Questhaven Project

Greenhouse Gas Emissions Technical Report

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Acronyms and Abbreviations

AB	Assembly Bill
ADT	average daily traffic
ANFO	ammonium nitrate/fuel oil
APN	Assessor's Parcel Number
C_2F_6	hexafluoroethane
CAA	Clean Air Act
CAFE	Corporate Average Fuel Economy
CalEEMod	California Emissions Estimator Model
CALGreen	California Green Building Standards Code
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	tetraflouromethane
CFCs	chlorofluorocarbons
CH_4	methane
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
County	San Diego County
CY	cubic yard
DU	dwelling unit
EO	Executive Order
GHG	greenhouse gas
GWP	Global Warming Potential
HELIX	HELIX Environmental Planning
HFCs	hydrofluorocarbons
I-5	Interstate 5
IPCC	United Nations Intergovernmental Panel on Climate Change
kW	kilowatts
kWhr	kilowatt-hours
LCFS	Low Carbon Fuel Standard

Acronyms and Abbreviations (cont.)

MAWA	Maximum Applied Water Allowance
MPO	Metropolitan Planning Organization
MT	metric ton
N_2O	nitrous oxide
NASA	National Aeronautics and Space Administration
NHTSA	National Highway Traffic Safety Administration
NOAA	National Oceanic and Atmospheric Administration
NO_X	oxides of nitrogen
PFCs	perfluorocarbons
ppm	parts per million
RTP	Regional Transportation Plan
SANDAG	San Diego Association of Governments
SB	Senate Bill
SCAQMD	South Coast Air Quality Management District
SCS	Sustainable Communities Strategy
SDAPCD	San Diego County Air Pollution Control District
SEIR	Supplemental Environmental Impact Report
SF	square foot/square feet
SF_6	sulfur hexaflouride
UNFCCC	United Nations Framework Convention on Climate Change
USD EPIC	University of San Diego School of Law, Energy Policy Initiative Center
USEPA	U.S. Environmental Protection Agency
VMT	vehicle miles traveled
VOC	volatile organic compound
WRI	World Resource Institute
ZEV	zero emissions vehicle

EXECUTIVE SUMMARY

This report evaluates the potential greenhouse gas (GHG) emission impacts associated with the proposed Questhaven Project (project), located in an unincorporated area of San Diego County (County) southwest of the City of San Marcos and east of the City of Carlsbad. The project consists of a Tentative Map, Density Bonus Permit, and an Administrative Permit and would provide for development of 76 single-family residential homes and associated street and other infrastructure on approximately 25 acres of an 89-acre site. The remaining areas of project site would be open space.

GHG emissions that would be emitted as a result of construction and operation of the project are estimated in this analysis. Construction sources of GHG emissions include off-road heavy construction equipment, haul trucks, and employee vehicles. Operational sources of GHG emissions sources include area, energy, transportation, water use, and solid waste.

The project would be required to comply with the 2022 Title 24 Energy Code, which requires onsite photovoltaic (solar) energy generation for most new residences with three or fewer stories; Assembly Bill 341, which requires 75 percent diversion of on-going solid waste through reuse and recycling; and the 2019 California Green Building Standards Code (CALGreen), which requires 50 percent diversion of on-site construction waste and reduction of potable water use and wastewater generation by 20 percent. For outdoor water conservation and reduction, the project would comply with the County's Water Conservation in Landscaping Ordinance which requires a 40 percent reduction in current Maximum Applied Water Allowance. The project's total annual GHG emissions, including operational emissions and amortized construction emissions, are estimated to be 763 metric tons (MT) of carbon dioxide equivalent (CO_2e), or 3.58 MT CO_2e per project resident. This is greater than the project-specific 2029 GHG efficiency metric threshold of 3.07 MT CO_2e per capita per year. Project impacts related to the generation of GHG emissions would significant and unavoidable.

By exceeding the project-specific 2029 GHG efficiency metric threshold, the project would also not achieve the goals established by Senate Bill 32 or demonstrate reasonable progress towards achievement of Assembly Bill 1279. According to the project Transportation Study, the unincorporated county regional average VMT per resident is 18.9 miles per day. The project residents would have a VMT of 24.1 miles per day (Chen Ryan 2023). Therefore, the project would not result in a regional decrease in VMT for unincorporated county residents and would be inconsistent with the California Air Resources Board's (CARB's) 2022 Scoping Plan VMT reduction priority area. Due to conflicts with the goals established by SB 32 and AB 1279, as well as inconsistencies with CARB's 2022 Scoping Plan, the project would conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs, and the impact would be significant and unavoidable.

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1.0 INTRODUCTION

1.1 PURPOSE OF THE REPORT

This report analyzes potential greenhouse gas (GHG) emission impacts associated with the proposed Questhaven Residential Project (project). The analysis of impacts and report is prepared in accordance with the County of San Diego (County) project-specific GHG analysis requirements (Attachment C to the Questhaven to Tentative Map Pre-Application Letter; County 2020a).

1.2 PROJECT LOCATION AND DESCRIPTION

The project site consists of approximately 89.23 acres in the western portion of unincorporated San Diego County within the San Dieguito Community Plan Area. From a regional perspective, the project site is located south and west of the city of San Marcos and east of the city of Carlsbad. Interstate 5 (I-5) is located approximately 5.3 miles west of the project site. Specifically, the project site is located south of San Elijo Road and east of Denning Drive (see Figure 1, *Regional Location*, and Figure 2, *Aerial Photo*). The project site encompasses Assessor's Parcel Numbers (APNs) 223-080-46-00; 223-070-07-00 and 223-070-08-00.

The project consists of a Tentative Map, Density Bonus Permit, and an Administrative Permit for the 89.23-acre site. The project would provide for development of 76 single-family residential homes on 18.3 acres, recreation/community park uses on 0.3 acres, open space totaling 63.1 acres, internal streets and external road improvements totaling approximately 4.3 acres, and water quality detention basins on 2.4 acres. The project would cluster development in the northeastern portion of the project site to allow for the development of residential uses while providing 53.1 acres of biological open space in the southern and western portion of the site. A wildlife corridor would connect the biological open space with open space lands south and west of the project site. The project would connect to existing utilities within the San Elijo Road right of way, and to existing facilities that occupy easements along the project's easterly boundary. Access to the project would be provided via two full access connections to San Elijo Road (see Figure 3, *Site Plan*).

Construction would require approximately 27 months, commencing as early as January 2026 and completing in March 2028. Grading proposed by the project would result in disturbances to 31.35 acres on the project site and 0.09 acres off-site. During grading, approximately 176,000 cubic yards (CY) of earthmoving would be required, to be balanced onsite (no import or export of soil). Depending on conditions and rock encountered during grading, blasting may be required for preparation of roadbeds and/or residential lots.

1.3 REGULATORY REQUIREMENTS AND PROJECT DESIGN FEATURES THAT REDUCE GHG EMISSIONS

1.3.1 Energy Efficiencies

The project would be designed to meet the latest applicable version, currently 2022, of the Title 24 Part 6 energy efficiency standards and Part 11, California Green Building (CALGreen) standards, including the requirement for on-site photovoltaic (solar) energy generation for new residential buildings three or fewer stories high and cool/green roofs, (California Energy Commission [CEC] 2022; California Building

Standards Commission [CBSC] 2022). Additionally, the project would be designed to include all electric appliances and end uses. Using electric instead of natural gas-powered appliances and end uses replaces a more emissions-intensive fossil fuel source of energy with a less emissions-intensive source of energy, electricity from the grid that is increasingly transitioning to renewable sources.

1.3.2 Water and Waste Reduction

- The project would divert at least 75 percent of operational waste from landfills through reuse and recycling in accordance with Assembly Bill (AB) 341.

- Provide areas for storage and collection of recyclables and yard waste in accordance with CALGreen Standards (CBSC 2022).

- The project would provide 20 percent water indoor reduction in accordance with CALGreen Standards using low flow plumbing fixtures and fittings (CBSC 2022).

- The project would comply with the County's Water Conservation in Landscaping Ordinance requirements and would demonstrate a 40 percent reduction in current Maximum Applied Water Allowance (MAWA) for outdoor water use using drought tolerant landscaping and water efficient irrigation (County 2020b).

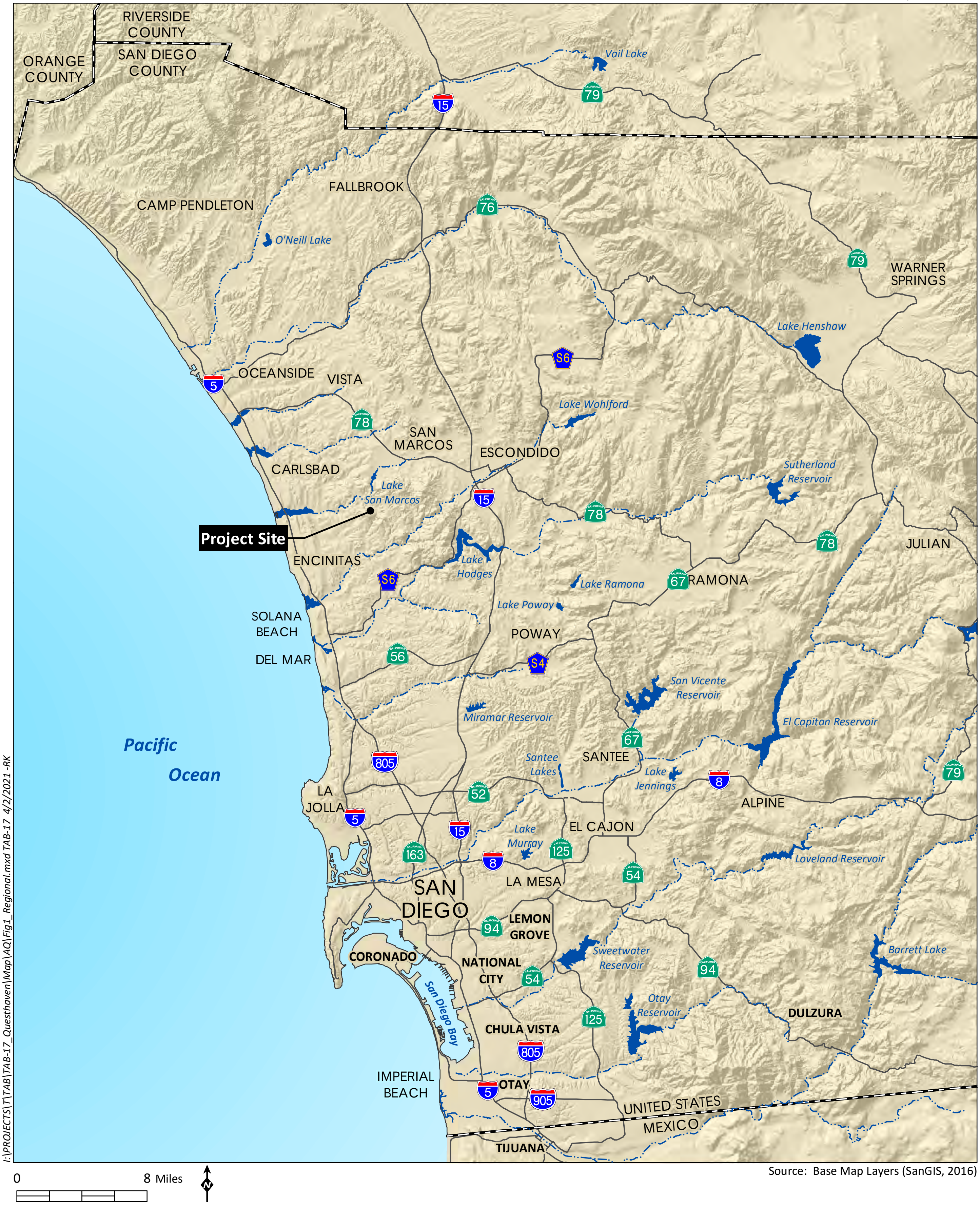
2.0 ENVIRONMENTAL SETTING

2.1 CLIMATE CHANGE OVERVIEW

Global climate change refers to changes in average climatic conditions on Earth as a whole, including temperature, wind patterns, precipitation, and storms. Global temperatures are moderated by naturally occurring atmospheric gases. These gases are commonly referred to as GHGs because they function like a greenhouse by letting light in but preventing heat from escaping, thus warming the Earth's atmosphere. These gases allow solar radiation (sunlight) into the Earth's atmosphere but prevent radiative 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 the most recent nine years (2014 through 2022) ranking as the warmest years on record since 1880. The newest release in long-term warming trends announced 2022 ranked as tied with 2015 for the fifth warmest year on record with an increase of 0.9 degrees Fahrenheit compared to the 1951-1980 average (National Aeronautics and Space Administration [NASA] 2023). 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).



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Source: Base Map Layers (SanGIS, 2016)

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Regional Location

Figure 1

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Source: Aerial (SanGIS, 2019)

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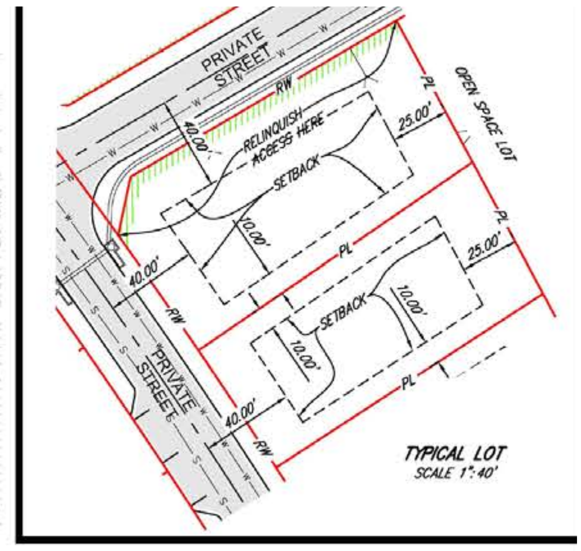
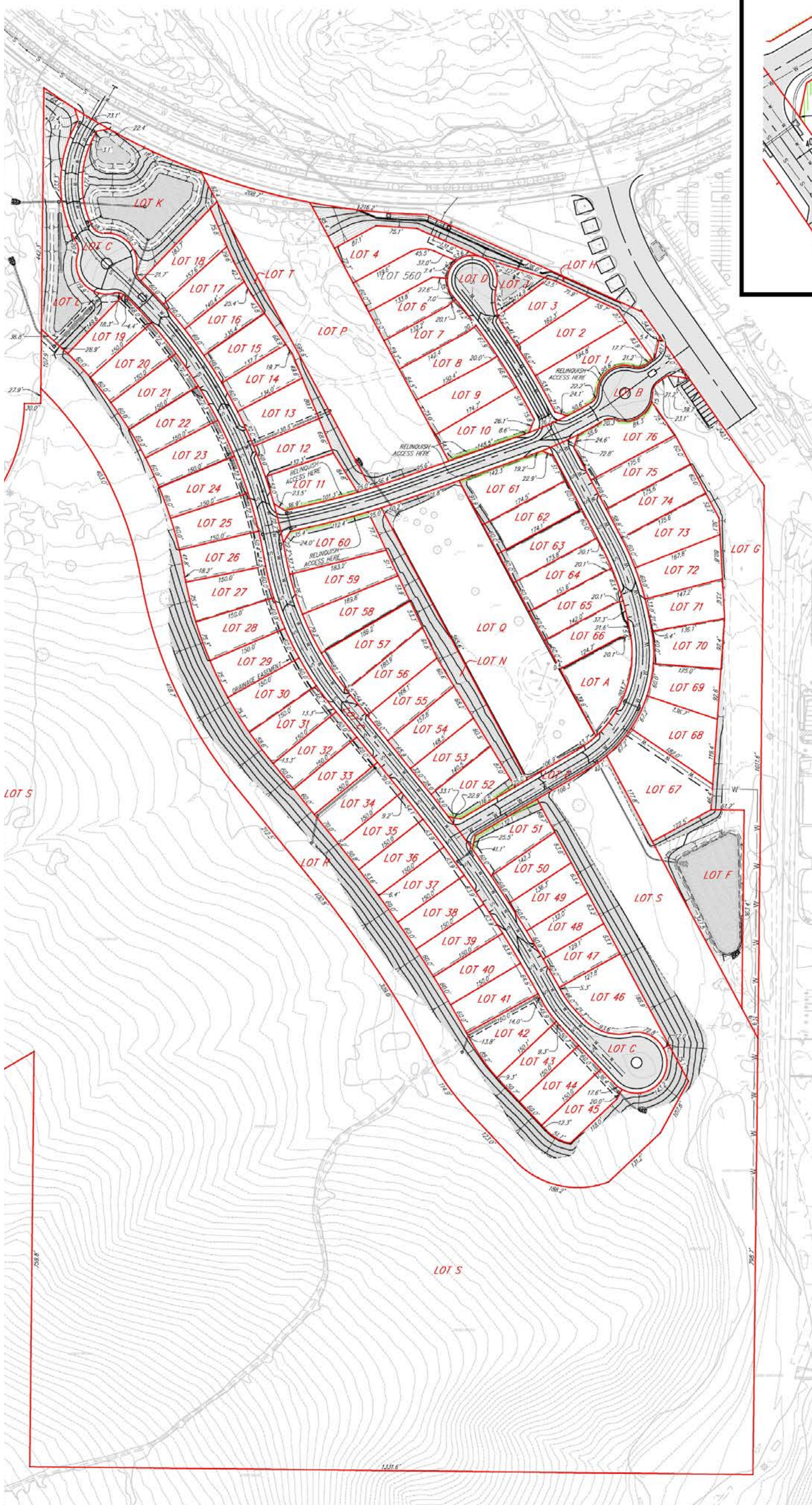
Aerial Photo

Figure 2





QUESTHAVEN SUBD 76 LOT CONCEPT WITH 10 FT SIDE YARD SETBACKS			
PARCEL NAME	LOT TYPE	AREA (SF)	AREA (AC)
Lot 1	RESIDENTIAL	15,915.24	0.37
Lot 2	RESIDENTIAL	12,776.89	0.29
Lot 3	RESIDENTIAL	9,559.46	0.22
Lot 4	RESIDENTIAL	11,993.44	0.28
Lot 5	RESIDENTIAL	10,085.48	0.23
Lot 6	RESIDENTIAL	8,955.98	0.21
Lot 7	RESIDENTIAL	9,377.69	0.22
Lot 8	RESIDENTIAL	10,949.04	0.25
Lot 9	RESIDENTIAL	11,911.06	0.27
Lot 10	RESIDENTIAL	12,220.86	0.28
Lot 11	RESIDENTIAL	10,704.52	0.25
Lot 12	RESIDENTIAL	8,423.35	0.19
Lot 13	RESIDENTIAL	9,885.56	0.23
Lot 14	RESIDENTIAL	8,835.26	0.20
Lot 15	RESIDENTIAL	8,777.50	0.20
Lot 16	RESIDENTIAL	8,804.98	0.20
Lot 17	RESIDENTIAL	9,586.40	0.22
Lot 18	RESIDENTIAL	11,158.05	0.26
Lot 19	RESIDENTIAL	9,923.90	0.23
Lot 20	RESIDENTIAL	9,924.50	0.23
Lot 21	RESIDENTIAL	9,924.50	0.23
Lot 22	RESIDENTIAL	9,924.50	0.23
Lot 23	RESIDENTIAL	9,924.50	0.23
Lot 24	RESIDENTIAL	9,924.50	0.23
Lot 25	RESIDENTIAL	9,927.29	0.23
Lot 26	RESIDENTIAL	9,367.98	0.22
Lot 27	RESIDENTIAL	10,144.31	0.23
Lot 28	RESIDENTIAL	10,144.31	0.23
Lot 29	RESIDENTIAL	10,144.31	0.23
Lot 30	RESIDENTIAL	10,144.31	0.23
Lot 31	RESIDENTIAL	9,894.54	0.23
Lot 32	RESIDENTIAL	9,000.00	0.21
Lot 33	RESIDENTIAL	9,000.00	0.21
Lot 34	RESIDENTIAL	10,500.00	0.24
Lot 35	RESIDENTIAL	9,247.99	0.21
Lot 36	RESIDENTIAL	9,292.83	0.21
Lot 37	RESIDENTIAL	9,292.83	0.21
Lot 38	RESIDENTIAL	9,292.83	0.21
Lot 39	RESIDENTIAL	9,292.83	0.21
Lot 40	RESIDENTIAL	9,292.83	0.21
Lot 41	RESIDENTIAL	9,341.83	0.21
Lot 42	RESIDENTIAL	11,984.56	0.28
Lot 43	RESIDENTIAL	9,000.25	0.21
Lot 44	RESIDENTIAL	9,000.00	0.21
Lot 45	RESIDENTIAL	8,734.08	0.20
Lot 46	RESIDENTIAL	16,229.65	0.37
Lot 47	RESIDENTIAL	7,899.13	0.18
Lot 48	RESIDENTIAL	8,030.43	0.18
Lot 49	RESIDENTIAL	8,258.23	0.19
Lot 50	RESIDENTIAL	8,583.58	0.20
Lot 51	RESIDENTIAL	10,608.53	0.24
Lot 52	RESIDENTIAL	10,331.46	0.24
Lot 53	RESIDENTIAL	8,666.22	0.20
Lot 54	RESIDENTIAL	10,231.98	0.23
Lot 55	RESIDENTIAL	9,715.97	0.22
Lot 56	RESIDENTIAL	10,409.99	0.24
Lot 57	RESIDENTIAL	12,507.91	0.29
Lot 58	RESIDENTIAL	12,460.00	0.29
Lot 59	RESIDENTIAL	11,917.52	0.27
Lot 60	RESIDENTIAL	12,940.49	0.30
Lot 61	RESIDENTIAL	13,666.51	0.31
Lot 62	RESIDENTIAL	10,459.30	0.24
Lot 63	RESIDENTIAL	10,438.12	0.24
Lot 64	RESIDENTIAL	10,412.48	0.24
Lot 65	RESIDENTIAL	10,096.71	0.23
Lot 66	RESIDENTIAL	9,304.64	0.21
Lot 67	RESIDENTIAL	21,440.61	0.49
Lot 68	RESIDENTIAL	13,845.75	0.32
Lot 69	RESIDENTIAL	9,770.10	0.22
Lot 70	RESIDENTIAL	9,742.03	0.22
Lot 71	RESIDENTIAL	9,321.80	0.21
Lot 72	RESIDENTIAL	10,814.98	0.25
Lot 73	RESIDENTIAL	12,302.60	0.28
Lot 74	RESIDENTIAL	10,536.89	0.24
Lot 75	RESIDENTIAL	10,536.89	0.24
Lot 76	RESIDENTIAL	12,770.09	0.29
Lot A	PARK	13,699.68	0.31
Lot B	PRIVATE STREET	37,018.42	0.85
Lot C	PRIVATE STREET	97,488.19	2.24
Lot D	PRIVATE STREET	17,789.53	0.41
Lot E	PRIVATE STREET	36,897.43	0.85
Lot F	WATER QUALITY	32,407.16	0.74
Lot G	OPEN SPACE	79,211.65	1.82
Lot H	OPEN SPACE	19,798.48	0.45
Lot J	WATER QUALITY	5,005.10	0.11
Lot K	WATER QUALITY	38,685.71	0.89
Lot L	WATER QUALITY	28,458.07	0.65
Lot N	OPEN SPACE	18,423.90	0.42
Lot P	OPEN SPACE	89,273.76	2.05
Lot Q	OPEN SPACE	82,517.05	1.89
Lot R	OPEN SPACE	167,599.45	3.85
Lot S	OPEN SPACE	2,314,336.49	53.13
Lot T	OPEN SPACE	12,550.26	0.29

Source: County of San Diego 2022

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Site Plan

Figure 3

2.2 GREENHOUSE GASES

The GHGs, as defined under California's Assembly Bill (AB) 32, include carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). Although water vapor is the most abundant and variable GHG in the atmosphere, it is not considered a pollutant; it maintains a climate necessary for life.

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). In December 2022, the CO_2 concentration was 419 ppm, a 50 percent increase since 1750 (National Oceanic and Atmospheric Administration [NOAA] 2023).

Methane. CH_4 is a gas and 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 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.

Fluorocarbons. Fluorocarbons are gases formed synthetically by replacing all hydrogen atoms in methane or ethane with chlorine and/or fluorine atoms. Chlorofluorocarbons (CFCs) are nontoxic, nonflammable, insoluble, and chemically nonreactive in the troposphere (the level of air at Earth's surface). CFCs were first synthesized in 1928 for use as refrigerants, aerosol propellants, and cleaning solvents. They destroy stratospheric ozone; therefore, their production was stopped as required by the Montreal Protocol.

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 global warming potential (GWP). The GWP of a gas is a measure of both potency and lifespan in the atmosphere as compared to CO_2. For example, because methane and N_2O are approximately 25 and 298 times more powerful than CO_2, respectively, in their ability to trap heat in the atmosphere, they have GWPs of 25 and 298, respectively (CO_2 has a GWP of 1; IPCC 2007). 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). IPCC updated the GWP values based on the latest science at the time in its Third Assessment Report in 2001 and again 2007 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. Therefore, statewide and national GHG inventories have not yet updated their GWP values to the AR5 values. 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 1, Global Warming Potentials and Atmospheric Lifetimes.

Table 1
GLOBAL WARMING POTENTIALS AND ATMOSPHERIC LIFETIMES

Greenhouse Gas	Atmospheric Lifetime (years)	Global Warming Potential (100-year time horizon)
Carbon Dioxide (CO_2)	50-200	1
Methane (CH_4)	12	25
Nitrous Oxide (N_2O)	114	298
HFC-134a	14	1,430
PFC: Tetraflouromethane (CF_4)	50,000	7,390
PFC: Hexafluoroethane (C_2F_6)	10,000	12,200
Sulfur Hexafluoride (SF_6)	3,200	22,800

Source: IPCC 2007
HFC: hydrofluorocarbon; PFC: perfluorocarbon

2.3 WORLDWIDE AND NATIONAL GHG EMISSIONS INVENTORIES

In 2020, total anthropogenic GHG emissions worldwide were estimated at 49,800 million metric tons (MMT) of CO_2e emissions (PBL 2022). The five largest emitting countries and the European Union (EU-27), together account for about 60 percent of total global GHG emissions: China (27%), the United States (12%), the European Union (about 7%), India (7%), the Russian Federation (4.5%) and Japan (2.4%). These countries also have the highest CO2 emission levels (PBL 2022).

Per the U.S. Environmental Protection Agency (USEPA) Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990–2020, total United States GHG emissions were approximately 5,981 MMT CO_2e in 2020 (USEPA 2022). The primary GHG emitted by human activities in the United States was CO_2, which represented approximately 76.4% of total GHG emissions (4,760 MMT CO_2e). The largest source of CO_2, and of overall GHG emissions, was fossil-fuel combustion, which accounted for approximately 92.8% of CO_2 emissions in 2018 (5,031.8 MMT CO_2e). Relative to 1990, gross United States GHG emissions in 2020 are lower by 7.3%, down from a high of 15.2% above 1990 levels in 2007. GHG emissions decreased from 2019 to 2020 by 10.6% and overall, net emissions in 2020 were 21.4% below 2005 levels (USEPA 2022).

2.4 STATE GHG EMISSIONS INVENTORIES

The California Air Resources Board (CARB) performed statewide inventories for the years 1990 to 2020, as shown in Table 2, *California GHG Emissions by Sector*. The inventory is divided into six broad sectors of economic activity: agriculture, commercial, electricity generation, industrial, residential, and transportation. Emissions are quantified in MMT CO_2e. As shown in Table 2, statewide GHG source emissions totaled 431 MMT CO_2e in 1990, 462 MMT CO_2e in 2000, 443 MMT CO_2e in 2010, and 381 MMT CO_2e in 2021. Transportation-related emissions consistently contribute the most GHG emissions, followed by electricity generation and industrial emissions (CARB 2007 and CARB 2023).

Table 2
CALIFORNIA GHG EMISSIONS BY SECTOR

	Emissions (MMT CO_2e)			
Sector	**1990**	**2000**	**2010**	**2021**
Agriculture and Forestry	18.9 (4%)	30.8 (7%)	34.0 (8%)	30.9 (8%)
Commercial	14.4 (3%)	14.6 (3%)	20.1 (5%)	22.5 (6%)
Electricity Generation	110.5 (26%)	105.2 (23%)	90.6 (20%)	62.6 (16%)
Industrial	105.3 (24%)	101.8 (22%)	97.9 (22%)	85.3 (22%)
Residential	29.7 (7%)	31.6 (7%)	32.1 (7%)	30.5 (8%)
Transportation	150.6 (35%)	178.5 (39%)	168.0 (38%)	149.5 (39%)
Unspecified Remaining	1.3 (<1%)	0.0 (0%)	0.0 (0%)	0.0 (0%)
Total	**430.7**	**461.5**	**442.7**	**381.3**

Source: CARB 2007 and CARB 2023
MMT = million metric tons; CO_2e = carbon dioxide equivalent

2.5 REGIONAL GHG EMISSIONS INVENTORY

An unincorporated San Diego regional emissions inventory that was prepared by the University of San Diego (USD) School of Law, Energy Policy Initiatives Center (EPIC) accounted for the unique characteristics of the region. Its 2019 emissions inventory update for Unincorporated San Diego County is presented in Table 3, *San Diego County GHG Emissions by Sector in 2019*. The sectors included in this inventory are different from those in the statewide inventory. Similar to the statewide emissions, transportation related GHG emissions contributed the most countywide, followed by emissions associated with energy use.

Table 3
SAN DIEGO COUNTY GHG EMISSIONS BY SECTOR IN 2019

Sector	2019 Emissions MT CO_2e (% total)[1]
On-Road Transportation	1,331,000 (45%)
Electricity	599,000 (20%)
Natural Gas	478,000 (16%)
Solid Waste	193,000 (6%)
Agriculture	134,000 (4%)
Propane	121,000 (4%)
Off-Road Transportation	71,000 (2%)
Water	39,000 (1%)
Wastewater	18,000 (1%)
Total	**3.21**

Source: USD EPIC 2023. Unincorporated County of San Diego County 2019 Greenhouse Gas Inventory and Projections. Prepared by the University of San Diego School of Law, Energy Policy Initiatives Center (EPIC).

[1] Percentages may not total 100 due to rounding.

MT = metric tons; CO_2e = carbon dioxide equivalent

3.0 REGULATORY FRAMEWORK

All levels of government have some responsibility for the protection of air quality, and each level (federal, state, and regional/local) has specific responsibilities relating to air quality regulation.

3.1 FEDERAL

3.1.1 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 Clean Air Act (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.

3.1.2 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 Corporate Average Fuel Economy (CAFE) standards under the Energy Policy and Conservation Act. On April 1, 2010, the USEPA and NHTSA announced a joint Final Rulemaking that established standards for 2012 through 2016 model year vehicles. This was followed up on October 15, 2012, when the agencies issued a Final Rulemaking with standards for model years 2017 through 2025.

In December 2021, USEPA issued a new rule formally adopting standards previously proposed in August 2021 for model years 2023 and 2024 and finalizing more stringent standards than previously proposed for model years 2025 and 2026. The rule assumes a 17 percent electric vehicle (EV) market penetration by 2026. Although this is a departure from the NHTSA CAFE standards, USEPA did coordinate with NHTSA during development of the new standards. On April 12, 2023, USEPA announced new, more ambitious proposed standards to further reduce harmful air pollutant emissions from light-duty and medium-duty vehicles starting with model year 2027. The proposal builds upon USEPA's final standards for federal GHG emissions standards for passenger cars and light trucks for model years 2023 through 2026 and leverages advances in clean car technology to result in benefits to Americans ranging from reducing climate pollution, to improving public health, to saving drivers money through reduced fuel and maintenance costs. The proposed standards would phase in over model years 2027 through 2032.

3.2 STATE

3.2.1 California Code of Regulations, Title 24, Part 6

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 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 latest update to the Title 24 standards occurred in 2022 and went into effect on January 1, 2023. The Building Energy Efficiency Standards focus on several key areas to improve the energy efficiency of newly constructed buildings and additions and alterations to existing buildings. The most significant efficiency improvements to the residential standards include improvements for attics, walls, water heating, and lighting, and the requirement for on-site photovoltaic (solar) energy generation for new residential buildings three or fewer stories high. 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 (CEC 2022).

3.2.2 California Green Building Standards Code

The California Green Building Standards Code (CALGreen; CCR Title 24, Part 11) is a code with mandatory requirements for new residential and nonresidential buildings (including industrial buildings) throughout California. The code is Part 11 of the California Building Standards Code in Title 24 of the CCR. The current 2022 Standards for new construction of, and additions and alterations to, residential and nonresidential buildings went into effect on January 1, 2023 (CBSC 2022).

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

CALGreen contains requirements for storm water control during construction; construction waste reduction; indoor water use reduction; material selection; natural resource conservation; site irrigation conservation; and more. The code provides for design options allowing the designer to determine how best to achieve compliance for a given site or building condition. The code also requires building commissioning, which is a process for the verification that all building systems, like heating and cooling equipment and lighting systems, are functioning at their maximum efficiency.

3.2.3 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. EOs are not laws and can only provide the governor's direction to state agencies to act within their authority. Legislation is required to enact the goals of EO S-3-05 and establish a framework for statewide implementation. AB 32, described below, mandates the 2020 GHG reduction goals of EO S-3-05. The 2050 GHG reduction goal of EO S-3-05 has not been enacted by any legislation and remains only a goal of the EO.

3.2.4 Assembly Bill 32 – Global Warming Solution Act of 2006

The California Global Warming Solutions Act of 2006 (Assembly Bill 32 and Health and Safety Code Sections 38500, 38501, 28510, 38530, 38550, 38560, 38561–38565, 38570, 38571, 38574, 38580, 38590, 38592–38599), widely known as AB 32, requires that CARB develop and enforce regulations for the reporting and verification of statewide GHG emissions. CARB is directed 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 reductions. AB 32 enacts the goals of EO S-3-05.

3.2.5 Executive Order B-30-15

On April 29, 2015, EO B-30-15 established a California GHG reduction target of 40 percent below 1990 levels by 2030. The EO aligns California's GHG reduction targets with those of leading international governments, including the 28-nation European Union. California is on track to meet or exceed the target of reducing GHG 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 ultimate goal established by EO S-3-05 of reducing emissions 80 percent under 1990 levels by 2050. Senate Bill (SB) 32, described below, mandates the 2030 GHG reduction goals of EO B-30-15.

3.2.6 Senate Bill 32

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.

3.2.7 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 almost complete transition away from fossil fuels.

3.2.8 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.

3.2.9 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. The amendments also prepare California to merge its rules with the federal CAFE rules for passenger vehicles (CARB 2013). In January 2012, CARB approved a new emissions-control program for model years 2017 through 2025.

3.2.10 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.

3.2.11 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 the 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 Court of Appeals reversed the District Court's opinion and rejected arguments that implementing LCFS violates the interstate commerce clause in September 2013. CARB, therefore, is continuing to implement the LCFS statewide.

3.2.12 Senate Bill 375

SB 375 aligns regional transportation planning efforts, regional GHG reduction targets, and affordable housing allocations. Metropolitan Planning Organizations (MPOs) are required to adopt a Sustainable Communities Strategy (SCS), which allocates land uses in the MPO's Regional Transportation Plan (RTP). Qualified projects consistent with an approved SCS or Alternative Planning Strategy categorized as "transit priority projects" would receive incentives to streamline California Environmental Quality Act (CEQA) processing.

3.2.13 Executive Order N-79-20

EO N-79-20, signed by Governor Newsom on September 23, 2020, establishes three goals for 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.

3.2.14 California Air Resources Board Scoping Plan

The Scoping Plan is a strategy CARB develops and updates at least one every five years, as required by AB 32. It lays out the transformations needed across our society and economy to reduce emissions and reach our 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 targets. The 2013 Scoping Plan assessed progress toward achieving the 2020 mandate and made the case for addressing short-lived climate pollutants. The 2017 Scoping Plan also assessed the progress toward achieving the 2020 limit and provided a technologically feasible and cost-effective path to achieving the SB 32 mandate of reducing GHGs by at least 40 percent below 1990 levels by 2030. On December 15, 2022, CARB approved the 2022 Scoping Plan for Achieving Carbon Neutrality (2022 Scoping Plan). The 2022 Scoping Plan lays out a path to achieve targets for carbon neutrality and reduce anthropogenic GHG emissions by 85 percent below 1990 levels no later than 2045, as directed by Assembly Bill 1279. The actions and outcomes in the plan will achieve significant reductions in fossil fuel combustion by deploying clean technologies and fuels; further reductions in SLCPs; support for sustainable development; increased action on natural and working lands to reduce emissions and sequester carbon; and the capture and storage of carbon (CARB 2022).

3.3 LOCAL

3.3.1 San Diego Association of Governments San Diego Forward: The Regional Plan

The San Diego Association of Governments (SANDAG) RTP/SCS "San Diego Forward: The 2021 Regional Plan" (Regional Plan) is the long-range planning document developed to meet the requirements of SB 375 and to address the region's housing, economic, transportation, environmental, and overall quality-of-life needs. The Regional Plan establishes a planning framework and implementation actions that increase the region's sustainability and encourage "smart growth while preserving natural resources and limiting urban sprawl." The Regional Plan encourages the regions and the County to increase residential and employment concentrations in areas with the best existing and future transit connections, and to preserve important open spaces. The focus is on implementation of basic smart growth principles designed to strengthen the integration of land use and transportation (SANDAG 2021).

3.3.2 San Diego Association of Governments Climate Action Strategy

The SANDAG Climate Action Strategy serves as a guide to help policymakers address climate change as they make decisions to meet the needs of growing populations, as well as to maintain and enhance quality of life and promote economic stability (SANDAG 2010). The purpose of the strategy is to identify land use, transportation, and other related policy measures that could reduce GHG emissions from passenger cars and light-duty trucks as part of the development of the SCS for the 2050 RTP in compliance with SB 375. Additional policy measures are identified for buildings and energy use, protecting transportation and energy infrastructures from climate impacts, and assisting SANDAG and other local agencies in reducing GHG emissions from their operations.

3.3.3 County of San Diego General Plan

The County's General Plan, adopted in 2011, provides guiding principles designed to balance future growth, conservation, and sustainability. The General Plan aims to balance the need for infrastructure, housing, and economic vitality, while maintaining and preserving unique community, agricultural areas, and extensive open space (County 2011). The General Plan contains goals and policies specific to reducing GHG emissions, including efficient and compact growth and development; increasing energy efficiency and use of renewable energy sources; increasing recycling; and improving access to sustainable transportation.

The General Plan addresses AB 32 and climate change and provides an extensive list of policies designed to reduce GHG emissions and adapt to current climate change related impacts. Strategies listed to mitigate and reduce GHG emissions include reduce vehicle trips, gasoline, and energy consumption; improve energy efficiency by decreasing non-renewable energy consumption and generation; increase generation and use of renewable energy sources; reduce water consumption and waste generation; improve solid waste reuse and recycle and composting programs; promote landscapes designed to sequester CO_2; and preserve open space and agricultural lands. Adaptive strategies designed to prevent, and mitigate current climate change impacts, include the following: reduce wildfire and flood risk; conserve water during water shortages; promote agricultural lands to support local food production; and provide education and leadership.

3.3.4 County of San Diego Climate Action Plan

In February 2018, the County's Board of Supervisors adopted a Climate Action Plan (CAP) that serves as a long-term programmatic plan that identifies strategies and measures to meet the County's targets to reduce GHG emissions by 2020 and 2030, consistent with the State's legislative GHG reduction targets.

In March 2018, several petitioners filed a lawsuit against the County. In December 2018, the San Diego County Superior Court issued a writ ordering the approval of the CAP and the CAP Supplemental Environmental Impact Report (SEIR) to be set aside. In January 2019, the County appealed the San Diego County Superior Court's ruling, but the Fourth District Court of Appeal, Division One (Case No. D064243) upheld the trial Superior Court's ruling. In September 2020, the County Board of Supervisors voted to rescind the CAP and SEIR. The County was directed to prepare a new CAP (CAP Update). The new Draft CAP and Draft SEIR were available for public review from October 26, 2023, to January 5, 2024. The County will continue to prepare the CAP Update for public hearing in Fall 2024.

4.0 METHODOLOGY AND THRESHOLDS OF SIGNIFICANCE

4.1 METHODOLOGY

The project's GHG emissions were calculated using the California Emissions Estimator Model (CalEEMod), Version 2022.1. The emission sources include construction (off-road vehicles), mobile (on-road vehicles), area (landscape maintenance equipment, consumer products), energy (electricity and natural gas), water and wastewater, and solid waste sources (CAPCOA 2022). GHG emissions are estimated in terms of total metric tons (MT) of CO_2e. The CalEEMod output is provided in Appendix A to this report.

4.1.1 Construction Emissions

CalEEMod incorporates CARB's EMFAC2021 model for on-road vehicle emissions and the OFFROAD2017 model for off-road vehicle emissions. The construction analysis included modeling of the projected construction equipment that would be used during each construction activity. The analysis assessed annual emissions from individual construction activities, including site preparation, grading, blasting, paving, building construction, and architectural coating. The construction schedule was determined by using CalEEMod defaults, assuming a construction completion date of March 2028 from the project applicant. As shown in Table 4, *Anticipated Construction Schedule*, project development is assumed to start in January 2026 and is projected to end in March 2028.

Table 4
ANTICIPATED CONSTRUCTION SCHEDULE

Construction Activity	Construction Period Start	Construction Period End	Construction Period Working Days
Site Preparation	1/1/2026	1/28/2026	20
Grading	1/29/2026	4/1/2026	45
Paving	4/2/2026	5/20/2026	35
Building Construction	5/21/2026	1/26/2028	440
Architectural Coating	1/27/2028	3/15/2028	35

Source: CalEEmod (assumptions and output data are provided in Appendix A).

The quantity, duration, and the intensity of construction activity influence the amount of construction emissions and their 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 is occurring in an 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 incorporated in the

CalEEMod; and/or (2) a less intensive buildout schedule (i.e., fewer daily emissions occurring over a longer time interval). Neither the County, nor the San Diego County Air Pollution Control District (SDAPCD) provides guidance for determining the significance of project construction emissions. Per the South Coast Air Quality Management District (SCAQMD) guidance, to account for all project emissions, the total sum of construction emissions was amortized (i.e., averaged) over the estimated 30-year project lifespan of the project buildings and added to operational emissions.

4.1.1.1 Construction Equipment

Construction would require heavy equipment for the various construction phases. Construction equipment estimates are based on default values in CalEEMod, Version 2022.1 model with additional equipment added to the grading phase to account for the preparation for blasting and the relocation of fractured rock after blasting, specifically a bore/drill rig, a rubber tired front loader and an off-road truck. Table 5, *Construction Equipment Assumptions*, presents a summary of the assumed equipment that would be involved in each stage of construction.

Table 5
CONSTRUCTION EQUIPMENT ASSUMPTIONS

Construction Phase	Equipment	Number
Site Preparation	Rubber-Tired Dozers	3
	Tractors/Loaders/Backhoes	4
Grading	Bore/Drill Rigs	1
	Excavators	2
	Graders	1
	Off-Road Trucks	1
	Rubber Tired Dozer	1
	Rubber Tired Loader	1
	Scrapers	2
	Tractors/Loaders/Backhoes	2
Building Construction	Cranes	1
	Forklifts	3
	Generator Sets	1
	Tractors/Loaders/Backhoes	3
	Welders	1
Paving	Pavers	2
	Paving Equipment	2
	Rollers	2
Architectural Coating	Air Compressors	1

Source: CalEEMod (further assumptions, including equipment horsepower, is provided in Appendix A).

4.1.1.2 Construction Vehicle Trips

The earthwork calculations from the project applicant estimate that approximately 176,000 CY of earthmoving would be required during grading, to be balanced onsite (no hauling of soil). However, vegetation would be removed from the site during site preparation, aggregate would be imported to the site during grading for project street construction, and asphalt would be imported to the site during paving. Based on exiting vegetation estimates from aerial images of the project site, approximately 3,700 tons of vegetation (approximately 185 truckloads) would be removed from the project site during site preparation. The amount of aggregate imported for project road construction and utility trenching would depend on the soil condition encountered. This analysis assumes an average 1-foot depth of aggregate (approximately 7,200 CY, 450 truckloads) and an average 0.5-foot asphalt depth (approximately 3,600 CY, 225 truckloads) would be required for the project streets and utilities. The CalEEMod default hauling distance of 20 miles was assumed, as was the CalEEMod default truck capacity of 20 tons or 16 CY. The CalEEMod default construction worker and vendor trips and distances were assumed. A complete listing of the construction trip assumptions used in the analysis is provided in Appendix A of this report.

4.1.1.3 Blasting

Depending on conditions and rock encountered during grading, blasting may be required for preparation of roadbeds and/or residential lots. The number and size of blasting events that could be required has not been determined as of this analysis. Therefore, one day of blasting activity per week during grading (up to seven total days) was assumed with each day allowing for multiple blasts covering up to a

combined 10,000 SF and requiring no more than a total of 1.25 tons of ammonium nitrate/fuel oil (ANFO) explosive. Blasting gas emissions were calculated using emissions factors from the USEPA AP-42 5th Edition, *Compilation of Air Emissions Factors*, Chapter 13.2, *Explosives Detonation*.

Preparation for blasting would require boring up to 100 holes for explosives per event. This analysis assumes that one bore/drill rig can complete an average of 2 holes per hour (16 per 8-hour workday). The CalEEMod analysis includes exhaust emissions from the use of the drill/bore rigs. The drilling and blasting calculation sheets are included as Appendix B, *Blasting Calculations*, to this report.

4.1.2 Operational Emissions

4.1.2.1 Area Source Emissions

Area source GHG emissions occur from the use of hearths (e.g., wood or gas fireplaces and wood stoves) and landscaping equipment. The project would not include wood burning fireplaces or woodstoves; therefore, the modeling assumed all residences would contain electric hearths. The use of landscape equipment emits GHGs associated with the equipment's fuel combustion. CalEEMod estimates the number and type of equipment needed based on the number of summer days given the project's location as entered in the project characteristics module. The model defaults for landscaping equipment were assumed.

4.1.2.2 Energy Sources

GHGs are emitted directly as a result of a project using natural gas for building and water heat and for appliances. GHGs are emitted indirectly as a result of a project's use of electricity. GHGs are emitted during the generation of electricity at the location of the power plant (which could be outside of the San Diego Air Basin or State) from the use of fossil fuels. The project has been designed to include all electric appliances and end uses. Using electric instead of natural gas-powered appliances and end uses replaces a more emissions-intensive fossil fuel source of energy with a less emissions-intensive source of energy, electricity from the grid that is increasingly transitioning to renewable sources.

Title 24 of the California Code of Regulations serves to enhance and regulate California's building standards. The current Title 24, Part 6 standards, referred to as the 2022 Title 24 Building Energy Efficiency Standards, became effective on January 1, 2023. CalEEMod assumes compliance with the

2019 Title 24 code, thereby resulting in a conservative emissions estimate. The estimation of operational energy emissions for the project were based on CalEEMod land use defaults and total area (i.e., square footage) of the project's land use assuming an all-electric buildout.

CalEEMod default energy intensity factors (CO_2, CH_4, and N_2O mass emissions per kilowatt-hour) for San Diego Gas and Electric (SDG&E) is based on the value for SDG&E's energy mix in 2029. These default intensity values were used for the project analysis.

4.1.2.3 Vehicular (Mobile) Sources

Operational emissions from mobile source emissions are associated with project-related vehicle trip generation and trip length. Based on the trip generation rate from the Transportation Study prepared for the project, the project would generate 12 average daily trips (ADT) per dwelling unit (DU) and community park would generate 2 ADT (Chen Ryan 2023). According to the Transportation Study vehicle miles traveled (VMT) analysis, each project resident would travel 24.1 miles per day (Chen Ryan 2023). The CalEEMod VMT was set to 5,129 miles per day based on a residential occupation rate of 2.8 persons per household per the CAP population forecasts (County 2018).

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. A project solid waste generation of 0.46 tons per DU per year (which accounts for the waste diversion requirement of AB 341) was provided by the project applicant and used in the modeling.

4.1.2.5 Water and Wastewater Sources

The amount of water used, and wastewater generated, by a project has indirect GHG emissions associated with it. These emissions are a result of the energy used to supply, distribute, and treat the water and wastewater. In addition to the indirect GHG emissions associated with energy use, wastewater treatment can directly emit both methane and nitrous oxide.

CalEEMod uses default electricity intensity values for various phases of supplying and treating water from CEC's *Refining Estimates of Water-Related Energy Use in California*. The model estimates water/wastewater emissions by multiplying the total projected water/wastewater demand by the applicable water electricity intensities and by the utility intensity GHG factors.

For the project's water and wastewater GHG emissions, an overall 20 percent reduction in water use was applied in the CalEEMod mitigation section to account for recent requirements of CALGreen not accounted for in the model defaults.

4.1.2.6 Refrigerants

Refrigerants are substances used in equipment for air conditioning and refrigeration. Most of the refrigerants used today are HFCs or blends thereof, which can have high GWP values. All equipment that uses refrigerants has a charge size and an operational refrigerant leak rate. CalEEMod quantifies refrigerant emissions from leaks during regular operation and routine servicing over the equipment lifetime. Project emissions from refrigerant leaks were estimated using CalEEMod defaults.

4.1.2.7 Vegetation Carbon Sequestration

The project would remove approximately 30.7 acres of scrub (trees and bushes) and plant an estimated 299 new trees as part of the development landscaping. To account for the change in vegetation carbon sequestrations, CalEEMod defaults for carbon storage per acre of shrubland was used to determine the one-time loss in stored carbon. Additional sequestered carbon from the planting of new trees was estimated using the i-Tree Planting Calculator as recommended by CalEEMod.

4.1.2.8 Other GHG Emission Sources

Ozone is also a GHG; however, unlike other GHGs, ozone in the troposphere is short-lived and, therefore, is not global in nature. It is difficult to make an accurate determination of the contribution of ozone precursors (oxides of nitrogen [NO_X] and volatile organic compounds [VOCs]) to global warming. Additionally, VOCs and NO_X are regulated through mass emission thresholds, as described in the project Air Quality Technical Report (HELIX 2023). It is assumed that emission of ozone and ozone precursors associated with the project would not significantly contribute to climate change.

Chlorofluorocarbons (CFCs) can be found in products such as aerosol cans, lubricants, coatings, or cleaning fluids. At present, there is a federal ban on the sale and distribution in interstate commerce of products containing or manufactured with CFCs; therefore, it is assumed that the project would not generate this type of emissions. Implementation of the project may emit a small amount of HFC emissions from leakage, service of, and from disposal at the end of the life of refrigeration and air conditioning equipment. However, these emissions are not quantifiable and are assumed to be negligible. PFCs and sulfur hexafluoride are typically used in heavy-duty industrial applications. The project would not include heavy-duty industrial applications. Therefore, it is not anticipated that the project would contribute significant emissions of these GHGs.

4.2 SIGNIFICANCE CRITERIA

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. Thus, the potential for a significant GHG impact is limited to cumulative impacts.

According to Appendix G of the State CEQA Guidelines, a project would have a significant 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 Appendix G thresholds for GHGs do not prescribe specific methodologies for performing an assessment, do not establish specific quantitative thresholds, and do not mandate specific mitigation measures. Rather, the CEQA Guidelines emphasize the lead agency's discretion to determine the appropriate methodologies and thresholds of significance consistent with the way other impact areas are handled in CEQA (California Natural Resources Agency [CNRA] 2009a). Additional guidance regarding assessment of GHGs is discussed below.

4.2.1 CEQA Guidelines

With respect to GHG emissions, the CEQA Guidelines Section 15064.4(a) states that lead agencies "shall make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate" GHG emissions resulting from a project. The CEQA Guidelines note that an agency has the discretion to either quantify a project's greenhouse gas emissions or rely on a "qualitative analysis or other performance-based standards" (14 CCR 15064.4[a]). A lead agency may use a "model or methodology" to estimate greenhouse gas emissions and has the discretion to select the model or methodology it considers "most appropriate to enable decision makers to intelligently take into account the project's incremental contribution to climate change" (14 CCR 15064.4[c]). The CEQA Guidelines provide that the lead agency should consider the following when determining the significance of impacts from GHG emissions on the environment (14 CCR 15064.4[b]):

1. The extent a project may increase or reduce GHG emissions as compared to the existing environmental setting.

2. Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project.

3. The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions.

In addition, the CEQA Guidelines specify that "[w]hen adopting or using thresholds of significance, a lead agency may consider thresholds of significance previously adopted or recommended by other public agencies, or recommended by experts, provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence" (14 CCR 15064.7[c]).

4.2.2 Governor's Office of Planning and Research Guidance

The Governor's Office of Planning and Research (OPR) technical advisory, *CEQA and Climate Change: Addressing Climate Change through California Environmental Quality Act Review*, states that "public agencies are encouraged but not required to adopt thresholds of significance for environmental impacts. Even in the absence of clearly defined thresholds for GHG emissions, the law requires that such emissions from CEQA projects must be disclosed and mitigated to the extent feasible whenever the lead agency determines that the project contributes to a significant, cumulative climate change impact" (OPR 2008). Furthermore, the advisory indicates that "in the absence of regulatory standards for GHG emissions or other scientific data to clearly define what constitutes a 'significant impact,' individual lead agencies may undertake a project-by-project analysis, consistent with available guidance and current CEQA practice" (OPR 2008).

4.2.3 Cumulative Nature of Climate Change

Global climate change has a cumulative impact; a project participates in this potential impact through its incremental contribution combined with the cumulative increase of all other sources of GHGs. There are currently no established thresholds for assessing whether the GHG emissions of a project in the San Diego Air Basin, such as the project, would be considered a cumulatively considerable contribution to global climate change; however, all reasonable efforts should be made to minimize a project's contribution to global climate change.

While the project would result in emissions of GHGs during construction and operation, no current guidance exists to indicate what level of GHG emissions would be considered substantial enough to result in a significant adverse impact on global climate. However, it is believed that an individual project is of insufficient magnitude by itself to directly influence climate change as scientific uncertainty regarding the significance a project's individual and cumulative effects on global climate change remains.

Thus, GHG impacts are recognized as exclusively cumulative impacts; there are no non-cumulative GHG emission impacts from a climate change perspective (California Air Pollution Control Officers Association [CAPCOA] 2008). This approach is consistent with that recommended by the CNRA, which noted in its Public Notice for the proposed CEQA amendments (pursuant to SB 97) that the evidence before it indicates that in most cases, the impact of GHG emissions should be considered in the context of a cumulative impact, rather than a project-level impact (CNRA 2009a). Similarly, the Final Statement of Reasons for Regulatory Action on the CEQA Amendments confirm that an environmental impact report or other environmental document must analyze the incremental contribution of a project to GHG levels and determine whether those emissions are cumulatively considerable (CNRA 2009b).

4.2.4 Approach to Determining Significance

Neither the State of California, the SDAPCD, nor the County has adopted quantitative emission-based thresholds of significance for GHG emissions under CEQA. In the absence of any adopted numeric threshold, the significance of the project's GHG emissions will be evaluated consistent with CEQA Guidelines Section 15064.4. The analysis contained herein relies upon an efficiency metric threshold that was developed for this project based on the exercise of careful judgment about the existing setting, that is believed to be appropriate in the context of this project.

The project will be evaluated against a project-specific efficiency metric threshold that was also developed for this project based on the County's most recently available GHG inventory and targets based on consistency with SB 32 and AB 1279 goals for 2030 and 2045. An efficiency metric threshold is calculated by dividing the allowable GHG emissions inventory in a selected calendar year by the population, which then leads to the identification of a quantity of emissions that can be permitted on a per person basis without significantly impacting the environment. This approach focuses on the overall GHG efficiency of a project relative to regulatory GHG reduction goals.

The project's GHG emissions are evaluated under the project-specific efficiency metric threshold for the project's buildout year as derived from the County's GHG inventory. To that end, the project's efficiency metric was calculated based on the 2029 emissions level (the first full year of project operations) and the project's population (the number of residents provided by the project).

To develop the population efficiency threshold for the project, land use-related sectors in County's 2019 GHG Emissions Inventory were identified and GHG emissions were separated to tailor the inventory to emission sources that were relevant to the project. For example, emissions associated with mining, airport ground support equipment, and other emissions sources not associated with residential land use activities were excluded. With these adjustments, project emissions in future years could then be compared with the County's own targets for the relevant land uses.

The latest available unincorporated County GHG inventory (for the year 2019) and unincorporated County GHG emission targets consistent with SB 32 and AB 1279 state goals for the years 2030 (43.6 percent below 2019 levels) and 2045 (85.4 percent below 2019 levels) are provided in the County CAP Update (County 2023). These emissions targets were based on emissions reductions required to align future County GHG emissions with the State 2030 and 2045 mandates and goals. The CAP also provides population forecasts for the unincorporated County. For unincorporated San Diego County, the 2019 residential population was 526,890 and the 2030 population forecast is 539,701 (County 2023). Based on the adjusted 2019 inventory, CAP emission targets, and population estimates, the County's efficiency metrics are calculated to be 5.29 MT CO_2e per resident per year for the 2019 inventory year and 2.91 MT CO_2e per resident per year for the SB 32 target in 2030.

GHG targets for interim years can be calculated using either an average annual percent reduction curve or linear interpolation. An average annual percent reduction applies a uniform percentage reduction to each year to calculate a target for subsequent years. This percentage is calculated to be 5.28 percent for the 11-year period from the 2019 efficiency metric of 5.29 MT CO_2e per resident per year to the 2030 efficiency target of 2.91 MT CO_2e per resident per year. That is, the interim 2020 efficiency metric would be 5.28 percent less than the 2019 efficiency metric, or 5.01 MT CO_2e per resident per year (5.29 x [1-5.28%]). The 2021 efficiency metric would be 5.28 percent less than the 2020 efficiency metric, and so on. A percent reduction curve provides a more aggressive reduction in the early years, resulting in a more conservative (lower) target when compared to the linear progression curve. The first full year of operation for the project is anticipated to be 2029. Accordingly, a threshold reduced by 5.28 percent for each year starting in 2019 would meet the County's SB 32 target by 2030. The GHG emissions efficiency threshold for the year 2029 was calculated using this annual percent reduction as 3.07 MT CO_2e per resident per year. Comparing the project GHG emissions per population to the 2029 efficiency threshold would demonstrate progress towards achieving the County's 2030 and 2045 GHG emissions target consistent with SB 32 and AB 1279, respectively. The threshold calculation sheets are included as Appendix C to this report.

5.0 PROJECT IMPACTS

5.1 GREENHOUSE GAS EMISSIONS

The project would generate GHG emissions during construction and operation. Estimates of emissions and an evaluation of their level of significance level are presented below.

5.1.1 Construction Emissions

GHG emissions would be associated with the construction phases of the project through use of off-road heavy equipment, haul trucks, and vehicle trips from construction worker commutes. Emissions of GHGs related to the construction of the project would be temporary and would occur within an approximately

27-month period. As shown in Table 6, *Construction GHG Emissions*, total GHG emissions associated with construction of the project are estimated at 894 MT CO_2e. For construction emissions, SCAQMD guidance recommends that the emissions be amortized (i.e., averaged) over 30 years and added to operational emissions. Amortized over 30 years, the proposed construction activities would contribute approximately 30 MT CO_2e emissions per year.

Table 6
CONSTRUCTION GREENHOUSE GAS EMISSIONS

Year	Emissions (MT CO_2e)
2026	530
2027	337
2028	27
Total	**894**
Amortized Construction Emissions[1]	30

Source: CalEEMod (output data is provided in Appendix A)
Note: Values rounded to the nearest whole number.
[1] Construction emissions are amortized over 30 years consistent with SCAQMD guidance.
MT = metric tons; CO_2e = carbon dioxide equivalent

5.1.2 Operational Emissions

Operational sources of GHG emissions include: (1) energy use (electricity); (2) area sources (landscaping equipment and consumer products); (3) vehicle use; (4) solid waste generation; (5) water conveyance and treatment, (6) refrigerant leaks, and (7) change in carbon sequestered in vegetation. The project's calculated GHG emissions inventory is shown in Table 7, *Estimated Project Annual Greenhouse Gas Emissions*. The complete modeling output is included in Appendix A to this report.

Table 7
ESTIMATED PROJECT ANNUAL GREENHOUSE GAS EMISSIONS

Emission Sources	Emissions (MT CO_2e/year)
Area Sources	1
Energy Sources	10
Vehicular (Mobile) Sources	656
Solid Waste Sources	11
Water Sources	6
Refrigerants	<0.5
Loss of Sequestered Carbon	49
Amortized Construction	30
Total	**763**
Emissions per Capita	3.58
Calculated GHG efficiency Threshold (MT CO_2e per capita per year)	*3.07*
Exceed Threshold?	Yes

Source: CalEEMod output data is provided in Appendix A
MT = metric tons; CO_2e = carbon dioxide equivalent

As shown In Table 7, with implementation of the project design features and addition of the amortized construction emissions and loss of sequestered carbon, the project would result in GHG emissions of 763 MT CO_2e per year, and 3.58 MT CO_2e per capita per year, based on a population of 213 (2.8 persons per household times 76 project residences). This would exceed the project 2029 GHG efficiency metric threshold established using County data in compliance with SB 32. Therefore, the project would generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment, and the impact would be potentially significant.

5.1.3 Mitigation Measures

The project's GHG emissions resulting from operation of the project and amortized construction emissions would exceed the 2029 per capita efficiency metric significance threshold calculated based on County forecasts and targets. The project would include design features discussed in Section 1.3 to reduce emissions associated with area, energy, waste, and water sources. It is worth noting that mobile sources represent the majority (approximately 86 percent) of the project's total emissions. The Transportation Study analyzed a list of Transportation Demand Management (TDM) measures aimed at reducing VMT, however, none of the feasible measures were readily quantifiable and the traffic impact related to VMT was found to be significant and unavoidable (Chen Ryan 2023). Measures deemed feasible in the Transportation Study include:

- **Implement Commute Trip Reduction Marketing -** This measure implements a voluntary commute trip reduction (CTR) program. CTR programs discourage single occupancy vehicle trips and encourage alternative modes of transportation such as carpooling, taking transit, walking, and biking, thereby reducing VMT and GHG emissions.

- **Provide End-of-Trip Bicycle Facility -** This measure calls for the installation and maintenance of end-of-trip facilities. End-of-trip facilities include bike parking, bike lockers, showers, and personal lockers. The provision and maintenance of secure bike parking and related facilities encourages commuting by bicycle, thereby reducing VMT and GHG emissions.

- **Integrate Affordable and Below Market Rate Housing -** This measure requires below market rate (BMR) housing. BMR housing provides greater opportunity for lower income families to live closer to job centers and achieve a jobs/housing match near transit. It is also an important strategy to address the limited availability of affordable housing that might force residents to live far away from jobs or school, requiring longer commutes. The quantification method for this measure accounts for VMT reductions achieved for multifamily residential projects that are deed restricted or otherwise permanently dedicated as affordable housing.

5.1.4 Conclusions

The project would generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment, and the impact would be significant and unavoidable.

5.2 CONFLICTS WITH LOCAL PLANS ADOPTED FOR THE PURPOSE OF REDUCING GHG EMISSIONS

There are numerous State plans, policies, and regulations adopted for the purpose of reducing GHG emissions. The principal overall State plan and policy is SB 32, and AB 1279, as implemented at the State level by the CARB Climate Change Scoping Plan. As shown in Table 7, the project would result in a 3.58 MT CO_2e per capita per year efficiency, which would exceed the project-specific efficiency metric threshold based on the County's most recently available GHG inventory and targets based on consistency with SB 32 and AB 1279 goals for 2030 and 2045. As such, the project would be inconsistent with the Statewide goals established by SB 32 and AB 1279.

CARB's 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 AB 1279. Per the 2022 Scoping Plan Appendix D, *Local Actions*, local jurisdictions should focus on three priority areas: transportation electrification, VMT reduction, and building decarbonization (CARB 2022). The project's consistency with these priority areas is provided in Table 8, *CARB Scoping Plan Priority Area Consistency*. As shown therein, the project would be consistent with all but one applicable priority area. Because the project would not result in a regional decrease in VMT for unincorporated county residents, the project would be inconsistent with the VMT Reduction priority area.

Table 8
CARB SCOPING PLAN PRIORITY AREA CONSISTENCY

Priority Area	Project Consistency
Transportation Electrification	The project would be designed to meet CALGreen standards including the requirements of Section A4.106.8 requiring new construction provide electric vehicle supply equipment to facilitate future installation and use of electric vehicle chargers.
VMT Reduction	According to the project Transportation Study, the regional average VMT per resident is 18.9 miles per day. The project residents would have a VMT of 24.1 miles per day (Chen Ryan 2023). Therefore, the project would not result in a regional decrease in VMT for unincorporated county residents.
Building Decarbonization	The project would be designed to meet the latest applicable version, currently 2022, of the CALGreen standards, including the requirement for on-site photovoltaic (solar) energy generation for new residential buildings three or fewer stories high and cool/green roofs, (CEC 2022; CBSC 2022). Additionally, the project would be designed to include all electric appliances and end uses. Using electric instead of natural gas-powered appliances and end uses replaces a more emissions-intensive fossil fuel source of energy with a less emissions-intensive source of energy, electricity from the grid that is increasingly transitioning to renewable sources.

Additional statewide plans and regulations are being implemented at the statewide level, and compliance on a project-specific level is not addressed. Further, a number of prominent statewide plans and regulations (e.g., AB 1493 and the LCFS), as well as regional plans (e.g., SANDAG's San Diego Forward: The Regional Plan), aimed at reducing GHG emissions focus on reducing transportation source emissions. A reduction in regional VMT (and VMT-related GHG emissions) is a primary objective of the Regional Plan as the San Diego County RTP/SCS in accordance with the mandates of SB 375. Implementation of the RTP/SCS plans in the state's metropolitan areas to reduce VMT is a key component of the mobile source GHG emissions reduction policies and control measures in the CARB 2022 Scoping Plan. As discussed previously, the Transportation Study analyzed a list of Transportation Demand Management (TDM) measures aimed at reducing VMT, however, none of the feasible measures were readily quantifiable and the traffic impact related to VMT was found to be significant and unavoidable (Chen Ryan 2023). Because the project would not result in a regional decrease in VMT for unincorporated county residents, the project would be inconsistent with the Regional Plan.

Due to conflicts with the goals established by SB 32 and AB 1279, as well as inconsistencies with CARB's 2022 Scoping Plan Appendix D Priority Areas, the project would conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs, and the impact would be potentially significant.

5.2.1 Mitigation Measures

Conflicts with the goals established by SB 32 and AB 1279, as well as inconsistencies with CARB's 2022 Scoping Plan all arise from the project's VMT impact identified in the Transportation Study (Chen Ryan 2023). The Transportation Study analyzed a list of TDM measures aimed at reducing VMT, however, none of the feasible measures were readily quantifiable and the traffic impact related to VMT was found to be significant and unavoidable. As such, there would be no feasible mitigation to avoid these conflicts.

5.2.2 Conclusions

Due to conflicts with the goals established by SB 32 and AB 1279, as well as inconsistencies with CARB's 2022 Scoping Plan, the project would conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs, and the impact would be significant and unavoidable.

6.0 CUMULATIVE IMPACTS

Given the relatively small levels of emissions generated by a typical project in relationship to the total amount of GHG emissions generated on a national or global basis, individual 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 individual projects could result in significant, cumulative impacts with respect to climate change. Thus, the potential for a significant GHG impact is limited to cumulative impacts. As described in Sections 5.1 and 5.2, the project's maximum annual GHG emissions of 3.58 MT CO_2e per capita per year would exceed the 2029 GHG efficiency metric threshold of 3.07 MT CO_2e, and the project would conflict with the goals established by SB 32 and AB 1279, as well as with CARB's 2022 Scoping Plan. Therefore, the project's GHG emissions impacts would be cumulatively considerable.

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Appendix A

CalEEMod Output

Questhaven Residential Project Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Questhaven Residential Project
Construction Start Date	3/17/2026
Operational Year	2029
Lead Agency	County of San Diego PDS
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.20
Precipitation (days)	9.80
Location	33.092845944077894, -117.20597925091514
County	San Diego
City	Unincorporated
Air District	San Diego County APCD
Air Basin	San Diego
TAZ	6209
EDFZ	12
Electric Utility	San Diego Gas & Electric
Gas Utility	San Diego Gas & Electric
App Version	2022.1.1.13

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

Other Asphalt Surfaces	4.30	Acre	4.30	0.00	0.00	—	—	On- and off-site streets
Other Non-Asphalt Surfaces	2.40	Acre	2.40	0.00	0.00	—	—	Water retention basin
City Park	0.30	Acre	0.30	0.00	0.30	0.30	—	Recreation/communit y park
Single Family Housing	76.0	Dwelling Unit	18.3	148,200	890,177	—	212	Single family residential

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Energy	E-15	Require All-Electric Development

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

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

Un/Mit.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.69	32.9	36.5	0.08	1.29	4.20	5.49	1.18	1.58	2.76	9,813	0.41	0.30	3.83	9,917
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	28.9	33.0	36.3	0.08	1.29	8.16	9.43	1.18	4.07	5.23	9,800	0.41	0.30	0.10	9,900
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.83	11.1	13.4	0.03	0.43	1.12	1.55	0.39	0.46	0.85	3,073	0.13	0.09	0.64	3,105

Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.52	2.02	2.45	< 0.005	0.08	0.20	0.28	0.07	0.08	0.16	509	0.02	0.02	0.11	514
Exceeds (Daily Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	75.0	250	550	250	—	—	100	—	—	55.0	—	—	—	—	—
Unmit.	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—
Exceeds (Average Daily)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	75.0	250	550	250	—	—	100	—	—	55.0	—	—	—	—	—
Unmit.	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—
Exceeds (Annual)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	Yes	—	—	—	—	—	—	—	—	—	—	—	—	—	—

2.2. Construction Emissions by Year, Unmitigated

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

Year	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	3.69	32.9	36.5	0.08	1.29	4.20	5.49	1.18	1.58	2.76	9,813	0.41	0.30	3.83	9,917
2027	1.13	9.70	14.2	0.02	0.34	0.28	0.62	0.31	0.07	0.38	2,842	0.12	0.06	1.25	2,863
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	3.69	33.0	36.3	0.08	1.29	8.16	9.43	1.18	4.07	5.23	9,800	0.41	0.30	0.10	9,900
2027	1.13	9.73	14.0	0.02	0.34	0.28	0.62	0.31	0.07	0.38	2,829	0.12	0.06	0.03	2,848

2028	28.9	9.24	14.0	0.02	0.30	0.28	0.59	0.28	0.07	0.35	2,820	0.11	0.06	0.03	2,839
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	1.26	11.1	13.4	0.03	0.43	1.12	1.55	0.39	0.46	0.85	3,073	0.13	0.09	0.64	3,105
2027	0.81	6.95	10.0	0.02	0.24	0.20	0.44	0.22	0.05	0.27	2,022	0.08	0.04	0.38	2,036
2028	2.83	0.55	0.84	< 0.005	0.02	0.02	0.04	0.02	< 0.005	0.02	161	0.01	< 0.005	0.03	162
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.23	2.02	2.45	< 0.005	0.08	0.20	0.28	0.07	0.08	0.16	509	0.02	0.02	0.11	514
2027	0.15	1.27	1.83	< 0.005	0.04	0.04	0.08	0.04	0.01	0.05	335	0.01	0.01	0.06	337
2028	0.52	0.10	0.15	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	26.6	< 0.005	< 0.005	0.01	26.8

2.3. Construction Emissions by Year, Mitigated

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

Year	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	3.69	32.9	36.5	0.08	1.29	4.20	5.49	1.18	1.58	2.76	9,813	0.41	0.30	3.83	9,917
2027	1.13	9.70	14.2	0.02	0.34	0.28	0.62	0.31	0.07	0.38	2,842	0.12	0.06	1.25	2,863
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	3.69	33.0	36.3	0.08	1.29	8.16	9.43	1.18	4.07	5.23	9,800	0.41	0.30	0.10	9,900
2027	1.13	9.73	14.0	0.02	0.34	0.28	0.62	0.31	0.07	0.38	2,829	0.12	0.06	0.03	2,848
2028	28.9	9.24	14.0	0.02	0.30	0.28	0.59	0.28	0.07	0.35	2,820	0.11	0.06	0.03	2,839
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	1.26	11.1	13.4	0.03	0.43	1.12	1.55	0.39	0.46	0.85	3,073	0.13	0.09	0.64	3,105
2027	0.81	6.95	10.0	0.02	0.24	0.20	0.44	0.22	0.05	0.27	2,022	0.08	0.04	0.38	2,036

2028	2.83	0.55	0.84	< 0.005	0.02	0.02	0.04	0.02	< 0.005	0.02	161	0.01	< 0.005	0.03	162
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.23	2.02	2.45	< 0.005	0.08	0.20	0.28	0.07	0.08	0.16	509	0.02	0.02	0.11	514
2027	0.15	1.27	1.83	< 0.005	0.04	0.04	0.08	0.04	0.01	0.05	335	0.01	0.01	0.06	337
2028	0.52	0.10	0.15	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	26.6	< 0.005	< 0.005	0.01	26.8

2.4. Operations Emissions Compared Against Thresholds

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

Un/Mit.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	6.80	2.13	21.5	0.03	0.03	1.37	1.40	0.06	0.24	0.30	5,158	2.69	0.19	10.9	5,292
Mit.	6.77	1.59	21.2	0.03	-0.01	1.37	1.36	0.02	0.24	0.26	4,464	2.63	0.19	10.9	4,596
% Reduced	< 0.5%	26%	1%	12%	135%	—	3%	72%	—	15%	13%	2%	1%	—	13%
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	6.37	2.25	16.7	0.03	0.03	1.37	1.40	0.06	0.24	0.30	4,970	2.71	0.20	1.32	5,098
Mit.	6.34	1.70	16.4	0.02	-0.01	1.37	1.36	0.02	0.24	0.25	4,276	2.64	0.20	1.32	4,402
% Reduced	1%	24%	1%	12%	141%	—	3%	74%	—	15%	14%	2%	1%	—	14%
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	6.52	2.24	18.7	0.03	0.03	1.37	1.40	0.06	0.24	0.30	4,993	2.69	0.20	5.31	5,125
Mit.	6.48	1.69	18.4	0.02	-0.01	1.37	1.36	0.02	0.24	0.25	4,299	2.63	0.20	5.31	4,429
% Reduced	< 0.5%	24%	1%	12%	138%	—	3%	73%	—	15%	14%	2%	1%	—	14%

Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.19	0.41	3.41	0.01	0.01	0.25	0.26	0.01	0.04	0.05	827	0.45	0.03	0.88	848
Mit.	1.18	0.31	3.37	< 0.005	> -0.005	0.25	0.25	< 0.005	0.04	0.05	712	0.44	0.03	0.88	733
% Reduced	< 0.5%	24%	1%	12%	138%	—	3%	73%	—	15%	14%	2%	1%	—	14%
Exceeds (Daily Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	75.0	250	550	250	—	—	100	—	—	55.0	—	—	—	—	—
Unmit.	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—
Mit.	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—
Exceeds (Average Daily)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	75.0	250	550	250	—	—	100	—	—	55.0	—	—	—	—	—
Unmit.	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—
Mit.	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—
Exceeds (Annual)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	13.7	40.0	100	40.0	—	—	15.0	—	—	10.0	—	—	—	—	—
Unmit.	No	No	No	No	—	—	No	—	—	No	—	—	—	—	Yes
Mit.	No	No	No	No	—	—	No	—	—	No	—	—	—	—	Yes

2.5. Operations Emissions by Sector, Unmitigated

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

Sector	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	2.95	1.57	16.9	0.04	0.03	1.41	1.44	0.03	0.25	0.28	4,050	0.21	0.17	9.85	4,115

Area	3.84	0.04	4.32	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	22.8	0.01	< 0.005	—	23.4
Energy	0.03	0.55	0.23	< 0.005	0.04	—	0.04	0.04	—	0.04	752	0.10	0.01	—	757
Water	—	—	—	—	—	—	—	—	—	—	18.0	0.53	0.01	—	35.4
Waste	—	—	—	—	—	—	—	—	—	—	18.3	1.83	0.00	—	64.0
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	1.06	1.06
Vegetation	-0.03	-0.03	—	-0.01	-0.04	-0.04	-0.08	-0.01	-0.01	-0.02	297	—	—	—	297
Total	6.80	2.13	21.5	0.03	0.03	1.37	1.40	0.06	0.24	0.30	5,158	2.69	0.19	10.9	5,292
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	2.90	1.73	16.4	0.04	0.03	1.41	1.44	0.03	0.25	0.28	3,873	0.23	0.18	0.26	3,933
Area	3.47	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	11.3	0.01	< 0.005	—	11.8
Energy	0.03	0.55	0.23	< 0.005	0.04	—	0.04	0.04	—	0.04	752	0.10	0.01	—	757
Water	—	—	—	—	—	—	—	—	—	—	18.0	0.53	0.01	—	35.4
Waste	—	—	—	—	—	—	—	—	—	—	18.3	1.83	0.00	—	64.0
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	1.06	1.06
Vegetation	-0.03	-0.03	—	-0.01	-0.04	-0.04	-0.08	-0.01	-0.01	-0.02	297	—	—	—	297
Total	6.37	2.25	16.7	0.03	0.03	1.37	1.40	0.06	0.24	0.30	4,970	2.71	0.20	1.32	5,098
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	2.86	1.70	16.3	0.04	0.03	1.41	1.44	0.03	0.25	0.28	3,900	0.23	0.18	4.25	3,962
Area	3.66	0.02	2.13	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	8.23	< 0.005	< 0.005	—	8.36
Energy	0.03	0.55	0.23	< 0.005	0.04	—	0.04	0.04	—	0.04	752	0.10	0.01	—	757
Water	—	—	—	—	—	—	—	—	—	—	18.0	0.53	0.01	—	35.4
Waste	—	—	—	—	—	—	—	—	—	—	18.3	1.83	0.00	—	64.0
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	1.06	1.06
Vegetation	-0.03	-0.03	—	-0.01	-0.04	-0.04	-0.08	-0.01	-0.01	-0.02	297	—	—	—	297
Total	6.52	2.24	18.7	0.03	0.03	1.37	1.40	0.06	0.24	0.30	4,993	2.69	0.20	5.31	5,125
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Mobile	0.52	0.31	2.98	0.01	0.01	0.26	0.26	< 0.005	0.05	0.05	646	0.04	0.03	0.70	656
Area	0.67	< 0.005	0.39	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	1.36	< 0.005	< 0.005	—	1.38
Energy	0.01	0.10	0.04	< 0.005	0.01	—	0.01	0.01	—	0.01	125	0.02	< 0.005	—	125
Water	—	—	—	—	—	—	—	—	—	—	2.98	0.09	< 0.005	—	5.87
Waste	—	—	—	—	—	—	—	—	—	—	3.03	0.30	0.00	—	10.6
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	0.18	0.18
Vegetation	> -0.005	> -0.005	—	> -0.005	-0.01	-0.01	-0.02	> -0.005	> -0.005	> -0.005	49.1	—	—	—	49.1
Total	1.19	0.41	3.41	0.01	0.01	0.25	0.26	0.01	0.04	0.05	827	0.45	0.03	0.88	848

2.6. Operations Emissions by Sector, Mitigated

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

Sector	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	2.95	1.57	16.9	0.04	0.03	1.41	1.44	0.03	0.25	0.28	4,050	0.21	0.17	9.85	4,115
Area	3.84	0.04	4.32	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	22.8	0.01	< 0.005	—	23.4
Energy	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	58.1	0.04	0.01	—	60.7
Water	—	—	—	—	—	—	—	—	—	—	18.0	0.53	0.01	—	35.4
Waste	—	—	—	—	—	—	—	—	—	—	18.3	1.83	0.00	—	64.0
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	1.06	1.06
Vegetation	-0.03	-0.03	—	-0.01	-0.04	-0.04	-0.08	-0.01	-0.01	-0.02	297	—	—	—	297
Total	6.77	1.59	21.2	0.03	-0.01	1.37	1.36	0.02	0.24	0.26	4,464	2.63	0.19	10.9	4,596
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	2.90	1.73	16.4	0.04	0.03	1.41	1.44	0.03	0.25	0.28	3,873	0.23	0.18	0.26	3,933
Area	3.47	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	11.3	0.01	< 0.005	—	11.8
Energy	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	58.1	0.04	0.01	—	60.7

Water	—	—	—	—	—	—	—	—	—	—	18.0	0.53	0.01	—	35.4
Waste	—	—	—	—	—	—	—	—	—	—	18.3	1.83	0.00	—	64.0
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	1.06	1.06
Vegetation	-0.03	-0.03	—	-0.01	-0.04	-0.04	-0.08	-0.01	-0.01	-0.02	297	—	—	—	297
Total	6.34	1.70	16.4	0.02	-0.01	1.37	1.36	0.02	0.24	0.25	4,276	2.64	0.20	1.32	4,402
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	2.86	1.70	16.3	0.04	0.03	1.41	1.44	0.03	0.25	0.28	3,900	0.23	0.18	4.25	3,962
Area	3.66	0.02	2.13	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	8.23	< 0.005	< 0.005	—	8.36
Energy	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	58.1	0.04	0.01	—	60.7
Water	—	—	—	—	—	—	—	—	—	—	18.0	0.53	0.01	—	35.4
Waste	—	—	—	—	—	—	—	—	—	—	18.3	1.83	0.00	—	64.0
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	1.06	1.06
Vegetation	-0.03	-0.03	—	-0.01	-0.04	-0.04	-0.08	-0.01	-0.01	-0.02	297	—	—	—	297
Total	6.48	1.69	18.4	0.02	-0.01	1.37	1.36	0.02	0.24	0.25	4,299	2.63	0.20	5.31	4,429
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.52	0.31	2.98	0.01	0.01	0.26	0.26	< 0.005	0.05	0.05	646	0.04	0.03	0.70	656
Area	0.67	< 0.005	0.39	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	1.36	< 0.005	< 0.005	—	1.38
Energy	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	9.61	0.01	< 0.005	—	10.0
Water	—	—	—	—	—	—	—	—	—	—	2.98	0.09	< 0.005	—	5.87
Waste	—	—	—	—	—	—	—	—	—	—	3.03	0.30	0.00	—	10.6
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	0.18	0.18
Vegetation	> -0.005	> -0.005	—	> -0.005	-0.01	-0.01	-0.02	> -0.005	> -0.005	> -0.005	49.1	—	—	—	49.1
Total	1.18	0.31	3.37	< 0.005	> -0.005	0.25	0.25	< 0.005	0.04	0.05	712	0.44	0.03	0.88	733

3. Construction Emissions Details

3.1. Site Preparation (2026) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.14	29.2	28.8	0.05	1.24	—	1.24	1.14	—	1.14	5,298	0.21	0.04	—	5,316
Dust From Material Movement	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	1.60	1.58	< 0.005	0.07	—	0.07	0.06	—	0.06	290	0.01	< 0.005	—	291
Dust From Material Movement	—	—	—	—	—	0.42	0.42	—	0.22	0.22	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.29	0.29	< 0.005	0.01	—	0.01	0.01	—	0.01	48.1	< 0.005	< 0.005	—	48.2
Dust From Material Movement	—	—	—	—	—	0.08	0.08	—	0.04	0.04	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.67	0.00	0.00	0.15	0.15	0.00	0.03	0.03	154	0.01	0.01	0.01	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	0.00	0.00	0.00
Hauling	0.03	1.72	0.64	0.01	0.02	0.34	0.36	0.02	0.09	0.11	1,288	0.06	0.21	0.07	1,351
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	8.49	< 0.005	< 0.005	0.01	8.62
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.09	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	70.5	< 0.005	0.01	0.06	74.1
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	1.41	< 0.005	< 0.005	< 0.005	1.43
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	11.7	< 0.005	< 0.005	0.01	12.3

3.2. Site Preparation (2026) - Mitigated

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

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

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.14	29.2	28.8	0.05	1.24	—	1.24	1.14	—	1.14	5,298	0.21	0.04	—	5,316
Dust From Material Movement	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	1.60	1.58	< 0.005	0.07	—	0.07	0.06	—	0.06	290	0.01	< 0.005	—	291
Dust From Material Movement	—	—	—	—	—	0.42	0.42	—	0.22	0.22	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.29	0.29	< 0.005	0.01	—	0.01	0.01	—	0.01	48.1	< 0.005	< 0.005	—	48.2
Dust From Material Movement	—	—	—	—	—	0.08	0.08	—	0.04	0.04	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.67	0.00	0.00	0.15	0.15	0.00	0.03	0.03	154	0.01	0.01	0.01	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	0.00	0.00	0.00
Hauling	0.03	1.72	0.64	0.01	0.02	0.34	0.36	0.02	0.09	0.11	1,288	0.06	0.21	0.07	1,351
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	8.49	< 0.005	< 0.005	0.01	8.62
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.09	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	70.5	< 0.005	0.01	0.06	74.1
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	1.41	< 0.005	< 0.005	< 0.005	1.43
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	11.7	< 0.005	< 0.005	0.01	12.3

3.3. Grading (2026) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.56	31.0	34.6	0.08	1.26	—	1.26	1.16	—	1.16	8,151	0.33	0.07	—	8,179
Dust From Material Movement	—	—	—	—	—	3.59	3.59	—	1.43	1.43	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	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	3.56	31.0	34.6	0.08	1.26	—	1.26	1.16	—	1.16	8,151	0.33	0.07	—	8,179

Dust From Material Movement	—	—	—	—	—	3.59	3.59	—	1.43	1.43	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.44	3.83	4.26	0.01	0.16	—	0.16	0.14	—	0.14	1,005	0.04	0.01	—	1,008
Dust From Material Movement	—	—	—	—	—	0.44	0.44	—	0.18	0.18	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.70	0.78	< 0.005	0.03	—	0.03	0.03	—	0.03	166	0.01	< 0.005	—	167
Dust From Material Movement	—	—	—	—	—	0.08	0.08	—	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	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.08	1.19	0.00	0.00	0.23	0.23	0.00	0.05	0.05	256	0.01	0.01	0.89	260
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.03	1.81	0.70	0.01	0.03	0.37	0.40	0.02	0.10	0.12	1,407	0.07	0.23	2.94	1,479
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.09	1.05	0.00	0.00	0.23	0.23	0.00	0.05	0.05	241	0.01	0.01	0.02	245

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.03	1.88	0.70	0.01	0.03	0.37	0.40	0.02	0.10	0.12	1,407	0.07	0.23	0.08	1,477
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.13	0.00	0.00	0.03	0.03	0.00	0.01	0.01	30.0	< 0.005	< 0.005	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	0.00	0.00	0.00
Hauling	< 0.005	0.23	0.09	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.01	173	0.01	0.03	0.16	182
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	4.97	< 0.005	< 0.005	0.01	5.04
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.04	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	28.7	< 0.005	< 0.005	0.03	30.2

3.4. Grading (2026) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.56	31.0	34.6	0.08	1.26	—	1.26	1.16	—	1.16	8,151	0.33	0.07	—	8,179
Dust From Material Movement	—	—	—	—	—	3.59	3.59	—	1.43	1.43	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	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	3.56	31.0	34.6	0.08	1.26	—	1.26	1.16	—	1.16	8,151	0.33	0.07	—	8,179

Dust From Material Movement	—	—	—	—	—	3.59	3.59	—	1.43	1.43	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.44	3.83	4.26	0.01	0.16	—	0.16	0.14	—	0.14	1,005	0.04	0.01	—	1,008
Dust From Material Movement	—	—	—	—	—	0.44	0.44	—	0.18	0.18	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.70	0.78	< 0.005	0.03	—	0.03	0.03	—	0.03	166	0.01	< 0.005	—	167
Dust From Material Movement	—	—	—	—	—	0.08	0.08	—	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	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.08	1.19	0.00	0.00	0.23	0.23	0.00	0.05	0.05	256	0.01	0.01	0.89	260
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.03	1.81	0.70	0.01	0.03	0.37	0.40	0.02	0.10	0.12	1,407	0.07	0.23	2.94	1,479
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.09	1.05	0.00	0.00	0.23	0.23	0.00	0.05	0.05	241	0.01	0.01	0.02	245

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.03	1.88	0.70	0.01	0.03	0.37	0.40	0.02	0.10	0.12	1,407	0.07	0.23	0.08	1,477
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.13	0.00	0.00	0.03	0.03	0.00	0.01	0.01	30.0	< 0.005	< 0.005	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	0.00	0.00	0.00
Hauling	< 0.005	0.23	0.09	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.01	173	0.01	0.03	0.16	182
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	4.97	< 0.005	< 0.005	0.01	5.04
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.04	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	28.7	< 0.005	< 0.005	0.03	30.2

3.5. Building Construction (2026) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.47	4.34	5.71	0.01	0.17	—	0.17	0.15	—	0.15	1,056	0.04	0.01	—	1,059
Onsite truck	0.00	0.00	0.00	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	0.09	0.79	1.04	< 0.005	0.03	—	0.03	0.03	—	0.03	175	0.01	< 0.005	—	175
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.08	1.18	0.00	0.00	0.23	0.23	0.00	0.05	0.05	254	0.01	0.01	0.89	258
Vendor	0.01	0.26	0.12	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	200	0.01	0.03	0.49	209
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.09	1.04	0.00	0.00	0.23	0.23	0.00	0.05	0.05	240	0.01	0.01	0.02	243
Vendor	0.01	0.27	0.12	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	200	0.01	0.03	0.01	208
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.46	0.00	0.00	0.10	0.10	0.00	0.02	0.02	107	0.01	< 0.005	0.17	108
Vendor	< 0.005	0.12	0.05	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	87.9	< 0.005	0.01	0.09	91.9
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	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.08	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	17.7	< 0.005	< 0.005	0.03	17.9

Vendor	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	14.6	< 0.005	< 0.005	0.02	15.2
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.6. Building Construction (2026) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.47	4.34	5.71	0.01	0.17	—	0.17	0.15	—	0.15	1,056	0.04	0.01	—	1,059
Onsite truck	0.00	0.00	0.00	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	0.09	0.79	1.04	< 0.005	0.03	—	0.03	0.03	—	0.03	175	0.01	< 0.005	—	175
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.08	1.18	0.00	0.00	0.23	0.23	0.00	0.05	0.05	254	0.01	0.01	0.89	258
Vendor	0.01	0.26	0.12	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	200	0.01	0.03	0.49	209
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.09	1.04	0.00	0.00	0.23	0.23	0.00	0.05	0.05	240	0.01	0.01	0.02	243
Vendor	0.01	0.27	0.12	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	200	0.01	0.03	0.01	208
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.46	0.00	0.00	0.10	0.10	0.00	0.02	0.02	107	0.01	< 0.005	0.17	108
Vendor	< 0.005	0.12	0.05	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	87.9	< 0.005	0.01	0.09	91.9
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	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.08	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	17.7	< 0.005	< 0.005	0.03	17.9
Vendor	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	14.6	< 0.005	< 0.005	0.02	15.2
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Building Construction (2027) - Unmitigated

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

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

Off-Road Equipment	1.03	9.39	12.9	0.02	0.34	—	0.34	0.31	—	0.31	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.03	9.39	12.9	0.02	0.34	—	0.34	0.31	—	0.31	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.74	6.71	9.24	0.02	0.24	—	0.24	0.22	—	0.22	1,712	0.07	0.01	—	1,718
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	1.22	1.69	< 0.005	0.04	—	0.04	0.04	—	0.04	283	0.01	< 0.005	—	284
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.07	1.12	0.00	0.00	0.23	0.23	0.00	0.05	0.05	250	0.01	0.01	0.81	254
Vendor	0.01	0.25	0.12	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	195	0.01	0.03	0.44	204
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.98	0.00	0.00	0.23	0.23	0.00	0.05	0.05	236	0.01	0.01	0.02	239

Vendor	0.01	0.26	0.12	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	195	0.01	0.03	0.01	204
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.71	0.00	0.00	0.16	0.16	0.00	0.04	0.04	170	0.01	0.01	0.25	173
Vendor	< 0.005	0.18	0.08	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	140	0.01	0.02	0.13	146
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.13	0.00	0.00	0.03	0.03	0.00	0.01	0.01	28.2	< 0.005	< 0.005	0.04	28.6
Vendor	< 0.005	0.03	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	23.1	< 0.005	< 0.005	0.02	24.1
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.8. Building Construction (2027) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.03	9.39	12.9	0.02	0.34	—	0.34	0.31	—	0.31	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.03	9.39	12.9	0.02	0.34	—	0.34	0.31	—	0.31	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.74	6.71	9.24	0.02	0.24	—	0.24	0.22	—	0.22	1,712	0.07	0.01	—	1,718
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	1.22	1.69	< 0.005	0.04	—	0.04	0.04	—	0.04	283	0.01	< 0.005	—	284
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.07	1.12	0.00	0.00	0.23	0.23	0.00	0.05	0.05	250	0.01	0.01	0.81	254
Vendor	0.01	0.25	0.12	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	195	0.01	0.03	0.44	204
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.98	0.00	0.00	0.23	0.23	0.00	0.05	0.05	236	0.01	0.01	0.02	239
Vendor	0.01	0.26	0.12	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	195	0.01	0.03	0.01	204
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.71	0.00	0.00	0.16	0.16	0.00	0.04	0.04	170	0.01	0.01	0.25	173
Vendor	< 0.005	0.18	0.08	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	140	0.01	0.02	0.13	146
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.13	0.00	0.00	0.03	0.03	0.00	0.01	0.01	28.2	< 0.005	< 0.005	0.04	28.6

Vendor	< 0.005	0.03	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	23.1	< 0.005	< 0.005	0.02	24.1
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Building Construction (2028) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.99	8.92	12.9	0.02	0.30	—	0.30	0.28	—	0.28	2,397	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.45	0.66	< 0.005	0.02	—	0.02	0.01	—	0.01	122	< 0.005	< 0.005	—	122
Onsite truck	0.00	0.00	0.00	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	0.12	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	20.2	< 0.005	< 0.005	—	20.3
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.93	0.00	0.00	0.23	0.23	0.00	0.05	0.05	232	< 0.005	0.01	0.02	235
Vendor	0.01	0.24	0.11	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	191	0.01	0.03	0.01	199
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	11.9	< 0.005	< 0.005	0.02	12.1
Vendor	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	9.69	< 0.005	< 0.005	0.01	10.1
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	1.97	< 0.005	< 0.005	< 0.005	2.00
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	1.60	< 0.005	< 0.005	< 0.005	1.68
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.10. Building Construction (2028) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.99	8.92	12.9	0.02	0.30	—	0.30	0.28	—	0.28	2,397	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.45	0.66	< 0.005	0.02	—	0.02	0.01	—	0.01	122	< 0.005	< 0.005	—	122
Onsite truck	0.00	0.00	0.00	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	0.12	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	20.2	< 0.005	< 0.005	—	20.3
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.93	0.00	0.00	0.23	0.23	0.00	0.05	0.05	232	< 0.005	0.01	0.02	235
Vendor	0.01	0.24	0.11	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	191	0.01	0.03	0.01	199
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	11.9	< 0.005	< 0.005	0.02	12.1
Vendor	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	9.69	< 0.005	< 0.005	0.01	10.1
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	1.97	< 0.005	< 0.005	< 0.005	2.00
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	1.60	< 0.005	< 0.005	< 0.005	1.68
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Paving (2026) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.76	7.12	9.94	0.01	0.32	—	0.32	0.29	—	0.29	1,511	0.06	0.01	—	1,516
Paving	0.32	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	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	0.07	0.68	0.95	< 0.005	0.03	—	0.03	0.03	—	0.03	145	0.01	< 0.005	—	145
Paving	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	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.12	0.17	< 0.005	0.01	—	0.01	0.01	—	0.01	24.0	< 0.005	< 0.005	—	24.1
Paving	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.05	0.04	0.65	0.00	0.00	0.13	0.13	0.00	0.03	0.03	139	0.01	< 0.005	0.49	142
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.02	1.18	0.45	0.01	0.02	0.24	0.26	0.01	0.07	0.08	914	0.05	0.15	1.91	961
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	< 0.005	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	12.7	< 0.005	< 0.005	0.02	12.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.12	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	87.7	< 0.005	0.01	0.08	92.1
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	2.11	< 0.005	< 0.005	< 0.005	2.14
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	14.5	< 0.005	< 0.005	0.01	15.2

3.12. Paving (2026) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.76	7.12	9.94	0.01	0.32	—	0.32	0.29	—	0.29	1,511	0.06	0.01	—	1,516
Paving	0.32	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	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	0.07	0.68	0.95	< 0.005	0.03	—	0.03	0.03	—	0.03	145	0.01	< 0.005	—	145
Paving	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	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.12	0.17	< 0.005	0.01	—	0.01	0.01	—	0.01	24.0	< 0.005	< 0.005	—	24.1
Paving	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.65	0.00	0.00	0.13	0.13	0.00	0.03	0.03	139	0.01	< 0.005	0.49	142
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.02	1.18	0.45	0.01	0.02	0.24	0.26	0.01	0.07	0.08	914	0.05	0.15	1.91	961
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	< 0.005	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	12.7	< 0.005	< 0.005	0.02	12.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.12	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	87.7	< 0.005	0.01	0.08	92.1
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	2.11	< 0.005	< 0.005	< 0.005	2.14
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	14.5	< 0.005	< 0.005	0.01	15.2

3.13. Architectural Coating (2028) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.81	1.12	< 0.005	0.02	—	0.02	0.01	—	0.01	134	0.01	< 0.005	—	134
Architectural Coatings	28.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.08	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	12.8	< 0.005	< 0.005	—	12.8
Architectural Coatings	2.76	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	< 0.005	0.01	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	2.12	< 0.005	< 0.005	—	2.13
Architectural Coatings	0.50	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	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	0.02	0.02	0.19	0.00	0.00	0.05	0.05	0.00	0.01	0.01	46.4	< 0.005	< 0.005	< 0.005	47.0
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	4.49	< 0.005	< 0.005	0.01	4.55
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.74	< 0.005	< 0.005	< 0.005	0.75
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.14. Architectural Coating (2028) - Mitigated

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

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

Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.81	1.12	< 0.005	0.02	—	0.02	0.01	—	0.01	134	0.01	< 0.005	—	134
Architectural Coatings	28.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.08	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	12.8	< 0.005	< 0.005	—	12.8
Architectural Coatings	2.76	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.01	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	2.12	< 0.005	< 0.005	—	2.13
Architectural Coatings	0.50	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	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	0.02	0.02	0.19	0.00	0.00	0.05	0.05	0.00	0.01	0.01	46.4	< 0.005	< 0.005	< 0.005	47.0
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	4.49	< 0.005	< 0.005	0.01	4.55
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.74	< 0.005	< 0.005	< 0.005	0.75
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

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

4.1.2. Mitigated

Mobile source emissions results are presented in Sections 2.5. No further detailed breakdown of emissions is available.

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	—	0.00
Single Family Housing	—	—	—	—	—	—	—	—	—	—	57.7	0.04	0.01	—	60.2
Total	—	—	—	—	—	—	—	—	—	—	57.7	0.04	0.01	—	60.2
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	—	0.00
Single Family Housing	—	—	—	—	—	—	—	—	—	—	57.7	0.04	0.01	—	60.2
Total	—	—	—	—	—	—	—	—	—	—	57.7	0.04	0.01	—	60.2
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	—	0.00

Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	—	0.00
Single Family Housing	—	—	—	—	—	—	—	—	—	—	9.55	0.01	< 0.005	—	9.97
Total	—	—	—	—	—	—	—	—	—	—	9.55	0.01	< 0.005	—	9.97

4.2.2. Electricity Emissions By Land Use - Mitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	—	0.00
Single Family Housing	—	—	—	—	—	—	—	—	—	—	58.1	0.04	0.01	—	60.7
Total	—	—	—	—	—	—	—	—	—	—	58.1	0.04	0.01	—	60.7
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	—	0.00

Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	—	0.00
Single Family Housing	—	—	—	—	—	—	—	—	—	—	58.1	0.04	0.01	—	60.7
Total	—	—	—	—	—	—	—	—	—	—	58.1	0.04	0.01	—	60.7
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	—	0.00
Single Family Housing	—	—	—	—	—	—	—	—	—	—	9.61	0.01	< 0.005	—	10.0
Total	—	—	—	—	—	—	—	—	—	—	9.61	0.01	< 0.005	—	10.0

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	—	0.00

City Park	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Single Family Housing	0.03	0.55	0.23	< 0.005	0.04	—	0.04	0.04	—	0.04	695	0.06	< 0.005	—	697
Total	0.03	0.55	0.23	< 0.005	0.04	—	0.04	0.04	—	0.04	695	0.06	< 0.005	—	697
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	—	0.00
City Park	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Single Family Housing	0.03	0.55	0.23	< 0.005	0.04	—	0.04	0.04	—	0.04	695	0.06	< 0.005	—	697
Total	0.03	0.55	0.23	< 0.005	0.04	—	0.04	0.04	—	0.04	695	0.06	< 0.005	—	697
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	—	0.00
City Park	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Single Family Housing	0.01	0.10	0.04	< 0.005	0.01	—	0.01	0.01	—	0.01	115	0.01	< 0.005	—	115
Total	0.01	0.10	0.04	< 0.005	0.01	—	0.01	0.01	—	0.01	115	0.01	< 0.005	—	115

4.2.4. Natural Gas Emissions By Land Use - Mitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	—	0.00
City Park	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Single Family Housing	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	—	0.00
City Park	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Single Family Housing	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	—	0.00

Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	—	0.00
City Park	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Single Family Housing	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	—	0.00

4.3. Area Emissions by Source

4.3.2. Unmitigated

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

Source	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	11.3	0.01	< 0.005	—	11.8
Consumer Products	3.19	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.28	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.37	0.04	4.32	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	11.5	< 0.005	< 0.005	—	11.6
Total	3.84	0.04	4.32	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	22.8	0.01	< 0.005	—	23.4
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	11.3	0.01	< 0.005	—	11.8
Consumer Products	3.19	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Architectur Coatings	0.28	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	3.47	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	11.3	0.01	< 0.005	—	11.8
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.42	< 0.005	< 0.005	—	0.44
Consumer Products	0.58	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectur al Coatings	0.05	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.03	< 0.005	0.39	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.94	< 0.005	< 0.005	—	0.94
Total	0.67	< 0.005	0.39	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	1.36	< 0.005	< 0.005	—	1.38

4.3.1. Mitigated

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

Source	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	11.3	0.01	< 0.005	—	11.8
Consumer Products	3.19	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectur al Coatings	0.28	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.37	0.04	4.32	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	11.5	< 0.005	< 0.005	—	11.6
Total	3.84	0.04	4.32	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	22.8	0.01	< 0.005	—	23.4
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Hearths	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	11.3	0.01	< 0.005	—	11.8
Consumer Products	3.19	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.28	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	3.47	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	11.3	0.01	< 0.005	—	11.8
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.42	< 0.005	< 0.005	—	0.44
Consumer Products	0.58	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.05	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.03	< 0.005	0.39	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.94	< 0.005	< 0.005	—	0.94
Total	0.67	< 0.005	0.39	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	1.36	< 0.005	< 0.005	—	1.38

4.4. Water Emissions by Land Use

4.4.2. Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	—	0.00

City Park	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005	< 0.005	—	< 0.005
Single Family Housing	—	—	—	—	—	—	—	—	—	—	18.0	0.53	0.01	—	35.4
Total	—	—	—	—	—	—	—	—	—	—	18.0	0.53	0.01	—	35.4
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005	< 0.005	—	< 0.005
Single Family Housing	—	—	—	—	—	—	—	—	—	—	18.0	0.53	0.01	—	35.4
Total	—	—	—	—	—	—	—	—	—	—	18.0	0.53	0.01	—	35.4
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005	< 0.005	—	< 0.005
Single Family Housing	—	—	—	—	—	—	—	—	—	—	2.98	0.09	< 0.005	—	5.87
Total	—	—	—	—	—	—	—	—	—	—	2.98	0.09	< 0.005	—	5.87

4.4.1. Mitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005	< 0.005	—	< 0.005
Single Family Housing	—	—	—	—	—	—	—	—	—	—	18.0	0.53	0.01	—	35.4
Total	—	—	—	—	—	—	—	—	—	—	18.0	0.53	0.01	—	35.4
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005	< 0.005	—	< 0.005
Single Family Housing	—	—	—	—	—	—	—	—	—	—	18.0	0.53	0.01	—	35.4
Total	—	—	—	—	—	—	—	—	—	—	18.0	0.53	0.01	—	35.4
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	—	0.00

Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005	< 0.005	—	< 0.005
Single Family Housing	—	—	—	—	—	—	—	—	—	—	2.98	0.09	< 0.005	—	5.87
Total	—	—	—	—	—	—	—	—	—	—	2.98	0.09	< 0.005	—	5.87

4.5. Waste Emissions by Land Use

4.5.2. Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	0.01	< 0.005	0.00	—	0.05
Single Family Housing	—	—	—	—	—	—	—	—	—	—	18.3	1.83	0.00	—	64.0
Total	—	—	—	—	—	—	—	—	—	—	18.3	1.83	0.00	—	64.0
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	0.01	< 0.005	0.00	—	0.05
Single Family Housing	—	—	—	—	—	—	—	—	—	—	18.3	1.83	0.00	—	64.0
Total	—	—	—	—	—	—	—	—	—	—	18.3	1.83	0.00	—	64.0
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005	0.00	—	0.01
Single Family Housing	—	—	—	—	—	—	—	—	—	—	3.03	0.30	0.00	—	10.6
Total	—	—	—	—	—	—	—	—	—	—	3.03	0.30	0.00	—	10.6

4.5.1. Mitigated

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

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

Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	0.01	< 0.005	0.00	—	0.05
Single Family Housing	—	—	—	—	—	—	—	—	—	—	18.3	1.83	0.00	—	64.0
Total	—	—	—	—	—	—	—	—	—	—	18.3	1.83	0.00	—	64.0
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	0.01	< 0.005	0.00	—	0.05
Single Family Housing	—	—	—	—	—	—	—	—	—	—	18.3	1.83	0.00	—	64.0
Total	—	—	—	—	—	—	—	—	—	—	18.3	1.83	0.00	—	64.0
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005	0.00	—	0.01
Single Family Housing	—	—	—	—	—	—	—	—	—	—	3.03	0.30	0.00	—	10.6
Total	—	—	—	—	—	—	—	—	—	—	3.03	0.30	0.00	—	10.6

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	1.06	1.06
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	1.06	1.06
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	1.06	1.06
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	1.06	1.06
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	0.18	0.18
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	0.18	0.18

4.6.2. Mitigated

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

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	1.06	1.06
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	1.06	1.06
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	1.06	1.06
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	1.06	1.06
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	0.18	0.18
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	0.18	0.18

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

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

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

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

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

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

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

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

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

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

Vegetation	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Forest	—	—	—	—	—	—	—	—	—	—	93.1	—	—	—	93.1
Total	—	—	—	—	—	—	—	—	—	—	93.1	—	—	—	93.1
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Forest	—	—	—	—	—	—	—	—	—	—	93.1	—	—	—	93.1
Total	—	—	—	—	—	—	—	—	—	—	93.1	—	—	—	93.1
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Forest	—	—	—	—	—	—	—	—	—	—	15.4	—	—	—	15.4
Total	—	—	—	—	—	—	—	—	—	—	15.4	—	—	—	15.4

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

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Shrubland	—	—	—	—	—	—	—	—	—	—	452	—	—	—	452
Total	—	—	—	—	—	—	—	—	—	—	452	—	—	—	452
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Shrubland	—	—	—	—	—	—	—	—	—	—	452	—	—	—	452
Total	—	—	—	—	—	—	—	—	—	—	452	—	—	—	452
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Shrubland	—	—	—	—	—	—	—	—	—	—	74.8	—	—	—	74.8
Total	—	—	—	—	—	—	—	—	—	—	74.8	—	—	—	74.8

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

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

Species	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
undefined	-0.03	> -0.005	—	-0.01	-0.03	-0.03	-0.06	-0.01	-0.01	-0.02	-49.3	—	—	—	-49.3
Subtotal	-0.03	> -0.005	—	-0.01	-0.03	-0.03	-0.06	-0.01	-0.01	-0.02	-49.3	—	—	—	-49.3
Sequester ed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
undefined	—	—	—	—	—	—	—	—	—	—	-199	—	—	—	-199
Subtotal	—	—	—	—	—	—	—	—	—	—	-199	—	—	—	-199
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
undefined	—	-0.02	—	> -0.005	-0.01	-0.01	-0.02	> -0.005	> -0.005	-0.01	—	—	—	—	—
Subtotal	—	-0.02	—	> -0.005	-0.01	-0.01	-0.02	> -0.005	> -0.005	-0.01	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	-0.03	-0.03	—	-0.01	-0.04	-0.04	-0.08	-0.01	-0.01	-0.02	-248	—	—	—	-248
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
undefined	-0.03	> -0.005	—	-0.01	-0.03	-0.03	-0.06	-0.01	-0.01	-0.02	-49.3	—	—	—	-49.3
Subtotal	-0.03	> -0.005	—	-0.01	-0.03	-0.03	-0.06	-0.01	-0.01	-0.02	-49.3	—	—	—	-49.3
Sequester ed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

undefined	—	—	—	—	—	—	—	—	—	—	-199	—	—	—	-199
Subtotal	—	—	—	—	—	—	—	—	—	—	-199	—	—	—	-199
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
undefined	—	-0.02	—	> -0.005	-0.01	-0.01	-0.02	> -0.005	> -0.005	-0.01	—	—	—	—	—
Subtotal	—	-0.02	—	> -0.005	-0.01	-0.01	-0.02	> -0.005	> -0.005	-0.01	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	-0.03	-0.03	—	-0.01	-0.04	-0.04	-0.08	-0.01	-0.01	-0.02	-248	—	—	—	-248
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
undefined	> -0.005	> -0.005	—	> -0.005	-0.01	-0.01	-0.01	> -0.005	> -0.005	> -0.005	-8.16	—	—	—	-8.16
Subtotal	> -0.005	> -0.005	—	> -0.005	-0.01	-0.01	-0.01	> -0.005	> -0.005	> -0.005	-8.16	—	—	—	-8.16
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
undefined	—	—	—	—	—	—	—	—	—	—	-33.0	—	—	—	-33.0
Subtotal	—	—	—	—	—	—	—	—	—	—	-33.0	—	—	—	-33.0
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
undefined	—	> -0.005	—	> -0.005	> -0.005	> -0.005	> -0.005	> -0.005	> -0.005	> -0.005	—	—	—	—	—
Subtotal	—	> -0.005	—	> -0.005	> -0.005	> -0.005	> -0.005	> -0.005	> -0.005	> -0.005	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	> -0.005	> -0.005	—	> -0.005	-0.01	-0.01	-0.02	> -0.005	> -0.005	> -0.005	-41.1	—	—	—	-41.1

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

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

Vegetation	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Forest	—	—	—	—	—	—	—	—	—	—	93.1	—	—	—	93.1

Total	—	—	—	—	—	—	—	—	—	—	93.1	—	—	—	93.1
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Forest	—	—	—	—	—	—	—	—	—	—	93.1	—	—	—	93.1
Total	—	—	—	—	—	—	—	—	—	—	93.1	—	—	—	93.1
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Forest	—	—	—	—	—	—	—	—	—	—	15.4	—	—	—	15.4
Total	—	—	—	—	—	—	—	—	—	—	15.4	—	—	—	15.4

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

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Shrubland	—	—	—	—	—	—	—	—	—	—	452	—	—	—	452
Total	—	—	—	—	—	—	—	—	—	—	452	—	—	—	452
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Shrubland	—	—	—	—	—	—	—	—	—	—	452	—	—	—	452
Total	—	—	—	—	—	—	—	—	—	—	452	—	—	—	452
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Shrubland	—	—	—	—	—	—	—	—	—	—	74.8	—	—	—	74.8
Total	—	—	—	—	—	—	—	—	—	—	74.8	—	—	—	74.8

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

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

Species	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
undefined	-0.03	> -0.005	—	-0.01	-0.03	-0.03	-0.06	-0.01	-0.01	-0.02	-49.3	—	—	—	-49.3
Subtotal	-0.03	> -0.005	—	-0.01	-0.03	-0.03	-0.06	-0.01	-0.01	-0.02	-49.3	—	—	—	-49.3
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
undefined	—	—	—	—	—	—	—	—	—	—	-199	—	—	—	-199
Subtotal	—	—	—	—	—	—	—	—	—	—	-199	—	—	—	-199
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
undefined	—	-0.02	—	> -0.005	-0.01	-0.01	-0.02	> -0.005	> -0.005	-0.01	—	—	—	—	—
Subtotal	—	-0.02	—	> -0.005	-0.01	-0.01	-0.02	> -0.005	> -0.005	-0.01	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	-0.03	-0.03	—	-0.01	-0.04	-0.04	-0.08	-0.01	-0.01	-0.02	-248	—	—	—	-248
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
undefined	-0.03	> -0.005	—	-0.01	-0.03	-0.03	-0.06	-0.01	-0.01	-0.02	-49.3	—	—	—	-49.3
Subtotal	-0.03	> -0.005	—	-0.01	-0.03	-0.03	-0.06	-0.01	-0.01	-0.02	-49.3	—	—	—	-49.3
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
undefined	—	—	—	—	—	—	—	—	—	—	-199	—	—	—	-199
Subtotal	—	—	—	—	—	—	—	—	—	—	-199	—	—	—	-199
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
undefined	—	-0.02	—	> -0.005	-0.01	-0.01	-0.02	> -0.005	> -0.005	-0.01	—	—	—	—	—
Subtotal	—	-0.02	—	> -0.005	-0.01	-0.01	-0.02	> -0.005	> -0.005	-0.01	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	-0.03	-0.03	—	-0.01	-0.04	-0.04	-0.08	-0.01	-0.01	-0.02	-248	—	—	—	-248
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
undefined	> -0.005	> -0.005	—	> -0.005	-0.01	-0.01	-0.01	> -0.005	> -0.005	> -0.005	-8.16	—	—	—	-8.16
Subtotal	> -0.005	> -0.005	—	> -0.005	-0.01	-0.01	-0.01	> -0.005	> -0.005	> -0.005	-8.16	—	—	—	-8.16
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
undefined	—	—	—	—	—	—	—	—	—	—	-33.0	—	—	—	-33.0
Subtotal	—	—	—	—	—	—	—	—	—	—	-33.0	—	—	—	-33.0
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
undefined	—	> -0.005	—	> -0.005	> -0.005	> -0.005	> -0.005	> -0.005	> -0.005	> -0.005	—	—	—	—	—
Subtotal	—	> -0.005	—	> -0.005	> -0.005	> -0.005	> -0.005	> -0.005	> -0.005	> -0.005	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	> -0.005	> -0.005	—	> -0.005	-0.01	-0.01	-0.02	> -0.005	> -0.005	> -0.005	-41.1	—	—	—	-41.1

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Site Preparation	Site Preparation	1/1/2026	1/28/2026	5.00	20.0	—
Grading	Grading	1/29/2026	4/1/2026	5.00	45.0	—
Building Construction	Building Construction	5/21/2026	1/26/2028	5.00	440	—
Paving	Paving	4/2/2026	5/20/2026	5.00	35.0	—
Architectural Coating	Architectural Coating	1/27/2028	3/15/2028	5.00	35.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
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	Bore/Drill Rigs	Diesel	Average	1.00	8.00	83.0	0.50
Grading	Off-Highway Trucks	Diesel	Average	1.00	4.00	376	0.38
Grading	Rubber Tired Loaders	Diesel	Average	1.00	8.00	150	0.36
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
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40

Site Preparation	Tractors/Loaders/Backh	Diesel	Average	4.00	8.00	84.0	0.37
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	Bore/Drill Rigs	Diesel	Average	1.00	8.00	83.0	0.50
Grading	Off-Highway Trucks	Diesel	Average	1.00	4.00	376	0.38
Grading	Rubber Tired Loaders	Diesel	Average	1.00	8.00	150	0.36
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
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	12.0	LDA,LDT1,LDT2
Site Preparation	Vendor	—	7.63	HHDT,MHDT

Site Preparation	Hauling	18.3	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	27.5	12.0	LDA,LDT1,LDT2
Grading	Vendor	—	7.63	HHDT,MHDT
Grading	Hauling	20.0	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	27.4	12.0	LDA,LDT1,LDT2
Building Construction	Vendor	8.12	7.63	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	12.0	LDA,LDT1,LDT2
Paving	Vendor	—	7.63	HHDT,MHDT
Paving	Hauling	13.0	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	5.47	12.0	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	7.63	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	12.0	LDA,LDT1,LDT2

Site Preparation	Vendor	—	7.63	HHDT,MHDT
Site Preparation	Hauling	18.3	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	27.5	12.0	LDA,LDT1,LDT2
Grading	Vendor	—	7.63	HHDT,MHDT
Grading	Hauling	20.0	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	27.4	12.0	LDA,LDT1,LDT2
Building Construction	Vendor	8.12	7.63	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	12.0	LDA,LDT1,LDT2
Paving	Vendor	—	7.63	HHDT,MHDT
Paving	Hauling	13.0	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	5.47	12.0	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	7.63	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Control Strategies Applied	PM10 Reduction	PM2.5 Reduction
Water unpaved roads twice daily	55%	55%
Limit vehicle speeds on unpaved roads to 25 mph	44%	44%
Sweep paved roads once per month	9%	9%

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	300,105	100,035	0.00	0.00	17,511

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Ton of Debris)	Material Exported (Ton of Debris)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Site Preparation	—	3,700	30.0	0.00	—
Grading	7,200	—	135	0.00	—
Paving	0.00	0.00	0.00	0.00	7.54

5.6.2. Construction Earthmoving Control Strategies

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

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Other Asphalt Surfaces	4.30	100%
Other Non-Asphalt Surfaces	2.40	0%

City Park	0.00	0%
Single Family Housing	0.84	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2026	0.00	45.1	0.03	< 0.005
2027	0.00	45.1	0.03	< 0.005
2028	0.00	45.1	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Total all Land Uses	914	914	914	333,610	5,129	5,129	5,129	1,871,903

5.9.2. Mitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Total all Land Uses	914	914	914	333,610	5,129	5,129	5,129	1,871,903

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	76
No Fireplaces	0
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	76
No Fireplaces	0
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)
300105	100,035	0.00	0.00	17,511

5.10.3. Landscape Equipment

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

5.10.4. Landscape Equipment - Mitigated

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

5.11. Operational Energy Consumption

5.11.1. Unmitigated

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

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Other Asphalt Surfaces	0.00	45.1	0.0330	0.0040	0.00
Other Non-Asphalt Surfaces	0.00	45.1	0.0330	0.0040	0.00
City Park	0.00	45.1	0.0330	0.0040	0.00
Single Family Housing	466,737	45.1	0.0330	0.0040	2,167,287

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)
Other Asphalt Surfaces	0.00	45.1	0.0330	0.0040	0.00
Other Non-Asphalt Surfaces	0.00	45.1	0.0330	0.0040	0.00
City Park	0.00	45.1	0.0330	0.0040	0.00

Single Family Housing	469,963	45.1	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Other Asphalt Surfaces	0.00	0.00
Other Non-Asphalt Surfaces	0.00	0.00
City Park	0.00	9.96
Single Family Housing	2,670,114	16,259,162

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Other Asphalt Surfaces	0.00	0.00
Other Non-Asphalt Surfaces	0.00	0.00
City Park	0.00	9.96
Single Family Housing	2,670,114	16,259,162

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Other Asphalt Surfaces	0.00	—
Other Non-Asphalt Surfaces	0.00	—
City Park	0.03	—
Single Family Housing	33.9	—

5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Other Asphalt Surfaces	0.00	—
Other Non-Asphalt Surfaces	0.00	—
City Park	0.03	—
Single Family Housing	33.9	—

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
City Park	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
City Park	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00
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

5.14.2. Mitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
City Park	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
City Park	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00

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

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
Forest	>70% Sand	31.4	0.00

5.18.1.2. Mitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres
Forest	>70% Sand	31.4	0.00

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres
Shrubland	31.4	0.00

5.18.1.2. Mitigated

Biomass Cover Type	Initial Acres	Final Acres
Shrubland	31.4	0.00

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)
—	299	550,488	1,775

5.18.2.2. Mitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)
—	299	550,488	1,775

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	12.2	annual days of extreme heat
Extreme Precipitation	3.70	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth
Wildfire	4.94	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 (2040–2059 average under RCP 8.5), and consider different increments of sea level rise coupled with extreme storm events. Users may select from four model simulations to view the range in potential inundation depth for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 50 meters (m) by 50 m, or about 164 feet (ft) by 164 ft.
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A

Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	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	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	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 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	40.0
AQ-PM	15.2
AQ-DPM	17.9
Drinking Water	50.8
Lead Risk Housing	3.45
Pesticides	70.5
Toxic Releases	13.3
Traffic	22.1
Effect Indicators	—
CleanUp Sites	50.3
Groundwater	27.8
Haz Waste Facilities/Generators	82.0
Impaired Water Bodies	98.1
Solid Waste	52.9
Sensitive Population	—
Asthma	1.26
Cardio-vascular	5.16
Low Birth Weights	31.7
Socioeconomic Factor Indicators	—
Education	10.3
Housing	13.9

Linguistic	32.0
Poverty	21.3
Unemployment	45.8

7.2. Healthy Places Index Scores

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

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	73.59168485
Employed	27.11407674
Median HI	94.16142692
Education	—
Bachelor's or higher	88.42551007
High school enrollment	100
Preschool enrollment	13.69177467
Transportation	—
Auto Access	96.70216861
Active commuting	25.31759271
Social	—
2-parent households	58.47555499
Voting	94.45656358
Neighborhood	—
Alcohol availability	90.33748236
Park access	37.89298088
Retail density	9.624021558
Supermarket access	30.5787245
Tree canopy	59.52778134

Housing	—
Homeownership	74.16912614
Housing habitability	81.09842166
Low-inc homeowner severe housing cost burden	56.97420762
Low-inc renter severe housing cost burden	71.07660721
Uncrowded housing	71.88502502
Health Outcomes	—
Insured adults	82.81791351
Arthritis	67.1
Asthma ER Admissions	98.4
High Blood Pressure	79.9
Cancer (excluding skin)	42.8
Asthma	58.2
Coronary Heart Disease	83.6
Chronic Obstructive Pulmonary Disease	71.2
Diagnosed Diabetes	89.0
Life Expectancy at Birth	73.9
Cognitively Disabled	90.0
Physically Disabled	80.2
Heart Attack ER Admissions	97.8
Mental Health Not Good	66.0
Chronic Kidney Disease	85.5
Obesity	66.6
Pedestrian Injuries	39.5
Physical Health Not Good	81.0
Stroke	84.7
Health Risk Behaviors	—

Binge Drinking	11.3
Current Smoker	73.9
No Leisure Time for Physical Activity	84.4
Climate Change Exposures	—
Wildfire Risk	61.0
SLR Inundation Area	0.0
Children	69.7
Elderly	59.3
English Speaking	72.4
Foreign-born	17.6
Outdoor Workers	77.9
Climate Change Adaptive Capacity	—
Impervious Surface Cover	83.3
Traffic Density	18.1
Traffic Access	23.0
Other Indices	—
Hardship	19.0
Other Decision Support	—
2016 Voting	95.3

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	12.0
Healthy Places Index Score for Project Location (b)	79.0
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	From the project description: The project consists of a Tentative Map, Density Bonus Permit, and an Administrative Permit for the 89.23 acre site. The project would provide for development of 76 single-family residential homes on 18.3 acres, recreation/community park uses on 0.3 acres, open space on 63.9 acres, internal streets and external road improvements totaling approximately 4.3 acres, and water quality detention basins on 2.4 acres.
Construction: Construction Phases	No demolition. Other phase durations based on CalEEMod default.
Construction: Off-Road Equipment	Bore/Drill Rig added to grading phase for the drilling of holes for blasting. Blasting emissions calculated off-model
Operations: Hearths	All electric fire places. No wood stoves.
Operations: Solid Waste	Solid waste 0.46 ton/yr/DU per CIWMB, includes AB341 requirements.
Construction: Trips and VMT	13 trips per day for delivery of asphalt/concrete during paving.

Appendix B

Drilling and Blasting Calculations

Drilling and Blasting

			Blast Frequency			
ID	Source	holes/blast	blasts/day	blasts/month	blasts/ year	Tons ANFO/ Blast
B-1	Blasting Activity	100	1	4	7	1.25

Dust - PM10

ID	Source	Area (ft2)	PM10 EF Drilling (lb/hole)	PM2.5 EF Drilling (lb/hole)	Drilling Control Efficiency	PM10 EF Blasting (lb/blast)	PM2.5 EF Blasting (lb/blast)	PM10 Emissions lb/day	PM10 Emissions TPY	PM2.5 Emissions lb/day	PM2.5 Emissions TPY
B-1	Blasting	10,000	-	-	-	7.28	0.42	7.28	0.03	0.42	0.00147
D-1	Drilling	10,000	0.65	0.12	75%	-	-	2.60	0.06	0.48	0.0105
							Total	9.88	0.08	0.90	0.01

Notes:

1. Emissions Factor Source: AP-42 5th Edition, Section 11.9, Table 11.9-4, October 1998. Assumes PM10 = TSP/2 = 1.3 lbs/hole / 2 = 0.65 lb/hole.
2. Emissions factor for PM2.5 is calculated based on a similar mechanical process for aggreagte roock crushing. The emission factors for tertiary rock crushing will be used, based on AP-42 11.19.2, Table 11.19.2-2, Final Section, updated August 2004. The tertiary crushing emission factor for PM10 is 0.00054 lb/ton and the emissions factor for PM2.5 us 0.00010 lb/ton. The ratio of PM2.5 to PM10 is 0.00010/0.00054 = 0.185. Since the PM10 emission factor is estimated to be 0.65 lb/hole (see note 1), the emission factor for PM2.5 is estimated to be 0.65 lb/hole x 0.185 = 0.12 lb/hole.
3. Control Efficiency estimated to be between 63% and 88%, based on drill rotoclone or similar dust shroud device. Assumed midpoint of range reported.
4. AP-42 5th Edition, Section 11.9, Table 11.9-1. Also referenced Appendix E.2 of Background document to AP-42 5th Edition, Section 11.9.

PM10 EF = $0.000014(A)^{1.5}(0.52)$, where A = horizontal area in ft2 with a scaling factor for $\leq$10um of 0.52

PM2.5 EF = $0.000014(A)^{1.5}(0.03)$, where A = horizontal area in ft2 with a scaling factor for $\leq$2.5um of 0.03

5. Daily drilling emissions based on ability to drill two holes per hour per drill rig for up to 8 hours per day with one drill rig.

Blasting Gases - ANFO Emission Factors

ID	Source	CO EF lb/ton	NOX EF lb/ton	SOx EF lb/ton	CO2 EF lb/ton	CH4 EF lb/ton	N2O EF lb/ton
B-1	Blasting Activity	67	17	2	566	0.02	0.005

Blasting Gases - ANFO Emission Rates Criteria Pollutants

ID	Emissions	CO (lb/day)	CO (TPY)	NOx (lb/day)	NOx (TPY)	SOx (lb/day)	SOx (TPY)
B-1	Blasting Activity	83.75	0.29	21.25	0.07	2.50	0.01

Blasting Gases - ANFO Emission Rates Greenhouse Gases

ID	Emissions	CO2 (lb/day)	CO2 (TPY)	CH4 (lb/day)	CH4 (TPY)	N2O (lb/day)	N2O (TPY)
B-1	Blasting Activity	707.50	2.48	0.03	0.0001	0.0063	0.0438
Total CO2e (MT per year)		15.73					

Notes:

1. Emission Factor Source: AP-42 5th Edition, Section 13.3, Table 13.3-1, February 1980, ND = no data.

Uncontrolled CO2, CH4, and N2O emissions are calculated using the emission factors of 73.96 kg/MMBtu, $3*10^{3}$ kg/MMBtu, and $6*10^{-4}$ kg/MMBtu, respectively, from 40 CFR 98, Tables C-1 and C-2 for distillate fuel oil No. 2. A diesel fuel oil to ammonium nitrate ratio of 9% and a diesel heating value of 19,300 Btu/pound of diesel fuel were used to express the CO2, CH4, and N2O emission factors in terms of lb/ton of ANFO.

Appendix C

GHG Emissions Threshold Calculation Sheet

Adjusted County Emissions Inventory - Residential Land Use-Related Sectors

Main Sector / Sub Sector	**Total Emissions (MTCO2e)**	**Adjusted Emissions (MTCO2e)**	**Notes/Adjustements**
On-Road Transportation	1,331,000	1,331,000	Land use sector includes all emissions
Electricity	599,000	599,000	Land use sector includes all emissions
Natural Gas	478,000	478,000	Land use sector includes all emissions
Solid Waste	193,000	193,000	Land use sector includes all emissions
Agriculture	134,000	-	Not included in residential land use sector
Propane	121,000	121,000	Land use sector includes all emissions
Off-Road Transportation	71,000	8,000	Off-Road Transportatoin emissions excluded from residential land use sector, except as described in sub sectors below
Lawn and Garden	*7,233*	*7,233*	Included in residential land use sector
Light Commercial	*5,999*	*0*	Not included in residential land use sector
TRUs	*2,854*	*0*	Not included in residential land use sector
Airport Ground Support	*2,316*	*0*	Not included in residential land use sector
Construction and Mining	*44,179*	*0*	Not included in residential land use sector
Industrial	*7,829*	*0*	Not included in residential land use sector
Recreational Vehicles	*410*	*410*	Included in residential land use sector
Water	39,000	39,000	Land use sector includes all emissions
Wastewater	18,000	18,000	Land use sector includes all emissions
Total Emsissions	**2,984,000**	**2,787,000**	

2019 Residential Population (CAP Apdx 3 Table 4)	526,890
2019 Efficiency Metric (MTCO2e/resident)	5.29

2030 Target (Percent Reduction from 2019 levels)	-43.6%
2030 Target (MTCO2e)	1,571,868
2030 Residential Population (CAP Apdx 3 Table 4)	539,701
Calculated 2030 Efficiency Metric (MTCO2e/resident)	2.91

GHG Emissions Threshold Calculation

	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
CAP Emissions Target	2,787,000											1,571,868
Residential Population	526,890											539,701
Efficiency Metric	5.29	5.01	4.75	4.50	4.26	4.03	3.82	3.62	3.43	3.25	3.07	2.91