117

Annual	—	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fast Food Restaurant with Drive Thru	1.75	2.06	15.4	0.04	0.03	3.40	3.43	0.03	0.87	0.89	5.76	3,641
Single Family Housing	0.64	0.77	5.79	0.01	0.01	1.29	1.31	0.01	0.33	0.34	2.19	1,382
Automobile Care Center	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Convenience Market with Gas Pumps	0.70	0.83	6.20	0.02	0.01	1.37	1.38	0.01	0.35	0.36	2.31	1,461
Strip Mall	0.26	0.31	2.32	0.01	< 0.005	0.51	0.52	< 0.005	0.13	0.13	0.87	547
Fast Food Restaurant w/o Drive Thru	0.28	0.33	2.50	0.01	< 0.005	0.55	0.56	< 0.005	0.14	0.14	0.93	589
Total	3.64	4.31	32.3	0.08	0.06	7.13	7.19	0.06	1.81	1.87	12.1	7,620

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	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	196
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	377

Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	1,269
Automobile Care Center	—	—	—	—	—	—	—	—	—	—	—	571
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	213
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	79.4
Fast Food Restaurant w/o Drive Thru	—	—	—	—	—	—	—	—	—	—	—	174
Total	—	—	—	—	—	—	—	—	—	—	—	2,880
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	196
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	377
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	1,269
Automobile Care Center	—	—	—	—	—	—	—	—	—	—	—	571
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	213
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	79.4
Fast Food Restaurant w/o Drive Thru	—	—	—	—	—	—	—	—	—	—	—	174
Total	—	—	—	—	—	—	—	—	—	—	—	2,880
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	32.5

Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	62.5
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	210
Automobile Care Center	—	—	—	—	—	—	—	—	—	—	—	94.6
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	35.2
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	13.1
Fast Food Restaurant w/o Drive Thru	—	—	—	—	—	—	—	—	—	—	—	28.9
Total	—	—	—	—	—	—	—	—	—	—	—	477

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	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	196
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	370
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	717
Automobile Care Center	—	—	—	—	—	—	—	—	—	—	—	571

Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	191
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	39.2
Fast Food Restaurant w/o Drive Thru	—	—	—	—	—	—	—	—	—	—	—	171
Total	—	—	—	—	—	—	—	—	—	—	—	2,257
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	196
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	370
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	717
Automobile Care Center	—	—	—	—	—	—	—	—	—	—	—	571
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	191
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	39.2
Fast Food Restaurant w/o Drive Thru	—	—	—	—	—	—	—	—	—	—	—	171
Total	—	—	—	—	—	—	—	—	—	—	—	2,257
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	32.5
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	61.3

Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	119
Automobile Care Center	—	—	—	—	—	—	—	—	—	—	—	94.6
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	31.7
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	6.50
Fast Food Restaurant w/o Drive Thru	—	—	—	—	—	—	—	—	—	—	—	28.3
Total	—	—	—	—	—	—	—	—	—	—	—	374

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	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Fast Food Restaurant with Drive Thru	0.01	0.26	0.22	< 0.005	0.02	—	0.02	0.02	—	0.02	—	312
Single Family Housing	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Automobile Care Center	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Convenience Market with Gas Pumps	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Strip Mall	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00

Fast Food Restaurant w/o Drive Thru	0.01	0.12	0.10	< 0.005	0.01	—	0.01	0.01	—	0.01	—	144
Total	0.02	0.38	0.32	< 0.005	0.03	—	0.03	0.03	—	0.03	—	456
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Fast Food Restaurant with Drive Thru	0.01	0.26	0.22	< 0.005	0.02	—	0.02	0.02	—	0.02	—	312
Single Family Housing	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Automobile Care Center	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Convenience Market with Gas Pumps	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Strip Mall	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Fast Food Restaurant w/o Drive Thru	0.01	0.12	0.10	< 0.005	0.01	—	0.01	0.01	—	0.01	—	144
Total	0.02	0.38	0.32	< 0.005	0.03	—	0.03	0.03	—	0.03	—	456
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Fast Food Restaurant with Drive Thru	< 0.005	0.05	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	51.7
Single Family Housing	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Automobile Care Center	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00

Convenience Market with Gas Pumps	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Strip Mall	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Fast Food Restaurant w/o Drive Thru	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	23.9
Total	< 0.005	0.07	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	75.6

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	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Fast Food Restaurant with Drive Thru	0.01	0.26	0.22	< 0.005	0.02	—	0.02	0.02	—	0.02	—	312
Single Family Housing	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Automobile Care Center	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Convenience Market with Gas Pumps	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Strip Mall	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Fast Food Restaurant w/o Drive Thru	0.01	0.12	0.10	< 0.005	0.01	—	0.01	0.01	—	0.01	—	144
Total	0.02	0.38	0.32	< 0.005	0.03	—	0.03	0.03	—	0.03	—	456

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Fast Food Restaurant with Drive Thru	0.01	0.26	0.22	< 0.005	0.02	—	0.02	0.02	—	0.02	—	312
Single Family Housing	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Automobile Care Center	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Convenience Market with Gas Pumps	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Strip Mall	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Fast Food Restaurant w/o Drive Thru	0.01	0.12	0.10	< 0.005	0.01	—	0.01	0.01	—	0.01	—	144
Total	0.02	0.38	0.32	< 0.005	0.03	—	0.03	0.03	—	0.03	—	456
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Fast Food Restaurant with Drive Thru	< 0.005	0.05	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	51.7
Single Family Housing	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Automobile Care Center	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Convenience Market with Gas Pumps	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Strip Mall	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00

Fast Food Restaurant w/o Drive Thru	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	23.9
Total	< 0.005	0.07	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	75.6

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	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Consumer Products	4.15	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.50	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.63	0.06	5.93	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	17.8
Total	5.27	0.06	5.93	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	17.8
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Consumer Products	4.15	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.50	—	—	—	—	—	—	—	—	—	—	—
Total	4.64	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00

Consumer Products	0.76	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.09	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.08	0.01	0.74	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.02
Total	0.93	0.01	0.74	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.02

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	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Consumer Products	4.15	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.50	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.63	0.06	5.93	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	17.8
Total	5.27	0.06	5.93	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	17.8
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Consumer Products	4.15	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.50	—	—	—	—	—	—	—	—	—	—	—
Total	4.64	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—

Hearths	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00
Consumer Products	0.76	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.09	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.08	0.01	0.74	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.02
Total	0.93	0.01	0.74	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.02

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	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.38
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	19.0
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	36.5
Automobile Care Center	—	—	—	—	—	—	—	—	—	—	—	12.2
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	2.58
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	4.19
Fast Food Restaurant w/o Drive Thru	—	—	—	—	—	—	—	—	—	—	—	8.48

Total	—	—	—	—	—	—	—	—	—	—	—	83.3
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.38
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	19.0
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	36.5
Automobile Care Center	—	—	—	—	—	—	—	—	—	—	—	12.2
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	2.58
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	4.19
Fast Food Restaurant w/o Drive Thru	—	—	—	—	—	—	—	—	—	—	—	8.48
Total	—	—	—	—	—	—	—	—	—	—	—	83.3
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.06
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	3.14
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	6.05
Automobile Care Center	—	—	—	—	—	—	—	—	—	—	—	2.02
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	0.43
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	0.69

Fast Food Restaurant w/o Drive Thru	—	—	—	—	—	—	—	—	—	—	—	1.40
Total	—	—	—	—	—	—	—	—	—	—	—	13.8

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	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.38
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	19.0
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	36.5
Automobile Care Center	—	—	—	—	—	—	—	—	—	—	—	12.2
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	2.58
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	4.19
Fast Food Restaurant w/o Drive Thru	—	—	—	—	—	—	—	—	—	—	—	8.48
Total	—	—	—	—	—	—	—	—	—	—	—	83.3
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.38

Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	19.0
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	36.5
Automobile Care Center	—	—	—	—	—	—	—	—	—	—	—	12.2
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	2.58
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	4.19
Fast Food Restaurant w/o Drive Thru	—	—	—	—	—	—	—	—	—	—	—	8.48
Total	—	—	—	—	—	—	—	—	—	—	—	83.3
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.06
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	3.14
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	6.05
Automobile Care Center	—	—	—	—	—	—	—	—	—	—	—	2.02
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	0.43
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	0.69
Fast Food Restaurant w/o Drive Thru	—	—	—	—	—	—	—	—	—	—	—	1.40
Total	—	—	—	—	—	—	—	—	—	—	—	13.8

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	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	227
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	101
Automobile Care Center	—	—	—	—	—	—	—	—	—	—	—	0.00
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	29.5
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	17.2
Fast Food Restaurant w/o Drive Thru	—	—	—	—	—	—	—	—	—	—	—	105
Total	—	—	—	—	—	—	—	—	—	—	—	479
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	227

Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	101
Automobile Care Center	—	—	—	—	—	—	—	—	—	—	—	0.00
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	29.5
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	17.2
Fast Food Restaurant w/o Drive Thru	—	—	—	—	—	—	—	—	—	—	—	105
Total	—	—	—	—	—	—	—	—	—	—	—	479
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	37.6
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	16.7
Automobile Care Center	—	—	—	—	—	—	—	—	—	—	—	0.00
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	4.88
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	2.84
Fast Food Restaurant w/o Drive Thru	—	—	—	—	—	—	—	—	—	—	—	17.4
Total	—	—	—	—	—	—	—	—	—	—	—	79.3

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	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	227
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	101
Automobile Care Center	—	—	—	—	—	—	—	—	—	—	—	0.00
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	29.5
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	17.2
Fast Food Restaurant w/o Drive Thru	—	—	—	—	—	—	—	—	—	—	—	105
Total	—	—	—	—	—	—	—	—	—	—	—	479
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	227
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	101
Automobile Care Center	—	—	—	—	—	—	—	—	—	—	—	0.00

Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	29.5
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	17.2
Fast Food Restaurant w/o Drive Thru	—	—	—	—	—	—	—	—	—	—	—	105
Total	—	—	—	—	—	—	—	—	—	—	—	479
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	37.6
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	16.7
Automobile Care Center	—	—	—	—	—	—	—	—	—	—	—	0.00
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	—	4.88
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	2.84
Fast Food Restaurant w/o Drive Thru	—	—	—	—	—	—	—	—	—	—	—	17.4
Total	—	—	—	—	—	—	—	—	—	—	—	79.3

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	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	16.3	16.3
Single Family Housing	—	—	—	—	—	—	—	—	—	—	1.16	1.16
Automobile Care Center	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	1,078	1,078
Strip Mall	—	—	—	—	—	—	—	—	—	—	0.05	0.05
Fast Food Restaurant w/o Drive Thru	—	—	—	—	—	—	—	—	—	—	7.55	7.55
Total	—	—	—	—	—	—	—	—	—	—	1,103	1,103
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	16.3	16.3
Single Family Housing	—	—	—	—	—	—	—	—	—	—	1.16	1.16
Automobile Care Center	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	1,078	1,078
Strip Mall	—	—	—	—	—	—	—	—	—	—	0.05	0.05

Fast Food Restaurant w/o Drive Thru	—	—	—	—	—	—	—	—	—	—	7.55	7.55
Total	—	—	—	—	—	—	—	—	—	—	1,103	1,103
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	2.70	2.70
Single Family Housing	—	—	—	—	—	—	—	—	—	—	0.19	0.19
Automobile Care Center	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	179	179
Strip Mall	—	—	—	—	—	—	—	—	—	—	0.01	0.01
Fast Food Restaurant w/o Drive Thru	—	—	—	—	—	—	—	—	—	—	1.25	1.25
Total	—	—	—	—	—	—	—	—	—	—	183	183

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	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	16.3	16.3
Single Family Housing	—	—	—	—	—	—	—	—	—	—	1.16	1.16

Automobile Care Center	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	1,078	1,078
Strip Mall	—	—	—	—	—	—	—	—	—	—	0.05	0.05
Fast Food Restaurant w/o Drive Thru	—	—	—	—	—	—	—	—	—	—	7.55	7.55
Total	—	—	—	—	—	—	—	—	—	—	1,103	1,103
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	16.3	16.3
Single Family Housing	—	—	—	—	—	—	—	—	—	—	1.16	1.16
Automobile Care Center	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	1,078	1,078
Strip Mall	—	—	—	—	—	—	—	—	—	—	0.05	0.05
Fast Food Restaurant w/o Drive Thru	—	—	—	—	—	—	—	—	—	—	7.55	7.55
Total	—	—	—	—	—	—	—	—	—	—	1,103	1,103
Annual	—	—	—	—	—	—	—	—	—	—	—	—
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	2.70	2.70
Single Family Housing	—	—	—	—	—	—	—	—	—	—	0.19	0.19

Automobile Care Center	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Convenience Market with Gas Pumps	—	—	—	—	—	—	—	—	—	—	179	179
Strip Mall	—	—	—	—	—	—	—	—	—	—	0.01	0.01
Fast Food Restaurant w/o Drive Thru	—	—	—	—	—	—	—	—	—	—	1.25	1.25
Total	—	—	—	—	—	—	—	—	—	—	183	183

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	R	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	R	CO2e

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

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

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

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	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	R	CO2e

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

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

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

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	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	R	CO2e

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

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

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

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

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e

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

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

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

Species	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—

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

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	R	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	R	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	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—

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

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	7/1/2024	7/29/2024	5.00	20.0	—
Site Preparation	Site Preparation	7/30/2024	8/13/2024	5.00	10.0	—
Grading	Grading	8/14/2024	10/1/2024	5.00	35.0	—
Building Construction	Building Construction	10/30/2024	12/23/2025	5.00	300	—
Paving	Paving	10/2/2024	10/29/2024	5.00	20.0	—
Architectural Coating	Architectural Coating	6/24/2025	12/23/2025	5.00	131	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

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

Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Demolition	Excavators	Diesel	Average	3.00	8.00	36.0	0.38
Demolition	Rubber Tired Dozers	Diesel	Average	2.00	8.00	367	0.40
Demolition	Off-Highway Trucks	Diesel	Average	1.00	4.00	376	0.38
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Site Preparation	Off-Highway Trucks	Diesel	Average	1.00	4.00	376	0.38
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Grading	Off-Highway Trucks	Diesel	Average	1.00	4.00	376	0.38
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.2.2. Mitigated

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

Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Demolition	Excavators	Diesel	Average	3.00	8.00	36.0	0.38
Demolition	Rubber Tired Dozers	Diesel	Average	2.00	8.00	367	0.40
Demolition	Off-Highway Trucks	Diesel	Average	1.00	4.00	376	0.38
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Site Preparation	Off-Highway Trucks	Diesel	Average	1.00	4.00	376	0.38
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Grading	Off-Highway Trucks	Diesel	Average	1.00	4.00	376	0.38
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	17.5	14.3	LDA,LDT1,LDT2
Demolition	Vendor	—	8.80	HHDT,MHDT
Demolition	Hauling	37.8	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	20.0	14.3	LDA,LDT1,LDT2
Site Preparation	Vendor	—	8.80	HHDT,MHDT
Site Preparation	Hauling	38.8	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	22.5	14.3	LDA,LDT1,LDT2
Grading	Vendor	—	8.80	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	40.5	14.3	LDA,LDT1,LDT2
Building Construction	Vendor	13.7	8.80	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	14.3	LDA,LDT1,LDT2
Paving	Vendor	—	8.80	HHDT,MHDT
Paving	Hauling	33.8	20.0	HHDT
Paving	Onsite truck	—	—	HHDT

Architectural Coating	—	—	—	—
Architectural Coating	Worker	8.10	14.3	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	8.80	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
Demolition	—	—	—	—
Demolition	Worker	17.5	14.3	LDA,LDT1,LDT2
Demolition	Vendor	—	8.80	HHDT,MHDT
Demolition	Hauling	37.8	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	20.0	14.3	LDA,LDT1,LDT2
Site Preparation	Vendor	—	8.80	HHDT,MHDT
Site Preparation	Hauling	38.8	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	22.5	14.3	LDA,LDT1,LDT2
Grading	Vendor	—	8.80	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	40.5	14.3	LDA,LDT1,LDT2
Building Construction	Vendor	13.7	8.80	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT

Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	14.3	LDA,LDT1,LDT2
Paving	Vendor	—	8.80	HHDT,MHDT
Paving	Hauling	33.8	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	8.10	14.3	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	8.80	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	328,050	109,350	45,954	15,318	17,541

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (Ton of Debris)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	3,020	—
Site Preparation	—	3,100	15.0	0.00	—

Grading	—	—	105	0.00	—
Paving	0.00	0.00	0.00	0.00	7.60

5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Parking Lot	6.71	100%
Fast Food Restaurant with Drive Thru	0.00	0%
Single Family Housing	0.89	0%
Automobile Care Center	0.00	0%
Convenience Market with Gas Pumps	0.00	0%
Strip Mall	0.00	0%
Fast Food Restaurant w/o Drive Thru	0.00	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2024	0.00	312	0.01	< 0.005
2025	0.00	295	0.01	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Fast Food Restaurant with Drive Thru	2,335	2,335	2,335	852,275	26,957	26,957	26,957	9,839,424
Single Family Housing	831	831	831	303,337	10,243	10,243	10,243	3,738,723
Automobile Care Center	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Convenience Market with Gas Pumps	937	937	937	342,004	10,818	10,818	10,818	3,948,404
Strip Mall	351	351	351	128,114	4,052	4,052	4,052	1,479,058
Fast Food Restaurant w/o Drive Thru	378	378	378	137,970	4,364	4,364	4,364	1,592,851

5.9.2. Mitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fast Food Restaurant with Drive Thru	2,335	2,335	2,335	852,275	26,957	26,957	26,957	9,839,424
Single Family Housing	831	831	831	303,337	10,243	10,243	10,243	3,738,723
Automobile Care Center	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Convenience Market with Gas Pumps	937	937	937	342,004	10,818	10,818	10,818	3,948,404
Strip Mall	351	351	351	128,114	4,052	4,052	4,052	1,479,058
Fast Food Restaurant w/o Drive Thru	378	378	378	137,970	4,364	4,364	4,364	1,592,851

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

Hearth Type	Unmitigated (number)
Single Family Housing	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	81
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)
Single Family Housing	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	81
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)
328050	109,350	45,954	15,318	17,541

5.10.3. Landscape Equipment

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

5.10.4. Landscape Equipment - Mitigated

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

5.11. Operational Energy Consumption

5.11.1. Unmitigated

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

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Parking Lot	256,099	279	0.0129	0.0017	0.00
Fast Food Restaurant with Drive Thru	492,040	279	0.0129	0.0017	971,425
Single Family Housing	1,655,012	279	0.0129	0.0017	0.00
Automobile Care Center	745,400	279	0.0129	0.0017	0.00
Convenience Market with Gas Pumps	277,402	279	0.0129	0.0017	0.00

Strip Mall	103,530	279	0.0129	0.0017	0.00
Fast Food Restaurant w/o Drive Thru	227,422	279	0.0129	0.0017	448,993

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)
Parking Lot	256,099	279	0.0129	0.0017	0.00
Fast Food Restaurant with Drive Thru	483,024	279	0.0129	0.0017	971,425
Single Family Housing	935,482	279	0.0129	0.0017	0.00
Automobile Care Center	745,400	279	0.0129	0.0017	0.00
Convenience Market with Gas Pumps	249,728	279	0.0129	0.0017	0.00
Strip Mall	51,177	279	0.0129	0.0017	0.00
Fast Food Restaurant w/o Drive Thru	223,254	279	0.0129	0.0017	448,993

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Parking Lot	0.00	304,187
Fast Food Restaurant with Drive Thru	3,171,927	489,311
Single Family Housing	2,855,979	16,194,986
Automobile Care Center	2,104,000	0.00
Convenience Market with Gas Pumps	385,177	281,701
Strip Mall	642,209	381,002
Fast Food Restaurant w/o Drive Thru	1,466,068	0.00

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Parking Lot	0.00	304,187
Fast Food Restaurant with Drive Thru	3,171,927	489,311
Single Family Housing	2,855,979	16,194,986
Automobile Care Center	2,104,000	0.00
Convenience Market with Gas Pumps	385,177	281,701
Strip Mall	642,209	381,002
Fast Food Restaurant w/o Drive Thru	1,466,068	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Parking Lot	0.00	—
Fast Food Restaurant with Drive Thru	120	—
Single Family Housing	53.4	—
Automobile Care Center	0.00	—
Convenience Market with Gas Pumps	15.6	—
Strip Mall	9.10	—
Fast Food Restaurant w/o Drive Thru	55.6	—

5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Parking Lot	0.00	—
Fast Food Restaurant with Drive Thru	120	—

Single Family Housing	53.4	—
Automobile Care Center	0.00	—
Convenience Market with Gas Pumps	15.6	—
Strip Mall	9.10	—
Fast Food Restaurant w/o Drive Thru	55.6	—

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
Fast Food Restaurant with Drive Thru	Household refrigerators and/or freezers	R-134a	1,430	0.00	0.60	0.00	1.00
Fast Food Restaurant with Drive Thru	Other commercial A/C and heat pumps	R-410A	2,088	1.80	4.00	4.00	18.0
Fast Food Restaurant with Drive Thru	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0
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
Automobile Care Center	Other commercial A/C and heat pumps	R-410A	2,088	0.00	4.00	4.00	18.0
Automobile Care Center	Supermarket refrigeration and condensing units	R-404A	3,922	0.00	16.5	16.5	18.0
Convenience Market with Gas Pumps	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Convenience Market with Gas Pumps	Supermarket refrigeration and condensing units	R-404A	3,922	26.5	16.5	16.5	18.0

Strip Mall	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Strip Mall	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00
Strip Mall	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0
Fast Food Restaurant w/o Drive Thru	Household refrigerators and/or freezers	R-134a	1,430	0.00	0.60	0.00	1.00
Fast Food Restaurant w/o Drive Thru	Other commercial A/C and heat pumps	R-410A	2,088	1.80	4.00	4.00	18.0
Fast Food Restaurant w/o Drive Thru	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0

5.14.2. Mitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Fast Food Restaurant with Drive Thru	Household refrigerators and/or freezers	R-134a	1,430	0.00	0.60	0.00	1.00
Fast Food Restaurant with Drive Thru	Other commercial A/C and heat pumps	R-410A	2,088	1.80	4.00	4.00	18.0
Fast Food Restaurant with Drive Thru	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0
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
Automobile Care Center	Other commercial A/C and heat pumps	R-410A	2,088	0.00	4.00	4.00	18.0
Automobile Care Center	Supermarket refrigeration and condensing units	R-404A	3,922	0.00	16.5	16.5	18.0

Convenience Market with Gas Pumps	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Convenience Market with Gas Pumps	Supermarket refrigeration and condensing units	R-404A	3,922	26.5	16.5	16.5	18.0
Strip Mall	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Strip Mall	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00
Strip Mall	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0
Fast Food Restaurant w/o Drive Thru	Household refrigerators and/or freezers	R-134a	1,430	0.00	0.60	0.00	1.00
Fast Food Restaurant w/o Drive Thru	Other commercial A/C and heat pumps	R-410A	2,088	1.80	4.00	4.00	18.0
Fast Food Restaurant w/o Drive Thru	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

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

5.15.2. Mitigated

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

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

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

5.16.2. Process Boilers

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

5.17. User Defined

Equipment Type	Fuel Type

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)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

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

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	24.1	annual days of extreme heat
Extreme Precipitation	6.45	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	0.69	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score

Temperature and Extreme Heat	2	0	0	N/A
Extreme Precipitation	2	0	0	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	1	0	0	N/A
Flooding	0	0	0	N/A
Drought	0	0	0	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	2	1	1	3
Extreme Precipitation	2	1	1	3
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	1	1	1	2
Flooding	1	1	1	2
Drought	1	1	1	2
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

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

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	62.5
AQ-PM	34.1
AQ-DPM	10.6
Drinking Water	31.4
Lead Risk Housing	45.3
Pesticides	0.00
Toxic Releases	19.1
Traffic	22.5
Effect Indicators	—
CleanUp Sites	71.6
Groundwater	30.9
Haz Waste Facilities/Generators	43.3
Impaired Water Bodies	51.2
Solid Waste	0.00
Sensitive Population	—
Asthma	88.7
Cardio-vascular	62.6
Low Birth Weights	87.7
Socioeconomic Factor Indicators	—

Education	31.4
Housing	27.2
Linguistic	39.2
Poverty	42.1
Unemployment	57.2

7.2. Healthy Places Index Scores

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

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	51.53342743
Employed	42.62799949
Median HI	40.48505069
Education	—
Bachelor's or higher	63.45438214
High school enrollment	100
Preschool enrollment	5.877069165
Transportation	—
Auto Access	32.77300141
Active commuting	56.71756705
Social	—
2-parent households	67.63762351
Voting	85.51263955
Neighborhood	—
Alcohol availability	44.96342872
Park access	20.92903888
Retail density	50.93032208

Supermarket access	55.20338766
Tree canopy	92.48043116
Housing	—
Homeownership	48.67188503
Housing habitability	72.66777878
Low-inc homeowner severe housing cost burden	95.66277428
Low-inc renter severe housing cost burden	61.59373797
Uncrowded housing	70.21686129
Health Outcomes	—
Insured adults	70.78147055
Arthritis	0.0
Asthma ER Admissions	6.0
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	57.2
Cognitively Disabled	6.9
Physically Disabled	10.8
Heart Attack ER Admissions	48.8
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	95.3
Physical Health Not Good	0.0

Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	23.1
Elderly	20.5
English Speaking	68.2
Foreign-born	8.7
Outdoor Workers	59.0
Climate Change Adaptive Capacity	—
Impervious Surface Cover	66.4
Traffic Density	65.1
Traffic Access	23.0
Other Indices	—
Hardship	27.0
Other Decision Support	—
2016 Voting	76.2

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	47.0
Healthy Places Index Score for Project Location (b)	53.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No

Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

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

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Land uses and building sizes per site plan dated March 21, 2023. Single family home average size 2,000 SF (162,000 SF total) per project applicant. Automobile Care Center = car wash portion of convenience store/gas station. Parking lot includes retail area driveways, parking lots and sidewalks, and residential area streets and sidewalks. Retail landscape areas per landscape plan. Landscaping in Lots C, D, and F (0.5 acres/21,780 SF) included in parking lot land use. Residential landscape area per default.
Construction: Construction Phases	Grading increased from 30 days to 35 days to account for rough grading in Lot A. Architectural coating assumed to occur concurrently with last 6 months of building construction.
Construction: Off-Road Equipment	Off-Highway Truck = water truck
Construction: Trips and VMT	Based on paved area, 5,414 CY aggregate, asphalt, and concrete assumed to be imported during paving, 338 loads (676 round trips) assuming 16 CY per double trailer load.
Operations: Vehicle Data	Trip rates from Updated Winding Ranch Trip Generation memorandum (Wood Rodgers December 12, 2023). Trip rates include pass by reductions and internal capture, therefore, all trip purposes set to 100% primary.

Operations: Energy Use	Car wash (Automobile Care Center) energy use estimated from car wash industry survey averages for an automated conveyor wash business. Default natural gas for convenience market, and strip mall converted to KWh and added to electricity use. Default Title-24 (building energy) natural gas for fast food restaurants converted to KWh and added to electricity use. Non-title-24 natural gas (assumed to be for cooking) for fast food restaurants left at default.
Operations: Water and Waste Water	Car wash (Automobile Care Center) water use estimated from car wash industry survey averages for an automated conveyor wash business.
Operations: Solid Waste	Car wash (Automobile Care Center) solid waste included with Convenience Market/Gas Station.
Operations: Refrigerants	Car wash (Automobile Care Center) would not have air-conditioning or refrigeration systems.

Appendix B

Gas Station ROG Emissions

Gasoline Dispensing Facilities Organic Gases Emissions

Source	TOG Factor (lb/kgal)
Phase I Bulk Transfer Losses	0.15
Phase I Pressure Driven Losses	0.024
Phase II Fueling (ORVR Vehicles)	0.021
Phase II Spillage	0.24
Phase II Hose Permeation	0.009
Total	0.444

Throughput/year (kgal)	3,000
TOG/year (pounds)	1,332
TOG/day (pounds)	3.65
ROG/day (pounds)	3.65

Notes:
1. Emissions Factors from CARB's *Revised Emission Factors for Gasoline Marketing Operations at California Gasoline Dispensing Facilities*, December 3, 2013.
2. ROG is approximately equivalent to TOG for gasoline vapor because gasoline vapor contains negligible amounts of organic gases which are not ROGs, such as ethane and methane.

Appendix C

Title 24 Solar Requirement Calculations

Winding Ranch Residential Solar Panel Requirements

Factors for Climate Zone 12	
A	0.613
B	1.4
CF	18.57%

	DU	Total SF	Garage SF	Conditioned Space	kW	kWhr/year
Total	81.0	162,000.0	32,400.0	129,600.0	192.8	313,706.8

Winding Ranch Non-Residential Solar Panel Requirements

Factors for Climate Zone 12	
A - Retail	2.91
A - Restaurant	0.44
CF	18.57%

Land Use	CFA	kW	kWhr/year
Conveneince Store	5,200	15.1	24,615.7
Strip Mall Retail	8,670	25.2	41,042.0
FF Restaurant w/DT	10,450	4.6	7,479.7
FF Restaurant wo/DT	4,830	2.1	3,457.1

Notes:
1. Calculations based on 2022 Title 24 Residential and Non-Residential Compliance Manuals.
2. Factors are for eastern Sacramento County where A is the climate zone 12 adjustment factor, B is the climate zone 12 dwelling unit factor.
3. CF is the capacity factor which accounts for climate, daylight hours, roof pitch and orientation, and transmission loss, from National Renewable Energy Laboratory PVWatts Calculator, for project site coordinates and solar panel orientation of 180 degree azimuth, 30 degree tilt.
4. Garage area based on typical 400 SF 2-car garage.
5. Residential solar power output requirement is calculated by 2022 Title 24 Residential Compliance Manual Equation 7-1:
   kW = (CFA X A) / 1000 + (DU X B).
6. Non-residential solar power output requirement is calculated by 2022 Title 24 Non-Residential Compliance Manual Equation 9-1:
   kW = (CFA X A) / 1000
7. Annual solar energy generated is calculated by:
   kWhr/year = Power Output (kW) x 24 hours/day x 365 days/year x CF.

Appendix D

Gasoline Service Station Assessment Tool

2022 CARB & CAPCOA Gasoline Service Station Industrywide Risk Assessment Look-up Tool
Version 1.0 - February 18, 2022

Required Value	User Defined Input	Instructions
Annual Throughput (gallons/year)	3000000	Enter your gas station's annual throughput in gallons of gasoline dispensed per year.
Hourly Dispensing Throughput (gallons/hour)	1000	The tool will calculate the maximum hourly vehicle fueling throughput based on annual throughput as defined by Table 10 of the 2020 Gasoline Service Station Industrywide Risk Assessment Technical Guidance Document (Technical Guidance). If a different value is desired please enter it into cell L4.
Hourly Loading Throughput (gallons/hour)	8880	The tool will calculate the maximum hourly loading throughput based on annual throughput as defined by Table 10 of the Technical Guidance. If a different value is desired please enter it into cell L5.
Meteorological Data	Fresno	Select appropriate meteorological data. Met sets provided include 2 rural (Redding and Lancaster) and 4 urban (Fresno, Ontario, San Diego, and San Jose) locations. Use whichever best correlates to your location. If you would like to use site-specific meteorological data please refer to the Variable Met Tool.
Distance to Nearest Resident (meters)	117	Enter the distance to the nearest residential receptor in meters as measured from the edge of the station canopy. Please note that the value must be between 10 and 1000 meters. The distance you input will round down to the nearest receptor distance used in the Technical Guidance (e.g., 19m will return value at 10m distance).
Distance to Nearest Business (meters)	61	Enter the distance to the nearest worker receptor in meters as measured from the edge of the station canopy. Please note that the value must be between 10 and 1000 meters. The distance you input will round down to the nearest receptor distance used in the Technical Guidance (e.g., 19m will return value at 10m distance).
Distance to Acute Receptor (meters)	61	Enter the distance where acute impacts are expected in meters as measured from the edge of the station canopy. This can be the distance to the property boundary, nearest resident, nearest worker, or any other user defined location. Please note that the value must be between 10 and 1000 meters. The distance you input will round down to the nearest receptor distance used in the Technical Guidance (e.g., 19m will return value at 10m distance).
Control Scenario	EVR Phase I & EVR Phase II	Select the appropriate control scenario for your gas station. Please refer to technical Guidance for an explanation of the different control scenarios. Almost all gas stations in California are equipped with EVR Phase I and EVR Phase II controls.
Include Building Downwash Adjustments	no	Building downwash may over estimate risk results. High results should be investigated further through site-specific health risk assessment.

Risk Value	Results
Max Residential Cancer Risk (chances/million)	1.29
Max Worker Cancer Risk (chances/million)	0.23
Chronic HI	0.01
Acute HI	0.12

10/12/2023 2:21 PM