APPENDIX 4.8 - 1

GREEN HOUSE GAS EMISSIONS ASSESSMENT

Anaheim Hills Festival Specific Plan Amendment

Greenhouse Gas Analysis

City of Anaheim

Prepared by:

Haseeb Qureshi
hqureshi@urbanxroads.com

Ali Dadabhoy
adadabhoy@urbanxroads.com

Shannon Wong
swong@urbanxroads.com

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LIST OF ABBREVIATED TERMS

%	Percent
°C	Degrees Celsius
°F	Degrees Fahrenheit
(1)	Reference
2017 Scoping Plan	*Final 2017 Scoping Plan Update*
AB	Assembly Bill
AB 32	Global Warming Solutions Act of 2006
AB 1493	Pavley Fuel Efficiency Standards
AB 1881	California Water Conservation Landscaping Act of 2006
Annex I	Industrialized Nations
AQIA	*Anaheim Hills Festival Specific Plan Amendment Air Quality Impact Analysis*
BAU	Business as Usual
C_2F_6	Hexafluoroethane
C_2H_6	Ethane
$C_2H_2F_4$	Tetrafluroethane
$C_2H_4F_2$	Ethylidene Fluoride
CAA	Federal Clean Air Act
CalEEMod	California Emissions Estimator Model
CalEPA	California Environmental Protection Agency
CALGAPS	California LBNL GHG Analysis of Policies Spreadsheet
CALGreen	California Green Building Standards Code
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resource Board
CEC	California Energy Commission
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CEQA Guidelines	*CEQA Statute and Guidelines*
CDFA	California Department of Food and Agriculture
CF_4	Tetrafluoromethane
CFC	Chlorofluorocarbons
CFC-113	Trichlorotrifluoroethane
CH_4	Methane
City	City of Anaheim
CNRA	California Natural Resources Agency
CNRA 2009	*2009 California Climate Adaptation Strategy*

CO_2	Carbon Dioxide
CO_2e	Carbon Dioxide Equivalent
Convention	United Nation's Framework Convention on Climate Change
COP	Conference of the Parties
CPUC	California Public Utilities Commission
DWR	Department of Water Resources
EMFAC	Emission Factor Model
EPA	Environmental Protection Agency
EV	Electric Vehicle
GCC	Global Climate Change
Gg	Gigagram
GHGA	Greenhouse Gas Analysis
gpd	Gallons Per Day
gpm	Gallons Per Minute
GWP	Global Warming Potential
H_2O	Water
HFC	Hydrofluorocarbons
HDT	Heavy-Duty Trucks
HFC-23	Fluoroform
HFC-134a	1,1,1,2-tetrafluoroethane
HFC-152a	1,1-difluoroethane
HHDT	Heavy-Heavy-Duty Trucks
hp	Horsepower
IPCC	Intergovernmental Panel on Climate Change
ISO	Independent System Operator
ITE	Institute of Transportation Engineers
kWh	Kilowatt Hours
lbs	Pounds
LBNL	Lawrence Berkeley National Laboratory
LCA	Life-Cycle Analysis
LCD	Liquid Crystal Display
LCFS	Low Carbon Fuel Standard or Executive Order S-01-07
LDA	Light-Duty Auto
LDT1/LDT2	Light-Duty Trucks
LEV III	Low-Emission Vehicle
LHDT1/LHDT2	Light-Heavy-Duty Trucks
LULUCF	Land-Use, Land-Use Change and Forestry
MCY	Motorcycles

MDT	Medium-Duty Trucks
MDV	Medium-Duty Vehicles
MHDT	Medium-Heavy-Duty Tucks
$MMTCO_2e$	Million Metric Ton of Carbon Dioxide Equivalent
mpg	Miles Per Gallon
MPOs	Metropolitan Planning Organizations
$MMTCO_2e/yr$	Million Metric Ton of Carbon Dioxide Equivalent Per Year
MT/yr	Metric Tons Per Year
$MTCO_2e$	Metric Ton of Carbon Dioxide Equivalent
$MTCO_2e/yr$	Metric Ton of Carbon Dioxide Equivalent Per Year
MW	Megawatts
MWh	Megawatts Per Hour
MWELO	California Department of Water Resources' Model Water Efficient
N_2O	Nitrous Oxide
NDC	Nationally Determined Contributions
NF_3	Nitrogen Trifluoride
NHTSA	National Highway Traffic Safety Administration
NIOSH	National Institute for Occupational Safety and Health
NO_X	Nitrogen Oxides
Non-Annex I	Developing Nations
OAL	Office of Administrative Law
OPR	Office of Planning and Research
PFC	Perfluorocarbons
ppb	Parts Per Billion
ppm	Parts Per Million
ppt	Parts Per Trillion
Project	Anaheim Hills Festival Specific Plan Amendment
RTP	Regional Transportation Plan
SAFE	Safer Affordable Fuel-Efficient Vehicles Rule
SB	Senate Bill
SB 32	California Global Warming Solutions Act of 2006
SB 375	Regional GHG Emissions Reduction Targets/Sustainable Communities Strategies
SB 1078	Renewable Portfolio Standards
SB 1368	Statewide Retail Provider Emissions Performance Standards
SCAB	South Coast Air Basin

SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
Scoping Plan	California Air Resources Board Climate Change Scoping Plan
SCS	Sustainable Communities Strategy
sf	Square Feet
SF_6	Sulfur Hexaflouride
SLPS	Short-Lived Climate Pollutant Strategy
SP	Service Population
TDM	Transportation Demand Measures
Title 20	Appliance Energy Efficiency Standards
Title 24	California Building Code
U.N.	United Nations
U.S.	United States
UNFCCC	United Nations' Framework Convention on Climate Change
VMT	Vehicle Miles Traveled
WCI	Western Climate Initiative
WRI	World Resources Institute
ZE/NZE	Zero and Near-Zero Emissions
ZEV	Zero-Emissions Vehicles

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EXECUTIVE SUMMARY

ES.1 SUMMARY OF FINDINGS

The results of this *Anaheim Hills Festival Specific Plan Amendment Greenhouse Gas Analysis* (GHGA) are summarized below based on the significance criteria in Section 3 of this report consistent with Appendix G of the *Guidelines for Implementation of the California Environmental Quality Act* (*CEQA Guidelines*) (1). Table ES-1 shows the findings of significance for potential greenhouse gas (GHG) impacts under the California Environmental Quality Act (CEQA).

TABLE ES-1: SUMMARY OF CEQA SIGNIFICANCE FINDINGS

Analysis	Report Section	Significance Findings	
		Unmitigated	Mitigated
GHG Impact #1: Would the Project generate GHG emissions either directly or indirectly, that may have a significant impact on the environment?	3.7	*Less Than Significant*	*n/a*
GHG Impact #2: Would the Project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs?	3.7	*Less Than Significant*	*n/a*

ES.2 PROJECT REQUIREMENTS

The Project would be required to comply with regulations imposed by the State of California, the South Coast Air Quality Management District (SCAQMD), and the City of Anaheim aimed at the reduction of air pollutant emissions. Those that are directly and indirectly applicable to the Project and that would assist in the reduction of GHG emissions include:

- Global Warming Solutions Act of 2006 (Assembly Bill [AB] 32) (2).
- Regional GHG Emissions Reduction Targets/Sustainable Communities Strategies (Senate Bill [SB] 375) (3).
- Pavley Fuel Efficiency Standards (AB 1493). Establishes fuel efficiency ratings for new vehicles (4).
- California Building Code (Title 24 California Code of Regulations [CCR]). Establishes energy efficiency requirements for new construction (5).
- Appliance Energy Efficiency Standards (Title 20 CCR). Establishes energy efficiency requirements for appliances (6).
- Low Carbon Fuel Standard (LCFS). Requires carbon content of fuel sold in California to be 10 percent (%) less by 2020 (7).

- Statewide Retail Provider Emissions Performance Standards (SB 1368). Requires energy generators to achieve performance standards for GHG emissions (8).
- Renewable Portfolio Standards (RPS). Requires electric corporations to increase the amount of energy obtained from eligible renewable energy resources to 20% by 2010 and 33% by 2020. SB 350 mandated a 50% RPS by 2030. SB 100 increased the RPS requirements to 60% by 2030 with new interim targets of 44% by 2024 and 52% by 2027 (9).
- California Global Warming Solutions Act of 2006 (SB 32). Requires the state to reduce statewide GHG emissions to 40% below 1990 levels by 2030, a reduction target that was first introduced in Executive Order B-30-15 (10).
- Clean Energy, Jobs, and Affordability Act of 2022 (SB 1020). Requires renewable energy and zero-carbon resources to supply 90% of all retail electricity sales by 2035 and 95% of all retail electricity sales by 2040.
- The California Climate Crisis Act (AB 1279). The state's policy sets goals to achieve net zero GHG emissions by 2045 and maintain net negative emissions thereafter. By the same year, it aims to reduce statewide GHG emissions to at least 85% below 1990 levels.

Promulgated regulations that would affect the Project's emissions are accounted for in the Project's GHG calculations provided in this report. In particular, AB 1493, LCFS, and RPS are accounted for in the Project's emission calculations.

ES.3 PROJECT DESIGN FEATURES

PDF-1

Prior to issuance of certificate of occupancy for each building, developers/contractors shall require the installation of ENERGY STAR-certified appliances that exceed the energy efficiency of conventional appliances. By committing to more efficient appliances, the building's energy use is reduced, thereby reducing GHG emissions.

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1 INTRODUCTION

This report presents the results of the GHGA prepared by Urban Crossroads, Inc., for the proposed Anaheim Hills Festival Specific Plan Amendment Project (Project). The purpose of this GHGA is to evaluate Project-related construction and operational emissions and determine the level of GHG impacts as a result of constructing and operating the Project.

1.1 SITE LOCATION

The proposed Project site is located south of Santa Ana Canyon Road and west of Roosevelt Road in the City of Anaheim, as shown in Exhibit 1-A.

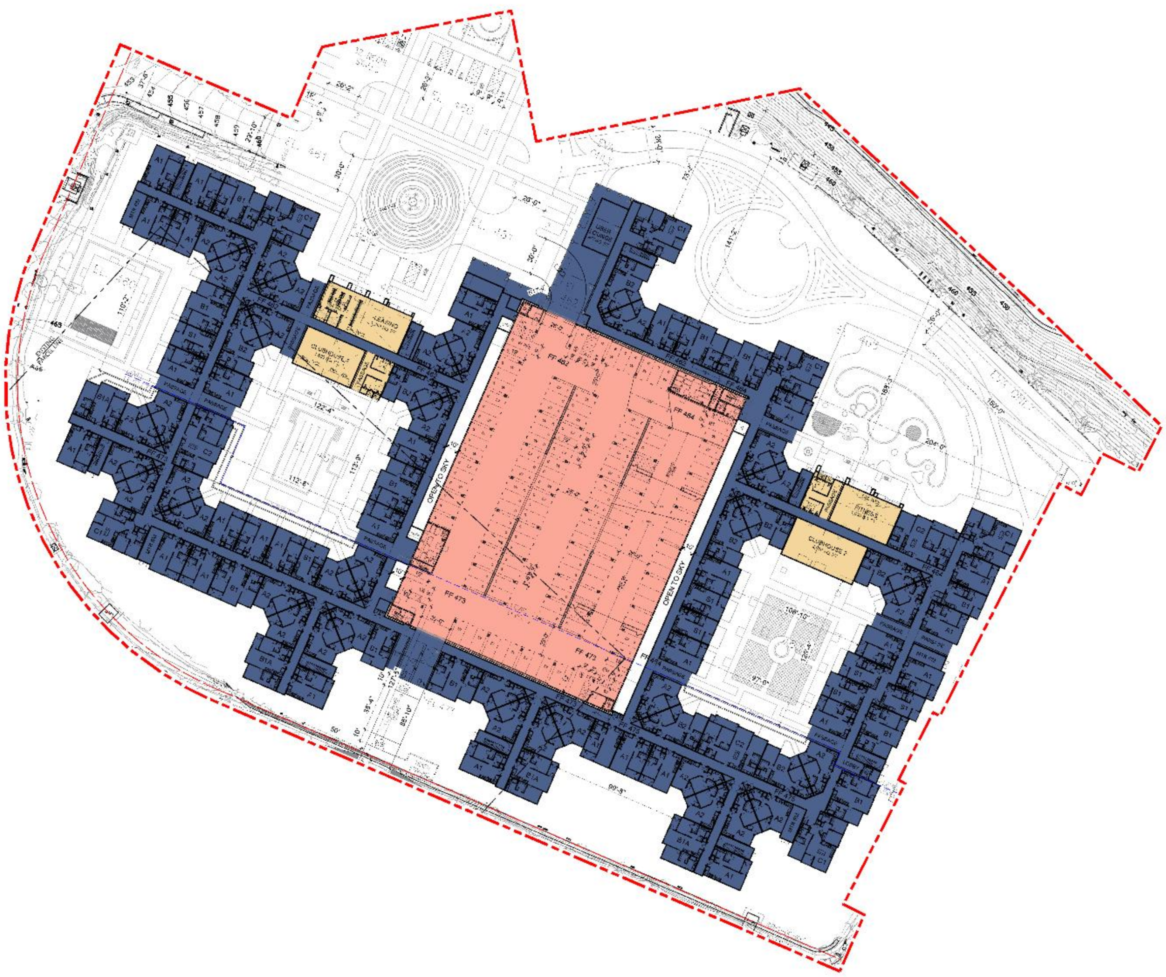
1.2 PROJECT DESCRIPTION

The existing Specific Plan (SP) is divided into four Development Areas (DA) by land use. DA 1 is the Scenic Commercial area fronting Santa Ana Canyon Road between Festival Drive and Roosevelt Road, DA 2 is the Regional Commercial use that contains the department stores, grocer, other food/retail uses, and the vacant cinema, DA 3 is the Visitor Commercial area located west of Festival Drive which includes the existing hotel, and DA 4 is the Senior Residential area south of Festival Drive. The proposed Specific Plan Amendment (SPA) proposes the implementation of a new 16.2-acre mixed-use development area on the upper level of the commercial center as a new DA 5 (which is a portion of the old DA 2). Exhibit 1-A illustrates the proposed DA locations for the SPA.

Specifically, the Project proposes to demolish the existing 62,676 square foot vacant cinema and develop in its place 447 multifamily residential dwelling units while retaining the remaining existing commercial uses within the new DA 5. Approximately 13,310 square feet of existing retail would be retained in DA 2 as a result of the new DA 5 (resulting in a net reduction of 49,366 square feet of retail space). The retail within DA 5 will include the following existing uses: 6,475 square feet of restaurant use, 9,200 square feet of office use, 38,160 square foot fitness/gym, 13,276 square feet of tutor/retail space, and 11,033 square foot medical office building. A preliminary site plan for the proposed multifamily residential development is shown on Exhibit 1-B. The Project will be developed within a single phase with an anticipated opening year of 2029.

EXHIBIT 1-A: SPA PROPOSED DEVELOPMENT AREAS

EXHIBIT 1-B: SITE PLAN



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LEGEND:

Site Boundary

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2 CLIMATE CHANGE SETTING

2.1 INTRODUCTION TO GLOBAL CLIMATE CHANGE (GCC)

GCC is defined as the change in average meteorological conditions on the earth with respect to temperature, precipitation, and storms. The majority of scientists believe that the climate shift taking place since the Industrial Revolution is occurring at a quicker rate and magnitude than in the past. Scientific evidence suggests that GCC is the result of increased concentrations of GHGs in the earth's atmosphere, including carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and fluorinated gases. The majority of scientists believe that this increased rate of climate change is the result of GHGs resulting from human activity and industrialization over the past 200 years.

An individual project, like the Project evaluated in this GHGA, cannot generate enough GHG emissions to affect a discernible change in global climate. However, the Project may participate in the potential for GCC by its incremental contribution of GHGs combined with the cumulative increase of all other sources of GHGs, which when taken together constitute potential influences on GCC. Because these changes may have serious environmental consequences, Section 3 will evaluate the potential for the Project to have a significant effect upon the environment as a result of its potential contribution to the greenhouse effect.

2.2 GLOBAL CLIMATE CHANGE DEFINED

GCC refers to the change in average meteorological conditions on the earth with respect to temperature, wind patterns, precipitation, and storms. Global temperatures are regulated by naturally occurring atmospheric gases such as water vapor, CO_2, N_2O, CH_4, hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). These particular gases are important due to their residence time (duration they stay) in the atmosphere, which ranges from 10 years to more than 100 years. These gases allow solar radiation into the earth's atmosphere, but prevent radiative heat from escaping, thus warming the earth's atmosphere. GCC can occur naturally as it has in the past with the previous ice ages.

Gases that trap heat in the atmosphere are often referred to as GHGs. GHGs are released into the atmosphere by both natural and anthropogenic activity. Without the natural GHG effect, the earth's average temperature would be approximately 61 degrees Fahrenheit (°F) cooler than it is currently. The cumulative accumulation of these gases in the earth's atmosphere is considered to be the cause for the observed increase in the earth's temperature.

2.3 GHGS

2.3.1 GHGS AND HEALTH EFFECTS

GHGs trap heat in the atmosphere, creating a GHG effect that results in global warming and climate change. Many gases demonstrate these properties as discussed in Table 2-1. For the purposes of this analysis, emissions of CO_2, CH_4, and N_2O were evaluated (see Table 3-6 later in this report) because these gases are the primary contributors to GCC from development projects. Although there are other substances such as fluorinated gases that also contribute to GCC, these fluorinated gases were not evaluated as their sources are not well-defined and do not contain accepted emissions factors or methodology to accurately calculate these gases.

TABLE 2-1: GHGS

GHGs	Description	Sources	Health Effects
Water	Water is the most abundant, important, and variable GHG in the atmosphere. Water vapor is not considered a pollutant; in the atmosphere, it maintains a climate necessary for life. Changes in its concentration are primarily considered to be a result of climate feedbacks related to the warming of the atmosphere rather than a direct result of industrialization. Climate feedback is an indirect, or secondary, change, either positive or negative, that occurs within the climate system in response to a forcing mechanism. The feedback loop in which water is involved is critically important to projecting future climate change. As the temperature of the atmosphere rises, more water is evaporated from ground storage (rivers, oceans, reservoirs, soil). Because the air is warmer, the relative humidity can be higher (in essence, the air is able to 'hold' more water when it is warmer), leading to more water vapor in the atmosphere. As a GHG, the higher concentration of water vapor is then able to absorb more thermal indirect energy radiated from the earth, thus further warming the atmosphere. The warmer atmosphere can then hold more water vapor and so on. This is referred to as a "positive feedback loop." The extent to which this positive feedback loop would continue is unknown as there are also dynamics that hold the positive feedback loop	The main source of water vapor is evaporation from the oceans (approximately 85%). Other sources include evaporation from other water bodies, sublimation (change from solid to gas) from sea ice and snow, and transpiration from plant leaves.	There are no known direct health effects related to water vapor at this time. It should be noted however that when some pollutants react with water vapor, the reaction forms a transport mechanism for some of these pollutants to enter the human body through water vapor.

GHGs	Description	Sources	Health Effects
	in check. As an example, when water vapor increases in the atmosphere, more of it would eventually condense into clouds, which are more able to reflect incoming solar radiation (thus allowing less energy to reach the earth's surface and heat it up) (11).		
CO_2	CO_2 is an odorless and colorless GHG. Since the industrial revolution began in the mid-1700s, the sort of human activity that increases GHG emissions has increased dramatically in scale and distribution. Data from the past 50 years suggests a corollary increase in levels and concentrations. As an example, prior to the industrial revolution, CO_2 concentrations were fairly stable at 280 parts per million (ppm). Today, they are around 370 ppm, an increase of more than 30%. Left unchecked, the concentration of CO_2 in the atmosphere is projected to increase to a minimum of 540 ppm by 2100 as a direct result of anthropogenic sources (12).	CO_2 is emitted from natural and manmade sources. Natural sources include: the decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungus; evaporation from oceans; and volcanic outgassing. Anthropogenic sources include: the burning of coal, oil, natural gas, and wood. CO_2 is naturally removed from the air by photosynthesis, dissolution into ocean water, transfer to soils and ice caps, and chemical weathering of carbonate rocks (13).	Outdoor levels of CO_2 are not high enough to result in negative health effects. According to the National Institute for Occupational Safety and Health (NIOSH) high concentrations of CO_2 can result in health effects such as: headaches, dizziness, restlessness, difficulty breathing, sweating, increased heart rate, increased cardiac output, increased blood pressure, coma, asphyxia, and/or convulsions. It should be noted that current concentrations of CO_2 in the earth's atmosphere are estimated to be approximately 370 ppm, the actual reference exposure level (level at which adverse health effects typically occur) is at exposure levels of 5,000 ppm averaged over 10 hours in a 40-hour workweek and short-term reference exposure levels of 30,000 ppm averaged over a 15-minute period (14).

GHGs	Description	Sources	Health Effects
CH_4	CH_4 is an extremely effective absorber of radiation, although its atmospheric concentration is less than CO_2 and its lifetime in the atmosphere is brief (10-12 years), compared to other GHGs.	CH_4 in the atmosphere is generated by many different sources, such as fossil fuel production, transport and use, from the decay of organic matter in wetlands, and as a byproduct of digestion by ruminant animals such as cows. Determining which specific sources are responsible for variations in annual increases of CH_4 is complex, but scientists estimate that fossil fuel production and use contributes roughly 30% of the total CH_4 emissions. These industrial sources of CH_4 are relatively simple to pinpoint and control using current technology (15).	CH_4 is extremely reactive with oxidizers, halogens, and other halogen-containing compounds. Exposure to elevated levels of CH_4 can cause asphyxiation, loss of consciousness, headache and dizziness, nausea and vomiting, weakness, loss of coordination, and an increased breathing rate.
N_2O	N_2O, also known as laughing gas, is a colorless GHG. Concentrations of N_2O also began to rise at the beginning of the industrial revolution. In 1998, the global concentration was 314 parts per billion (ppb).	N_2O is produced by microbial processes in soil and water, including those reactions which occur in fertilizer containing nitrogen. In addition to agricultural sources, some industrial processes (fossil fuel-fired power plants, nylon production, nitric acid production, and vehicle emissions)	N_2O can cause dizziness, euphoria, and sometimes slight hallucinations. In small doses, it is considered harmless. However, in some cases, heavy and extended use can cause Olney's Lesions (brain damage) (16).

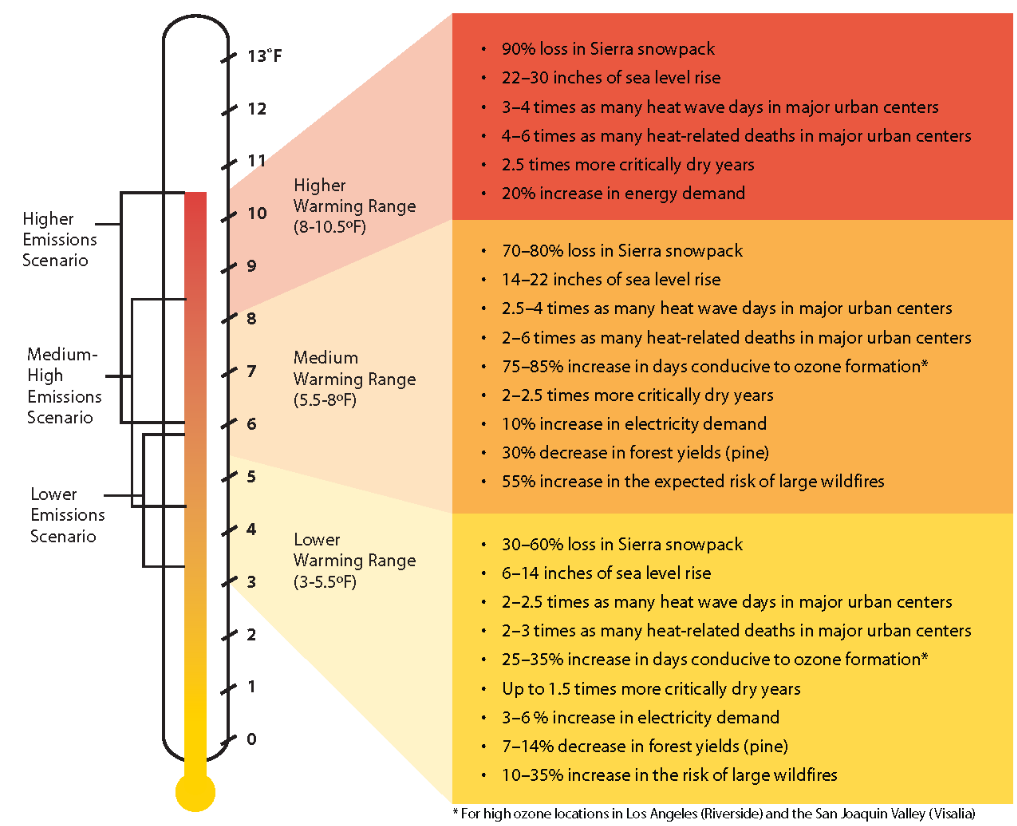
GHGs	Description	Sources	Health Effects
		also contribute to its atmospheric load. It is used as an aerosol spray propellant, i.e., in whipped cream bottles. It is also used in potato chip bags to keep chips fresh. It is used in rocket engines and in race cars. N_2O can be transported into the stratosphere, be deposited on the earth's surface, and be converted to other compounds by chemical reaction (16).	
Chlorofluorocarbons (CFCs)	CFCs are gases formed synthetically by replacing all hydrogen atoms in CH_4 or ethane (C_2H_6) with chlorine and/or fluorine atoms. CFCs are nontoxic, nonflammable, insoluble and chemically unreactive in the troposphere (the level of air at the earth's surface).	CFCs have no natural source. They are found in aerosol sprays, blowing agents for foams and packing materials, as solvents, and as refrigerants. (17).	In confined indoor locations, working with CFC-113 or other CFCs is thought to result in death by cardiac arrhythmia (heart frequency too high or too low) or asphyxiation.
HFCs	HFCs are synthetic, man-made chemicals that are used as a substitute for CFCs. Out of all the GHGs, they are one of three groups with the highest global warming potential (GWP). The HFCs with the largest measured atmospheric abundances are (in order), Fluoroform (HFC-23), 1,1,1,2-tetrafluoroethane (HFC-134a), and 1,1-difluoroethane (HFC-152a). Prior to 1990, the only significant emissions were of HFC-23. HCF-134a emissions are increasing due to its use as a refrigerant.	HFCs are manmade for applications such as automobile air conditioners and refrigerants.	No health effects are known to result from exposure to HFCs.

GHGs	Description	Sources	Health Effects
PFCs	PFCs have stable molecular structures and do not break down through chemical processes in the lower atmosphere. High-energy ultraviolet rays, which occur about 60 kilometers above earth's surface, are able to destroy the compounds. Because of this, PFCs have exceptionally long lifetimes, between 10,000 and 50,000 years. Two common PFCs are tetrafluoromethane (CF_4) and hexafluoroethane (C_2F_6). The EPA estimates that concentrations of CF_4 in the atmosphere are over 70 parts per trillion (ppt).	The two main sources of PFCs are primary aluminum production and semiconductor manufacture.	No health effects are known to result from exposure to PFCs.
SF_6	SF_6 is an inorganic, odorless, colorless, nontoxic, nonflammable gas. It also has the highest GWP of any gas evaluated (23,900) (18). The EPA indicates that concentrations in the 1990s were about 4 ppt.	SF_6 is used for insulation in electric power transmission and distribution equipment, in the magnesium industry, in semiconductor manufacturing, and as a tracer gas for leak detection.	In high concentrations in confined areas, the gas presents the hazard of suffocation because it displaces the oxygen needed for breathing.

GHGs	Description	Sources	Health Effects
Nitrogen Trifluoride (NF_3)	NF_3 is a colorless gas with a distinctly moldy odor. The World Resources Institute (WRI) indicates that NF_3 has a 100-year GWP of 17,200 (19).	NF_3 is used in industrial processes and is produced in the manufacturing of semiconductors, Liquid Crystal Display (LCD) panels, types of solar panels, and chemical lasers.	Long-term or repeated exposure may affect the liver and kidneys and may cause fluorosis (20).

The potential health effects related directly to the emissions of CO_2, CH_4, and N_2O as they relate to development projects, such as the Project, are still being debated in the scientific community. Their cumulative effects to GCC have the potential to cause adverse effects to human health. Increases in Earth's ambient temperatures would result in more intense heat waves, causing more heat-related deaths. Exhibit 2-A presents the potential impacts of global warming (21).

EXHIBIT 2-A: SUMMARY OF PROJECTED GLOBAL WARMING IMPACT, 2070-2099 (AS COMPARED WITH 1961-1990)



Source: Barbara H. Allen-Diaz. "Climate change affects us all." *University of California, Agriculture and Natural Resources*, 2009.

2.4 GLOBAL WARMING POTENTIAL (GWP)

GHGs have varying GWP values. GWP of a GHG indicates the amount of warming a gas cause over a given period of time and represents the potential of a gas to trap heat in the atmosphere. CO_2 is utilized as the reference gas for GWP, and thus has a GWP of 1. CO_2 equivalent (CO_2e) is a term used for describing the different GHGs in a common unit. CO_2e signifies the amount of CO_2 which would have the equivalent GWP.

The Intergovernmental Panel on Climate Change (IPCC) is the international body for assessing the science related to climate change. IPCC Assessment Reports cover the full scientific, technical and socio-economic assessment of climate change. The atmospheric lifetime and GWP of selected GHGs are summarized at Table 2-2. As shown in the table below, GWP for the 2nd Assessment Report range from 1 for CO_2 to 23,900 for SF_6 and GWP for the 6th Assessment Report range from 1 for CO_2 to 25,200 for SF_6 (22).

TABLE 2-2: GWP AND ATMOSPHERIC LIFETIME OF SELECT GHGS

Gas	Atmospheric Lifetime (years)	GWP (100-year time horizon)	
		2nd Assessment Report	6th Assessment Report
CO_2	Multiple	1	1
CH_4	11.8	21	28
N_2O	109	310	273
HFC-23	228	11,700	14,600
HFC-134a	14	1,300	1,526
HFC-152a	1.6	140	164
SF_6	3,200	23,900	25,200

Source: IPCC Second Assessment Report, 1995 and IPCC Sixth Assessment Report, 2023

2.5 GHG EMISSIONS INVENTORIES

2.5.1 GLOBAL

Worldwide anthropogenic GHG emissions are tracked by the IPCC for industrialized nations (referred to as Annex I) and developing nations (referred to as Non-Annex I). Human GHG emissions data for Annex I nations are available through 2021. Based on the latest available data, the sum of these emissions totaled approximately 28,272,940 gigagram (Gg) CO_2e[1] (23) (24) as summarized on Table 2-3.

[1] The global emissions are the sum of Annex I and non-Annex I countries, without counting Land-Use, Land-Use Change and Forestry (LULUCF). For countries without 2021 data, the United Nations' Framework Convention on Climate Change (UNFCCC) data for the most recent year were used U.N. Framework Convention on Climate Change, "Annex I Parties – GHG total without LULUCF," The most recent GHG emissions for China and India are from 2014 and 2016, respectively.

2.5.2 UNITED STATES

As noted in Table 2-3, the United States, as a single country, was the number two producer of GHG emissions in 2021.

TABLE 2-3: TOP GHG PRODUCING COUNTRIES AND THE EUROPEAN UNION

Emitting Countries	GHG Emissions (Gg CO_2e)
China	12,300,200
United States	6,340,228
European Union (27-member countries)	3,468,394
India	2,839,425
Russian Federation	2,156,599
Japan	1,168,094
Total	**28,272,940**

2.5.3 STATE OF CALIFORNIA

California has significantly slowed the rate of growth of GHG emissions due to the implementation of energy efficiency programs as well as adoption of strict emission controls but is still a substantial contributor to the United States (U.S.) emissions inventory total (16). The California Air Resource Board (CARB) compiles GHG inventories for the State of California. Based upon the 2023 GHG inventory data (i.e., the latest year for which data are available) for the 2000-2021 GHG emissions period, California emitted an average 381.3 million metric tons of CO_2e per year ($MMTCO_2e/yr$) or 381,300 Gg CO_2e (6.01% of the total United States GHG emissions) (25). Based on data published by the U.S. Energy Information Administration, California's per capita (9.12 metric tons) GHG emissions are much less than the nationwide per capita (15.8 metric ton) average (26).

2.6 EFFECTS OF CLIMATE CHANGE IN CALIFORNIA

2.6.1 PUBLIC HEALTH

Higher temperatures may increase the frequency, duration, and intensity of conditions conducive to air pollution formation. For example, days with weather conducive to ozone formation could increase from 25 to 35% under the lower warming range to 75 to 85% under the medium warming range. In addition, if global background ozone levels increase as predicted in some scenarios, it may become impossible to meet local air quality standards. Air quality could be further compromised by increases in wildfires, which emit fine particulate matter that can travel long distances, depending on wind conditions. Based on *Our Changing Climate Assessing the Risks to California by the California Climate Change Center*, large wildfires could become up to 55% more frequent if GHG emissions are not significantly reduced (27).

In addition, under the higher warming range scenario, there could be up to 100 more days per year with temperatures above 90°F in Los Angeles and 95°F in Sacramento by 2100. This is a significant increase over historical patterns and approximately twice the increase projected if temperatures remain within or below the lower warming range. Rising temperatures could increase the risk of death from dehydration, heat stroke/exhaustion, heart attack, stroke, and respiratory distress caused by extreme heat.

2.6.2 WATER RESOURCES

A vast network of man-made reservoirs and aqueducts captures and transports water throughout the state from northern California rivers and the Colorado River. The current distribution system relies on Sierra Nevada snowpack to supply water during the dry spring and summer months. Rising temperatures, potentially compounded by decreases in precipitation, could severely reduce spring snowpack, increasing the risk of summer water shortages.

If temperatures continue to increase, more precipitation could fall as rain instead of snow, and the snow that does fall could melt earlier, reducing the Sierra Nevada spring snowpack by as much as 70 to 90%. Under the lower warming range scenario, snowpack losses could be only half as large as those possible if temperatures were to rise to the higher warming range. How much snowpack could be lost depends in part on future precipitation patterns, the projections for which remain uncertain. However, even under the wetter climate projections, the loss of snowpack could pose challenges to water managers and hamper hydropower generation. It could also adversely affect winter tourism. Under the lower warming range, the ski season at lower elevations could be reduced by as much as a month. If temperatures reach the higher warming range and precipitation declines, there might be many years with insufficient snow for skiing and snowboarding.

The State's water supplies are also at risk from rising sea levels. An influx of saltwater could degrade California's estuaries, wetlands, and groundwater aquifers. Saltwater intrusion caused by rising sea levels is a major threat to the quality and reliability of water within the southern edge of the Sacramento/San Joaquin River Delta – a major fresh water supply.

2.6.3 AGRICULTURE

Increased temperatures could cause widespread changes to the agriculture industry reducing the quantity and quality of agricultural products statewide. First, California farmers could possibly lose as much as 25% of the water supply needed. Although higher CO_2 levels can stimulate plant production and increase plant water-use efficiency, California's farmers could face greater water demand for crops and a less reliable water supply as temperatures rise. Crop growth and development could change, as could the intensity and frequency of pest and disease outbreaks. Rising temperatures could aggravate ozone pollution, which makes plants more susceptible to disease and pests and interferes with plant growth.

Plant growth tends to be slow at low temperatures, increasing with rising temperatures up to a threshold. However, faster growth can result in less-than-optimal development for many crops, so rising temperatures could worsen the quantity and quality of yield for a number of California's agricultural products. Products likely to be most affected include wine grapes, fruits, and nuts.

In addition, continued GCC could shift the ranges of existing invasive plants and weeds and alter competition patterns with native plants. Range expansion could occur in many species while range contractions may be less likely in rapidly evolving species with significant populations already established. Should range contractions occur, new or different weed species could fill the emerging gaps. Continued GCC could alter the abundance and types of many pests, lengthen pests' breeding season, and increase pathogen growth rates.

2.6.4 FORESTS AND LANDSCAPES

GCC has the potential to intensify the current threat to forests and landscapes by increasing the risk of wildfire and altering the distribution and character of natural vegetation. If temperatures rise into the medium warming range, the risk of large wildfires in California could increase by as much as 55%, which is almost twice the increase expected if temperatures stay in the lower warming range. However, since wildfire risk is determined by a combination of factors, including precipitation, winds, temperature, and landscape and vegetation conditions, future risks would not be uniform throughout the state. In contrast, wildfires in northern California could increase by up to 90% due to decreased precipitation.

Moreover, continued GCC has the potential to alter natural ecosystems and biological diversity within the state. For example, alpine and subalpine ecosystems could decline by as much as 60 to 80% by the end of the century as a result of increasing temperatures. The productivity of the state's forests has the potential to decrease as a result of GCC.

2.6.5 RISING SEA LEVELS

Rising sea levels, more intense coastal storms, and warmer water temperatures could increasingly threaten the state's coastal regions. Under the higher warming range scenario, sea level is anticipated to rise 22 to 35 inches by 2100. Elevations of this magnitude would inundate low-lying coastal areas with saltwater, accelerate coastal erosion, threaten vital levees and inland water systems, and disrupt wetlands and natural habitats. Under the lower warming range scenario, sea level could rise 12-14 inches.

2.7 REGULATORY SETTING

2.7.1 INTERNATIONAL

Climate change is a global issue involving GHG emissions from all around the world; therefore, countries such as the ones discussed below have made an effort to reduce GHGs.

IPCC

In 1988, the United Nations (U.N.) and the World Meteorological Organization established the IPCC to assess the scientific, technical, and socioeconomic information relevant to understanding the scientific basis of risk of human-induced climate change, its potential impacts, and options for adaptation and mitigation.

UNITED NATION'S FRAMEWORK CONVENTION ON CLIMATE CHANGE (UNFCCC)

On March 21, 1994, the U.S. joined a number of countries around the world in signing the Convention. Under the UNFCCC, governments gather and share information on GHG emissions, national policies, and best practices; launch national strategies for addressing GHG emissions and adapting to expected impacts, including the provision of financial and technological support to developing countries; and cooperate in preparing for adaptation to the impacts of climate change.

INTERNATIONAL CLIMATE CHANGE TREATIES

The Kyoto Protocol is an international agreement linked to the UNFCCC. The major feature of the Kyoto Protocol is that it sets binding targets for 37 industrialized countries and the European community for reducing GHG emissions at an average of 5% against 1990 levels over the five-year period 2008–2012. The Convention (as discussed above) encouraged industrialized countries to stabilize emissions; however, the Protocol commits them to do so. Developed countries have contributed more emissions over the last 150 years; therefore, the Protocol places a heavier burden on developed nations under the principle of "common but differentiated responsibilities."

In 2001, President George W. Bush indicated that he would not submit the treaty to the U.S. Senate for ratification, which effectively ended American involvement in the Kyoto Protocol. In December 2009, international leaders met in Copenhagen to address the future of international climate change commitments post-Kyoto. No binding agreement was reached in Copenhagen; however, the UN Climate Change Committee identified the long-term goal of limiting the maximum global average temperature increase to no more than 2 degrees Celsius (°C) above pre-industrial levels, subject to a review in 2015. The Committee held additional meetings in Durban, South Africa in November 2011; Doha, Qatar in November 2012; and Warsaw, Poland in November 2013. The meetings gradually gained consensus among participants on individual climate change issues.

On September 23, 2014, more than 100 Heads of State and Government and leaders from the private sector and civil society met at the Climate Summit in New York hosted by the U.N. At the Summit, heads of government, business and civil society announced actions in areas that would have the greatest impact on reducing emissions, including climate finance, energy, transport, industry, agriculture, cities, forests, and building resilience.

Parties to the UNFCCC reached a landmark agreement on December 12, 2015, in Paris, charting a fundamentally new course in the two-decade-old global climate effort. Culminating a four-year negotiating round, the new treaty ends the strict differentiation between developed and developing countries that characterized earlier efforts, replacing it with a common framework that commits all countries to put forward their best efforts and to strengthen them in the years ahead. This includes, for the first time, requirements that all parties report regularly on their emissions and implementation efforts and undergo international review.

The agreement and a companion decision by parties were the key outcomes of the conference, known as the 21st session of the UNFCCC Conference of the Parties (COP) 21. Together, the Paris Agreement and the accompanying COP decision:

- Reaffirm the goal of limiting global temperature increase well below 2°C, while urging efforts to limit the increase to 1.5 degrees;
- Establish binding commitments by all parties to make "nationally determined contributions" (NDCs), and to pursue domestic measures aimed at achieving them;
- Commit all countries to report regularly on their emissions and "progress made in implementing and achieving" their NDCs, and to undergo international review;
- Commit all countries to submit new NDCs every five years, with the clear expectation that they would "represent a progression" beyond previous ones;
- Reaffirm the binding obligations of developed countries under the UNFCCC to support the efforts of developing countries, while for the first time encouraging voluntary contributions by developing countries too;
- Extend the current goal of mobilizing $100 billion a year in support by 2020 through 2025, with a new, higher goal to be set for the period after 2025;
- Extend a mechanism to address "loss and damage" resulting from climate change, which explicitly would not "involve or provide a basis for any liability or compensation;"
- Require parties engaging in international emissions trading to avoid "double counting;" and
- Call for a new mechanism, similar to the Clean Development Mechanism under the Kyoto Protocol, enabling emission reductions in one country to be counted toward another country's NDC (C2ES 2015a) (28).

Following President Biden's day one executive order, the United States officially rejoined the landmark Paris Agreement on February 19, 2021, positioning the country to once again be part of the global climate solution. Meanwhile, city, state, business, and civic leaders across the country and around the world have been ramping up efforts to drive the clean energy advances needed to meet the goals of the agreement and put the brakes on dangerous climate change.

2.7.2 NATIONAL

Prior to the last decade, there have been no concrete federal regulations of GHGs or major planning for climate change adaptation. The following are actions regarding the federal government, GHGs, and fuel efficiency.

GHG ENDANGERMENT

In *Massachusetts v. Environmental Protection Agency* 549 U.S. 497 (2007), decided on April 2, 2007, the United States Supreme Court (Supreme Court) found that four GHGs, including CO_2, are air pollutants subject to regulation under Section 202(a)(1) of the Clean Air Act (CAA). The Supreme Court held that the EPA Administrator must determine whether emissions of GHGs from new motor vehicles cause or contribute to air pollution, which may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision. On December 7, 2009, the EPA Administrator signed two distinct findings regarding GHGs under Section 202(a) of the CAA:

- Endangerment Finding: The Administrator finds that the current and projected concentrations of the six key well-mixed GHGs— CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6—in the atmosphere threaten the public health and welfare of current and future generations.
- Cause or Contribute Finding: The Administrator finds that the combined emissions of these well-mixed GHGs from new motor vehicles and new motor vehicle engines contribute to the GHG pollution, which threatens public health and welfare.

These findings do not impose requirements on industry or other entities. However, this was a prerequisite for implementing GHG emissions standards for vehicles, as discussed in the section "Clean Vehicles" below. After a lengthy legal challenge, the Supreme Court declined to review an Appeals Court ruling that upheld the EPA Administrator's findings (29).

CLEAN VEHICLES

Congress first passed the Corporate Average Fuel Economy law in 1975 to increase the fuel economy of cars and light duty trucks. The law has become more stringent over time. On May 19, 2009, President Obama put in motion a new national policy to increase fuel economy for all new cars and trucks sold in the U.S. On April 1, 2010, the EPA, and the Department of Transportation's National Highway Traffic Safety Administration (NHTSA) announced a joint final rule establishing a national program that would reduce GHG emissions and improve fuel economy for new cars and trucks sold in the U.S.

The first phase of the national program applies to passenger cars, light-duty trucks, and medium-duty (MD) passenger vehicles, covering model years 2012 through 2016. They require these vehicles to meet an estimated combined average emissions level of 250 grams of CO_2 per mile, equivalent to 35.5 miles per gallon (mpg) if the automobile industry were to meet this CO_2 level solely through fuel economy improvements. Together, these standards would cut CO_2 emissions by an estimated 960 million metric tons and 1.8 billion barrels of oil over the lifetime of the vehicles sold under the program (model years 2012–2016). In August 2012, the EPA and the NHTSA issued final rules on a second-phase joint rulemaking establishing national standards for light-duty vehicles for model years 2017 through 2025. The new standards apply to passenger cars, light-duty trucks, and MD passenger vehicles. The final standards are projected to result in an average industry fleetwide level of 163 grams/mile of CO_2 in model year 2025, which is equivalent to 54.5 mpg if achieved exclusively through fuel economy improvements.

The EPA and the U.S. Department of Transportation issued final rules for the first national standards to reduce GHG emissions and improve fuel efficiency of heavy-duty trucks (HDT) and buses on September 15, 2011, effective November 14, 2011. For combination tractors, the agencies are proposing engine and vehicle standards that begin in the 2014 model year and achieve up to a 20% reduction in CO_2 emissions and fuel consumption by the 2018 model year. For HDT and vans, the agencies are proposing separate gasoline and diesel truck standards, which phase in starting in the 2014 model year and achieve up to a 10% reduction for gasoline vehicles and a 15% reduction for diesel vehicles by the 2018 model year (12 and 17%, respectively if accounting for air conditioning leakage). Lastly, for vocational vehicles, the engine and vehicle standards would achieve up to a 10% reduction in fuel consumption and CO_2 emissions from the 2014 to 2018 model years.

On April 2, 2018, the EPA signed the Mid-term Evaluation Final Determination, which declared that the MY 2022-2025 GHG standards are not appropriate and should be revised (30). This Final Determination serves to initiate a notice to further consider appropriate standards for MY 2022-2025 light-duty vehicles. On August 2, 2018, the NHTSA in conjunction with the EPA, released a notice of proposed rulemaking, the *Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021-2026 Passenger Cars and Light Trucks* (SAFE Vehicles Rule). The SAFE Vehicles Rule was proposed to amend existing Corporate Average Fuel Economy (CAFE) and tailpipe CO_2 standards for passenger cars and light trucks and to establish new standards covering model years 2021 through 2026. As of March 31, 2020, the NHTSA and EPA finalized the SAFE Vehicle Rule which increased stringency of CAFE and CO_2 emissions standards by 1.5% each year through model year 2026 (31). On December 21, 2021, after reviewing all the public comments submitted on NHTSA's April 2021 Notice of Proposed Rulemaking, NHTSA finalizes the CAFE Preemption rulemaking to withdraw its portions of the so-called SAFE I Rule. The final rule concludes that the SAFE I Rule overstepped the agency's legal authority and established overly broad prohibitions that did not account for a variety of important state and local interests. The final rule ensures that the SAFE I Rule will no longer form an improper barrier to states exploring creative solutions to address their local communities' environmental and public health challenges (32).

On March 31, 2022, NHTSA finalized CAFE standards for MY 2024-2026. The standards for passenger cars and light trucks for MYs 2024-2025 were increased at a rate of 8% per year and then increased at a rate of 10% per year for MY 2026 vehicles. NHTSA currently projects that the revised standards would require an industry fleet-wide average of roughly 49 mpg in MY 2026 and would reduce average fuel outlays over the lifetimes of affected vehicles that provide consumers hundreds of dollars in net savings. These standards are directly responsive to the agency's statutory mandate to improve energy conservation and reduce the nation's energy dependence on foreign sources (33).

MANDATORY REPORTING OF GHGS

The Consolidated Appropriations Act of 2008, passed in December 2007, requires the establishment of mandatory GHG reporting requirements. On September 22, 2009, the EPA issued the Final Mandatory Reporting of GHGs Rule, which became effective January 1, 2010. The rule requires reporting of GHG emissions from large sources and suppliers in the U.S. and is intended to collect accurate and timely emissions data to inform future policy decisions. Under the rule, suppliers of fossil fuels or industrial GHGs, manufacturers of vehicles and engines, and facilities that emit 25,000 metric tons per year (MT/yr) or more of GHG emissions are required to submit annual reports to the EPA.

NEW SOURCE REVIEW

The EPA issued a final rule on May 13, 2010, that establishes thresholds for GHGs that define when permits under the New Source Review Prevention of Significant Deterioration and Title V Operating Permit programs are required for new and existing industrial facilities. This final rule "tailors" the requirements of these CAA permitting programs to limit which facilities would be required to obtain Prevention of Significant Deterioration and Title V permits. In the preamble to the revisions to the Federal Code of Regulations, the EPA states:

> *"This rulemaking is necessary because without it the Prevention of Significant Deterioration and Title V requirements would apply, as of January 2, 2011, at the 100 or 250 tons per year levels provided under the CAA, greatly increasing the number of required permits, imposing undue costs on small sources, overwhelming the resources of permitting authorities, and severely impairing the functioning of the programs. EPA is relieving these resource burdens by phasing in the applicability of these programs to GHG sources, starting with the largest GHG emitters. This rule establishes two initial steps of the phase-in. The rule also commits the agency to take certain actions on future steps addressing smaller sources but excludes certain smaller sources from Prevention of Significant Deterioration and Title V permitting for GHG emissions until at least April 30, 2016."*

The EPA estimates that facilities responsible for nearly 70% of the national GHG emissions from stationary sources would be subject to permitting requirements under this rule. This includes the nation's largest GHG emitters—power plants, refineries, and cement production facilities.

STANDARDS OF PERFORMANCE FOR GHG EMISSIONS FOR NEW STATIONARY SOURCES: ELECTRIC UTILITY GENERATING UNITS

As required by a settlement agreement, the EPA proposed new performance standards for emissions of CO_2 for new, affected, fossil fuel-fired electric utility generating units on March 27, 2012. New sources greater than 25 megawatts (MW) would be required to meet an output-based standard of 1,000 pounds (lbs) of CO_2 per MW-hour (MWh), based on the performance of widely used natural gas combined cycle technology. It should be noted that on February 9, 2016, the Supreme Court issued a stay of this regulation pending litigation. Additionally, the current EPA Administrator has also signed a measure to repeal the Clean Power Plan, including the CO_2 standards. The Clean Power Plan was officially repealed on June 19, 2019, when the EPA issued the final Affordable Clean Energy rule (ACE). Under ACE, new state-specific emission guidelines were established that provided existing coal-fired electric utility generating units with achievable standards.

On January 19, 2021, the D.C. Circuit Court of Appeals ruled that the EPA's ACE Rule for GHG emissions from power plants rested on an erroneous interpretation of the CAA that barred EPA from considering measures beyond those that apply at and to an individual source. The court therefore vacated and remanded the ACE Rule and adopted a replacement rule which regulates CO_2 emissions from existing power plants, potentially again considering generation shifting and other measures to more aggressively target power sector emissions.

CAP-AND-TRADE

Cap-and-trade refers to a policy tool where emissions are limited to a certain amount and can be traded or provides flexibility on how the emitter can comply. Successful examples in the U.S. include the Acid Rain Program and the N_2O Budget Trading Program and Clean Air Interstate Rule in the northeast. There is no federal GHG cap-and-trade program currently; however, some states have joined to create initiatives to provide a mechanism for cap-and-trade.

The Regional GHG Initiative is an effort to reduce GHGs among the states of Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New York, Rhode Island, and Vermont. Each state caps CO_2 emissions from power plants, auctions CO_2 emission allowances, and invests the proceeds in strategic energy programs that further reduce emissions, save consumers money, create jobs, and build a clean energy economy. The Initiative began in 2008 and has retained all participating states as of 2020.

The Western Climate Initiative (WCI) partner jurisdictions have developed a comprehensive initiative to reduce regional GHG emissions to 15% below 2005 levels by 2020. The partners were originally California, British Columbia, Manitoba, Ontario, and Quebec. However, Manitoba and Ontario are not currently participating. California linked with Quebec's cap-and-trade system January 1, 2014, and joint offset auctions took place in 2015. While the WCI has yet to publish whether it has successfully reached the 2020 emissions goal initiative set in 2007, SB 32 requires that California, a major partner in the WCI, adopt the goal of reducing statewide GHG emissions to 40% below the 1990 level by 2030.

SMARTWAY PROGRAM

The SmartWay Program is a public-private initiative between the EPA, large and small trucking companies, rail carriers, logistics companies, commercial manufacturers, retailers, and other federal and state agencies. Its purpose is to improve fuel efficiency and the environmental performance (reduction of both GHG emissions and air pollution) of the goods movement supply chains. SmartWay is comprised of four components (34):

1. SmartWay Transport Partnership: A partnership in which freight carriers and shippers commit to benchmark operations, track fuel consumption, and improve performance annually.
2. SmartWay Technology Program: A testing, verification, and designation program to help freight companies identify equipment, technologies, and strategies that save fuel and lower emissions.
3. SmartWay Vehicles: A program that ranks light-duty cars and small trucks and identifies superior environmental performers with the SmartWay logo.
4. SmartWay International Interests: Guidance and resources for countries seeking to develop freight sustainability programs modeled after SmartWay.

SmartWay effectively refers to requirements geared towards reducing fuel consumption. Most large trucking fleets driving newer vehicles are compliant with SmartWay design requirements. Moreover, over time, all HDTs would have to comply with the CARB GHG Regulation that is designed with the SmartWay Program in mind, to reduce GHG emissions by making them more fuel-efficient. For instance, in 2015, 53 foot or longer dry vans or refrigerated trailers equipped with a combination of SmartWay-verified low-rolling resistance tires and SmartWay-verified aerodynamic devices would obtain a total of 10% or more fuel savings over traditional trailers.

Through the SmartWay Technology Program, the EPA has evaluated the fuel-saving benefits of various devices through grants, cooperative agreements, emissions, and fuel economy testing, demonstration projects and technical literature review. As a result, the EPA has determined the following types of technologies provide fuel saving and/or emission reducing benefits when used properly in their designed applications, and has verified certain products:

- Idle reduction technologies – less idling of the engine when it is not needed would reduce fuel consumption.
- Aerodynamic technologies minimize drag and improve airflow over the entire tractor-trailer vehicle. Aerodynamic technologies include gap fairings that reduce turbulence between the tractor and trailer, side skirts that minimize wind under the trailer, and rear fairings that reduce turbulence and pressure drop at the rear of the trailer.
- Low rolling resistance tires can roll longer without slowing down, thereby reducing the amount of fuel used. Rolling resistance (or rolling friction or rolling drag) is the force resisting the motion when a tire rolls on a surface. The wheel would eventually slow down because of this resistance.
- Retrofit technologies include things such as diesel particulate filters, emissions upgrades (to a higher tier), etc., which would reduce emissions.
- Federal excise tax exemptions.

EXECUTIVE ORDER 13990

On January 20, 2021, Federal agencies were directed to immediately review, and take action to address, Federal regulations promulgated and other actions taken during the last 4 years that conflict with national objectives to improve public health and the environment; ensure access to clean air and water; limit exposure to dangerous chemicals and pesticides; hold polluters accountable, including those who disproportionately harm communities of color and low-income communities; reduce GHG emissions; bolster resilience to the impacts of climate change; restore and expand our national treasures and monuments; and prioritize both environmental justice and employment.

2.7.3 CALIFORNIA

California has a long history of adopting regulations to improve energy efficiency in new and remodeled buildings. These regulations have effectively stabilized California's energy consumption and contributed to reducing greenhouse gas emissions, even amid rapid population growth.

2.7.3.1 LEGISLATIVE ACTIONS TO REDUCE GHGS

The State of California legislature has enacted a series of bills that constitute the most aggressive program to reduce GHGs of any state in the nation. Some legislation, such as the landmark AB 32, was specifically enacted to address GHG emissions. Other legislation, such as Title 24 and Title 20 energy standards, were originally adopted for other purposes such as energy and water conservation, but also provide GHG reductions. This section describes the major provisions of the legislation.

AB 1881

The Water Conservation in Landscaping Act of 2006 requires local agencies to adopt the updated DWR model ordinance or equivalent. AB 1881 also requires the CEC to consult with the DWR to adopt, by regulation, performance standards and labeling requirements for landscape irrigation equipment, including irrigation controllers, moisture sensors, emission devices, and valves to reduce the wasteful, uneconomic, inefficient, or unnecessary consumption of energy or water.

SB 1368

California SB 1368 adds Sections 8340 and 8341 to the Public Utilities Code (effective January 1, 2007) with the intent "to prevent long-term investments in power plants with GHG emissions in excess of those produced by a combined-cycle natural gas power plant" with the aim of "reducing emissions of GHGs from the state's electricity consumption, not just the state's electricity production." SB 1368 provides a mechanism for reducing the GHG emissions of electricity providers, both in-state and out-of-state, thereby assisting CARB in meeting its mandate under AB 32, the Global Warming Solutions Act of 2006.

AB 32

The California State Legislature enacted AB 32, which required that GHGs emitted in California be reduced to 1990 levels by the year 2020 (this goal has been met[2]). GHGs, as defined under AB 32, include CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6. Since AB 32 was enacted, a seventh chemical, NF_3, has also been added to the list of GHGs. CARB is the state agency charged with monitoring and regulating sources of GHGs. Pursuant to AB 32, CARB adopted regulations to achieve the maximum technologically feasible and cost-effective GHG emission reductions. AB 32 states the following:

> *"Global warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California. The potential adverse impacts of global warming include the exacerbation of air quality problems, a reduction in the quality and supply of water to the state from the Sierra snowpack, a rise in sea levels resulting in the displacement of thousands of coastal businesses and residences, damage to marine ecosystems and the natural environment, and an increase in the incidences of infectious diseases, asthma, and other human health-related problems."*

SB 375

On September 30, 2008, SB 375 was signed by Governor Schwarzenegger. According to SB 375, the transportation sector is the largest contributor of GHG emissions, which emits over 40% of the total

[2] Based upon the 2023 GHG inventory data (i.e., the latest year for which data are available) for the 2000-2021 GHG emissions period, California emitted an average 381.3 $MMTCO_2e$ (25). This is less than the 2020 emissions target of 431 $MMTCO_2e$. This is less than the 2020 emissions target of 431 $MMTCO_2e$.

GHG emissions in California. SB 375 states, "Without improved land use and transportation policy, California would not be able to achieve the goals of AB 32." SB 375 does the following: it (1) requires metropolitan planning organizations (MPOs) to include sustainable community strategies in their regional transportation plans for reducing GHG emissions; (2) aligns planning for transportation and housing; and (3) creates specified incentives for the implementation of the strategies.

SB 375 requires MPOs to prepare a Sustainable Communities Strategy (SCS) within the Regional Transportation Plan (RTP) that guides growth while taking into account the transportation, housing, environmental, and economic needs of the region. SB 375 uses CEQA streamlining as an incentive to encourage residential projects, which help achieve AB 32 goals to reduce GHG emissions. Although SB 375 does not prevent CARB from adopting additional regulations, such actions are not anticipated in the foreseeable future.

Concerning CEQA, SB 375, as codified in Public Resources Code Section 21159.28, states that CEQA findings for certain projects are not required to reference, describe, or discuss (1) growth inducing impacts, or (2) any project-specific or cumulative impacts from cars and light-duty truck trips generated by the project on global warming or the regional transportation network, if the project:

1. Is in an area with an approved sustainable communities strategy or an alternative planning strategy that CARB accepts as achieving the GHG emission reduction targets.
2. Is consistent with that strategy (in designation, density, building intensity, and applicable policies).
3. Incorporates the MMs required by an applicable prior environmental document.

AB 1493 - PAVLEY FUEL EFFICIENCY STANDARDS

The second phase of the implementation for the Pavley bill was incorporated into Amendments to the Low-Emission Vehicle Program (LEV III) or the Advanced Clean Cars (ACC) program. The ACC program combines the control of smog-causing pollutants and GHG emissions into a single coordinated package of requirements for MY 2017 through 2025. The regulation will reduce GHGs from new cars by 34% from 2016 levels by 2025. The new rules will clean up gasoline and diesel-powered cars, and deliver increasing numbers of zero-emission technologies, such as full battery electric cars, newly emerging plug-in hybrid EV and hydrogen fuel cell cars. The package will also ensure adequate fueling infrastructure is available for the increasing numbers of hydrogen fuel cell vehicles planned for deployment in California. On March 9, 2022 EPA reinstated California's authority under the Clean Air Act to implement its own GHG emission standards for cars and light trucks, which other states can also adopt and enforce. With this authority restored, EPA will continue partnering with states to advance the next generation of clean vehicle technologies.

CLEAN ENERGY AND POLLUTION REDUCTION ACT OF 2015 (SB 350)

In October 2015, the legislature approved, and Governor Jerry Brown signed SB 350, which reaffirms California's commitment to reducing its GHG emissions and addressing climate change. Key provisions include an increase in the RPS, higher energy efficiency requirements for buildings, initial strategies towards a regional electricity grid, and improved infrastructure for EV charging stations. Provisions for a 50% reduction in the use of petroleum statewide were removed from the Bill because of opposition and concern that it would prevent the Bill's passage. Specifically, SB 350 requires the following to reduce statewide GHG emissions:

- Increase the amount of electricity procured from renewable energy sources from 33% to 50% by 2030, with interim targets of 40% by 2024, and 45% by 2027.
- Double the energy efficiency in existing buildings by 2030. This target would be achieved through the California Public Utilities Commission (CPUC), the California Energy Commission (CEC), and local publicly owned utilities.
- Reorganize the Independent System Operator (ISO) to develop more regional electrify transmission markets and to improve accessibility in these markets, which would facilitate the growth of renewable energy markets in the western United States.

SB 32

On September 8, 2016, Governor Brown signed SB 32 and its companion bill, AB 197. SB 32 requires the state to reduce statewide GHG emissions to 40% below 1990 levels by 2030, a reduction target that was first introduced in Executive Order B-30-15. The new legislation builds upon the AB 32 goal and provides an intermediate goal to achieving S-3-05, which sets a statewide GHG reduction target of 80% below 1990 levels by 2050. AB 197 creates a legislative committee to oversee regulators to ensure that CARB not only responds to the Governor, but also the Legislature (10).

SB 1020

SB 1020 is a comprehensive legislative proposal aimed at addressing key challenges in California's agricultural sector, environmental resilience, and workforce protections. The bill seeks to promote equitable economic recovery by ensuring fair distribution of resources and opportunities across communities. It emphasizes improving access to healthy and affordable food, particularly in underserved areas affected by food insecurity. SB 1020 also aims to bolster climate resilience in agriculture through sustainable farming practices and investments in renewable energy and water conservation. Additionally, it includes provisions to enhance worker protections in the agricultural sector, focusing on issues like wages, working conditions, and health and safety standards. The legislation proposes funding these initiatives through the issuance of bonds, subject to voter approval, aiming to foster a more sustainable and equitable future for California's agricultural economy and its workforce. SB 1020 requires renewable energy and zero-carbon resources to supply 90% of all retail electricity sales by 2035 and 95% of all retail electricity sales by 2040.

AB 1279

AB 1279 addresses pivotal issues concerning climate change and environmental sustainability throughout the state. While specific provisions necessitate direct reference to the bill's text or authoritative summaries, such legislation typically seeks to bolster California's endeavors in curbing greenhouse gas emissions, promoting renewable energy sources, enhancing air and water quality standards, and instituting policies aimed at both mitigating and adapting to the repercussions of climate change. AB 1279 underscores California's enduring commitment to confronting the climate crisis and advancing comprehensive environmental stewardship through statutory measure. AB 1279 sets goals to achieve net zero GHG emissions by 2045 and maintain net negative emissions thereafter. By the same year, it aims to reduce statewide GHG emissions to at least 85% below 1990 levels**.**

2017 CARB SCOPING PLAN

In November 2017, CARB released the *Final 2017 Scoping Plan Update* (*2017 Scoping Plan*), which identifies the State's post-2020 reduction strategy. The *2017 Scoping Plan* reflects the 2030 target of a 40% reduction below 1990 levels, set by Executive Order B-30-15 and codified by SB 32. Key programs that the proposed Second Update builds upon include the Cap-and-Trade Regulation, the LCFS, and much cleaner cars, trucks, and freight movement, utilizing cleaner, renewable energy, and strategies to reduce CH_4 emissions from agricultural and other wastes.

The *2017 Scoping Plan* establishes a new emissions limit of 260 $MMTCO_2e$ for the year 2030, which corresponds to a 40% decrease in 1990 levels by 2030 (35).

California's climate strategy would require contributions from all sectors of the economy, including the land base, and would include enhanced focus on zero and near-zero emission (ZE/NZE) vehicle technologies; continued investment in renewables, including solar roofs, wind, and other distributed generation; greater use of low carbon fuels; integrated land conservation and development strategies; coordinated efforts to reduce emissions of short-lived climate pollutants (CH_4, black carbon, and fluorinated gases); and an increased focus on integrated land use planning to support livable, transit-connected communities and conservation of agricultural and other lands. Requirements for direct GHG reductions at refineries would further support air quality co-benefits in neighborhoods, including in disadvantaged communities historically located adjacent to these large stationary sources, as well as efforts with California's local air pollution control and air quality management districts (air districts) to tighten emission limits on a broad spectrum of industrial sources. Major elements of the *2017 Scoping Plan* framework include:

- Implementing and/or increasing the standards of the Mobile Source Strategy, which include increasing zero-emission vehicles (ZEV) buses and trucks.
- LCFS, with an increased stringency (18% by 2030).
- Implementing SB 350, which expands the RPS to 50% RPS and doubles energy efficiency savings by 2030.
- California Sustainable Freight Action Plan, which improves freight system efficiency, utilizes near-zero emissions technology, and deployment of ZEV trucks.
- Implementing the proposed Short-Lived Climate Pollutant Strategy (SLPS), which focuses on reducing CH_4 and HCF emissions by 40% and anthropogenic black carbon emissions by 50% by year 2030.
- Continued implementation of SB 375.
- Post-2020 Cap-and-Trade Program that includes declining caps.
- 20% reduction in GHG emissions from refineries by 2030.
- Development of a Natural and Working Lands Action Plan to secure California's land base as a net carbon sink.

Note, however, that the *2017 Scoping Plan* acknowledges that:

> *"[a]chieving net zero increases in GHG emissions, resulting in no contribution to GHG impacts, may not be feasible or appropriate for every project, however, and the inability of a project to mitigate its GHG emissions to net zero does not imply the project results in a substantial contribution to the cumulatively significant environmental impact of climate change under CEQA."*

In addition to the statewide strategies listed above, the *2017 Scoping Plan* also identifies local governments as essential partners in achieving the State's long-term GHG reduction goals and identifies local actions to reduce GHG emissions. As part of the recommended actions, CARB recommends that local governments achieve a community-wide goal to achieve emissions of no more than 6 metric tons of CO_2e ($MTCO_2e$) or less per capita by 2030 and 2 $MTCO_2e$ or less per capita by 2050. For CEQA projects, CARB states that lead agencies may develop evidence-based bright-line numeric thresholds—consistent with the *2017 Scoping Plan* and the State's long-term GHG goals—and projects with emissions over that amount may be required to incorporate on-site design features and MMs that avoid or minimize project emissions to the degree feasible; or a performance-based metric using a CAP or other plan to reduce GHG emissions is appropriate.

According to research conducted by the Lawrence Berkeley National Laboratory (LBNL) and supported by CARB, California, under its existing and proposed GHG reduction policies, could achieve the 2030 goals under SB 32. The research utilized a new, validated model known as the California LBNL GHG Analysis of Policies Spreadsheet (CALGAPS), which simulates GHG and criteria pollutant emissions in California from 2010 to 2050 in accordance to existing and future GHG-reducing policies. The CALGAPS model showed that by 2030, emissions could range from 211 to 428 $MTCO_2e$ per year ($MTCO_2e$/yr), indicating that "even if all modeled policies are not implemented, reductions could be sufficient to reduce emissions 40% below the 1990 level [of SB 32]." CALGAPS analyzed emissions through 2050 even though it did not generally account for policies that might be put in place after 2030. Although the research indicated that the emissions would not meet the State's 80% reduction goal by 2050, various combinations of policies could allow California's cumulative emissions to remain very low through 2050 (36) (37).

CAP-AND-TRADE PROGRAM

The *2017 Scoping Plan* identifies a Cap-and-Trade Program as one of the key strategies for California to reduce GHG emissions. According to CARB, a cap-and-trade program would help put California on the path to meet its goal of achieving a 40% reduction in GHG emissions from 1990 levels by 2030. Under cap-and-trade, an overall limit on GHG emissions from capped sectors is established, and facilities subject to the cap would be able to trade permits to emit GHGs within the overall limit.

CARB adopted a California Cap-and-Trade Program pursuant to its authority under AB 32. The Cap-and-Trade Program is designed to reduce GHG emissions from regulated entities by more than 16% between 2013 and 2020, and by an additional 40% by 2030. The statewide cap for GHG emissions from the capped sectors (e.g., electricity generation, petroleum refining, and cement production) commenced in 2013 and would decline over time, achieving GHG emission reductions throughout the program's duration.

Covered entities that emit more than 25,000 $MTCO_2e$/yr must comply with the Cap-and-Trade Program. Triggering of the 25,000 $MTCO_2e$/yr "inclusion threshold" is measured against a subset of emissions reported and verified under the California Regulation for the Mandatory Reporting of GHG Emissions (Mandatory Reporting Rule or "MRR").

Under the Cap-and-Trade Program, CARB issues allowances equal to the total amount of allowable emissions over a given compliance period and distributes these to regulated entities. Covered entities are allocated free allowances in whole or part (if eligible), and may buy allowances at auction, purchase allowances from others, or purchase offset credits. Each covered entity with a compliance obligation is required to surrender "compliance instruments" for each $MTCO_2e$ of GHG they emit. There also are requirements to surrender compliance instruments covering 30% of the prior year's compliance obligation by November of each year (38).

The Cap-and-Trade Program provides a firm cap, which provides the highest certainty of achieving the 2030 target. An inherent feature of the Cap-and-Trade program is that it does not guarantee GHG emissions reductions in any discrete location or by any particular source. Rather, GHG emissions reductions are only guaranteed on an accumulative basis. As summarized by CARB in the *First Update to the Climate Change Scoping Plan*:

> *"The Cap-and-Trade Regulation gives companies the flexibility to trade allowances with others or take steps to cost-effectively reduce emissions at their own facilities. Companies that emit more have to turn in more allowances or other compliance instruments. Companies that can cut their GHG emissions have to turn in fewer allowances. But as the cap declines, aggregate emissions must be reduced. In other words, a covered entity theoretically could increase its GHG emissions every year and still comply with the Cap-and-Trade Program if there is a reduction in GHG emissions from other covered entities. Such a focus on aggregate GHG emissions is considered appropriate because climate change is a global phenomenon, and the effects of GHG emissions are considered cumulative."* (39)

The Cap-and-Trade Program covers approximately 80% of California's GHG emissions (35). The Cap-and-Trade Program covers the GHG emissions associated with electricity consumed in California, whether generated in-state or imported. Accordingly, GHG emissions associated with CEQA projects' electricity usage are covered by the Cap-and-Trade Program. The Cap-and-Trade Program also covers fuel suppliers (natural gas and propane fuel providers and transportation fuel providers) to address emissions from such fuels and from combustion of other fossil fuels not directly covered at large sources in the Program's first compliance period. The Cap-and-Trade Program covers the GHG emissions associated with the combustion of transportation fuels in California, whether refined in-state or imported.

2022 CARB SCOPING PLAN

On December 15, 2022, CARB adopted the 2022 Scoping Plan for Achieving Carbon Neutrality (2022 Scoping Plan) (40). The 2022 Scoping Plan builds on the 2017 Scoping Plan as well as the requirements set forth by AB 1279, which directs the state to become carbon neutral no later than 2045. To achieve this statutory objective, the 2022 Scoping Plan lays out how California can reduce GHG emissions by 85% below 1990 levels and achieve carbon neutrality by 2045. The Scoping Plan scenario to do this is to “deploy a broad portfolio of existing and emerging fossil fuel alternatives and clean technologies, and align with statutes, Executive Orders, Board direction, and direction from the governor.” The 2022 Scoping Plan sets one of the most aggressive approaches to reach carbon neutrality in the world. Unlike the 2017 Scoping Plan, CARB no longer includes a numeric per capita threshold and instead advocates for compliance with a local GHG reduction strategy (CAP) consistent with State *CEQA Guidelines* section 15183.5.

The key elements of the 2022 CARB Scoping Plan focus on transportation - the regulations that will impact this sector are adopted and enforced by CARB on vehicle manufacturers and outside the jurisdiction and control of local governments. As stated in the Plan’s executive summary:

> “The major element of this unprecedented transformation is the aggressive reduction of fossil fuels wherever they are currently used in California, building on and accelerating carbon reduction programs that have been in place for a decade and a half. That means rapidly moving to zero-emission transportation; electrifying the cars, buses, trains, and trucks that now constitute California’s single largest source of planet-warming pollution.”
>
> “[A]pproval of this plan catalyzes a number of efforts, including the development of new regulations as well as amendments to strengthen regulations and programs already in place, not just at CARB but across state agencies.”

Under the 2022 Scoping Plan, the State will lead efforts to meet the 2045 carbon neutrality goal through implementation of the following objectives:

- Reimagine roadway projects that increase VMT in a way that meets community needs and reduces the need to drive.
- Double local transit capacity and service frequencies by 2030.
- Complete the High-Speed Rail (HSR) System and other elements of the intercity rail network by 2040.
- Expand and complete planned networks of high-quality active transportation infrastructure.
- Increase availability and affordability of bikes, e-bikes, scooters, and other alternatives to light-duty vehicles, prioritizing needs of underserved communities.
- Shift revenue generation for transportation projects away from the gas tax into more durable sources by 2030.
- Authorize and implement roadway pricing strategies and reallocate revenues to equitably improve transit, bicycling, and other sustainable transportation choices.
- Prioritize addressing key transit bottlenecks and other infrastructure investments to improve transit operational efficiency over investments that increase VMT.
- Develop and implement a statewide transportation demand management (TDM) framework with VMT mitigation requirements for large employers and large developments.
- Prevent uncontrolled growth of autonomous vehicle (AV) VMT, particularly zero-passenger miles.

- Channel new mobility services towards pooled use models, transit complementarity, and lower VMT outcomes.
- Establish an integrated statewide system for trip planning, booking, payment, and user accounts that enables efficient and equitable multimodal systems.
- Provide financial support for low-income and disadvantaged Californians' use of transit and new mobility services.
- Expand universal design features for new mobility services.
- Accelerate infill development in existing transportation-efficient places and deploy strategic resources to create more transportation-efficient locations.
- Encourage alignment in land use, housing, transportation, and conservation planning in adopted regional plans (RTP/SCS and RHNA) and local plans (e.g., general plans, zoning, and local transportation plans).
- Accelerate production of affordable housing in forms and locations that reduce VMT and affirmatively further fair housing policy objectives.
- Reduce or eliminate parking requirements (and/or enact parking maximums, as appropriate) and promote redevelopment of excess parking, especially in infill locations.
- Preserve and protect existing affordable housing stock and protect existing residents and businesses from displacement and climate risk.

Included in the 2022 Scoping Plan is a set of Local Actions (Appendix D to the 2022 Scoping Plan) aimed at providing local jurisdictions with tools to reduce GHGs and assist the state in meeting the ambitious targets set forth in the 2022 Scoping Plan. Appendix D to the 2022 Scoping Plan includes a section on evaluating plan-level and project-level alignment with the State's Climate Goals in CEQA GHG analyses. In this section, CARB identifies several recommendations and strategies that should be considered for new development in order to determine consistency with the 2022 Scoping Plan. Notably, this section is focused on Residential and Mixed-Use Projects, in fact CARB states in Appendix D (page 4): "…focuses primarily on climate action plans (CAPs) and local authority over new residential development. It does not address other land use types (e.g., industrial) or air permitting."

Additionally on Page 21 in Appendix D, CARB states: "The recommendations outlined in this section apply only to residential and mixed-use development project types. California currently faces both a housing crisis and a climate crisis, which necessitates prioritizing recommendations for residential projects to address the housing crisis in a manner that simultaneously supports the State's GHG and regional air quality goals. CARB plans to continue to explore new approaches for other land use types in the future." As such, it would be inappropriate to apply the requirements contained in Appendix D of the 2022 Scoping Plan to any land use types other than residential or mixed-use residential development.

2.7.3.2 EXECUTIVE ORDERS RELATED TO GHG EMISSIONS

California's Executive Branch has taken several actions to reduce GHGs through the use of Executive Orders. Although not regulatory, they set the tone for the state and guide the actions of state agencies.

EXECUTIVE ORDER S-3-05

California Governor Arnold Schwarzenegger announced on June 1, 2005, through Executive Order S-3-05, the following reduction targets for GHG emissions:

- By 2010, reduce GHG emissions to 2000 levels.
- By 2020, reduce GHG emissions to 1990 levels.
- By 2050, reduce GHG emissions to 80% below 1990 levels.

The 2050 reduction goal represents what some scientists believe is necessary to reach levels that would stabilize the climate. The 2020 goal was established to be a mid-term target. Because this is an executive order, the goals are not legally enforceable for local governments or the private sector.

EXECUTIVE ORDER S-01-07 (LCFS)

Governor Schwarzenegger signed Executive Order S-01-07 on January 18, 2007. The order mandates that a statewide goal shall be established to reduce the carbon intensity of California's transportation fuels by at least 10% by 2020. CARB adopted the LCFS on April 23, 2009.

After a series of legal changes, in order to address the Court ruling, CARB was required to bring a new LCFS regulation to the Board for consideration in February 2015. The proposed LCFS regulation was required to contain revisions to the 2010 LCFS as well as new provisions designed to foster investments in the production of the low-carbon intensity fuels, offer additional flexibility to regulated parties, update critical technical information, simplify and streamline program operations, and enhance enforcement. On November 16, 2015, the Office of Administrative Law (OAL) approved the Final Rulemaking Package. The new LCFS regulation became effective on January 1, 2016.

In 2018, CARB approved amendments to the regulation, which included strengthening the carbon intensity benchmarks through 2030 in compliance with the SB 32 GHG emissions reduction target for 2030. The amendments included crediting opportunities to promote zero emission vehicle adoption, alternative jet fuel, carbon capture and sequestration, and advanced technologies to achieve deep decarbonization in the transportation sector (41).

EXECUTIVE ORDER S-13-08

Executive Order S-13-08 states that "climate change in California during the next century is expected to shift precipitation patterns, accelerate sea level rise and increase temperatures, thereby posing a serious threat to California's economy, to the health and welfare of its population and to its natural resources." Pursuant to the requirements in the Order, the *2009 California Climate Adaptation Strategy* (*CNRA 2009*) was adopted, which is the "…first statewide, multi-sector, region-specific, and information-based climate change adaptation strategy in the United States." Objectives include analyzing risks of climate change in California, identifying, and exploring strategies to adapt to climate change, and specifying a direction for future research.

EXECUTIVE ORDER B-30-15

On April 29, 2015, Governor Brown issued an executive order to establish a California GHG reduction target of 40 percent below 1990 levels by 2030. The Governor's executive order aligned California's GHG reduction targets with those of leading international governments ahead of the U.N. Climate Change Conference in Paris late 2015. The Order sets a new interim statewide GHG emission reduction target to reduce GHG emissions to 40 percent below 1990 levels by 2030 in order to ensure California meets its target of reducing GHG emissions to 80 percent below 1990 levels by 2050 and directs CARB to update the *2017 Scoping Plan* to express the 2030 target in terms of $MMTCO_2e$. The Order also requires the state's climate adaptation plan to be updated every three years, and for the State to continue its climate change research program, among other provisions. As with Executive Order S-3-05, this Order is not legally enforceable to local governments and the private sector. Legislation that would update AB 32 to make post 2020 targets and requirements a mandate is in process in the State Legislature.

EXECUTIVE ORDER B-55-18 AND SB 100

SB 100 and Executive Order B-55-18 were signed by Governor Brown on September 10, 2018. Under the existing RPS, 25% of retail sales of electricity are required to be from renewable sources by December 31, 2016, 33% by December 31, 2020, 40% by December 31, 2024, 45% by December 31, 2027, and 50% by December 31, 2030. SB 100 raises California's RPS requirement to 50% renewable resources target by December 31, 2026, and to achieve a 60% target by December 31, 2030. SB 100 also requires that retail sellers and local publicly owned electric utilities procure a minimum quantity of electricity products from eligible renewable energy resources so that the total kilowatt hours (kWh) of those products sold to their retail end-use customers achieve 44% of retail sales by December 31, 2024, 52% by December 31, 2027, and 60% by December 31, 2030. In addition to targets under AB 32 and SB 32, Executive Order B-55-18 establishes a carbon neutrality goal for the state of California by 2045; and sets a goal to maintain net negative emissions thereafter. The Executive Order directs the California Natural Resources Agency (CNRA), California EPA (CalEPA), the California Department of Food and Agriculture (CDFA), and CARB to include sequestration targets in the Natural and Working Lands Climate Change Implementation Plan consistent with the carbon neutrality goal.

2.7.3.3 CALIFORNIA REGULATIONS AND BUILDING CODES

California has a long history of adopting regulations to improve energy efficiency in new and remodeled buildings. These regulations have kept California's energy consumption relatively flat even with rapid population growth.

TITLE 20 CCR SECTIONS 1601 ET SEQ. – APPLIANCE EFFICIENCY REGULATIONS

The Appliance Efficiency Regulations regulate the sale of appliances in California. The Appliance Efficiency Regulations include standards for both federally regulated appliances and non-federally regulated appliances. Twenty-three categories of appliances are included in the scope of these regulations. The standards within these regulations apply to appliances that are sold or offered for sale in California, except those sold wholesale in California for final retail sale outside the state and those designed and sold exclusively for use in recreational vehicles (RV) or other mobile equipment (CEC 2012).

TITLE 24 ENERGY EFFICIENCY STANDARDS AND CALIFORNIA GREEN BUILDING STANDARDS

California Code of Regulations (CCR) Title 24 Part 6: The California Energy Code was first adopted in 1978 in response to a legislative mandate to reduce California's energy consumption.

The standards are updated periodically to allow consideration and possible incorporation of new energy efficient technologies and methods. CCR, Title 24, Part 11: California Green Building Standards Code (CALGreen) is a comprehensive and uniform regulatory code for all residential, commercial, and school buildings that went in effect on August 1, 2009, and is administered by the California Building Standards Commission.

CALGreen is updated on a regular basis, with the most recent approved update consisting of the 2022 California Green Building Code Standards that became effective on January 1, 2023. The CEC anticipates that the 2022 energy code will provide $1.5 billion in consumer benefits and reduce GHG emissions by 10 million metric tons (42). The Project would be required to comply with the applicable standards in place at the time plan check submittals are made. These require, among other items (43):

RESIDENTIAL MANDATORY MEASURES

- Electric vehicle (EV) charging stations. New construction shall comply with Section 4.106.4.1, 4.106.4.2, 4.106.4.3, to facilitate future installation and use of EV chargers. Electric vehicle supply equipment (EVSE) shall be installed in accordance with the *California Electrical Code*, Article 625. (4.106.4).
    - New one- and two-family dwellings and town-houses with attached private garages. For each dwelling unit, install a listed raceway to accommodate a dedicated 208/240-volt branch circuit. The raceway shall not be less than trade size 1 (nominal 1-inch inside diameter). The raceway shall originate at the main service or subpanel and shall terminate into a listed cabinet, box or other enclosure in close proximity to the proposed location of an EV charger. Raceways are required to be continuous at enclosed, inaccessible or concealed areas and spaces. The service panel and/or subpanel shall provide capacity to install a 40-ampere 208/240-volt minimum dedicated branch circuit and space(s) reserved to permit installation of a branch circuit overcurrent protective device.
    - New hotels and motels. All newly constructed hotels and motels shall provide EV spaces capable of supporting future installation of EVSE. The construction documents shall identify the location of the EV spaces. The number of required EV spaces shall be based on the total number of parking spaces provided for all types of parking facilities in accordance with Table 4.106.4.3.1.
- Water conserving plumbing fixtures and fittings. Plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) shall comply with Sections 4.303.1.1, 4.303.1.2, 4.303.1.3, and 4.303.1.4.
- Outdoor potable water use in landscape areas. Residential developments shall comply with a local water efficient landscape ordinance or the current California Department of Water Resources' Model Water Efficient Landscape Ordinance (MWELO), whichever is more stringent.

- Operation and maintenance manual. At the time of final inspection, a manual, compact disc, web-based reference or other media acceptable to the enforcing agency which includes all of the following shall be placed in the building:
    - Directions to the owner or occupant that the manual shall remain with the building throughout the life cycle of the structure.
    - Operations and maintenance instructions for the following:
        - Equipment and appliances, including water-saving devices and systems, HVAC systems, photovoltaic systems, EV chargers, water-heating systems and other major appliances and equipment.
        - Roof and yard drainage, including gutter and downspouts.
        - Space conditioning systems, including condensers and air filters.
        - Landscape irrigation systems.
        - Water reuse systems.
    - Information from local utility, water and waste recovery providers on methods to further reduce future resource consumption, including recycling programs and locations.
    - Public transportation and/or carpool options available in the area.
    - Educational material on the positive impacts of an interior relative humidity between 30-60% and what methods occupants may use to maintain the relative humidity level in that range.
    - Information about water-conserving landscape and irrigation design and controllers which conserve water.
    - Instructions for maintaining gutters and downspouts and the importance of diverting water at least 5 feet away from the foundation.
    - Information about state solar energy and incentive programs available.
    - A copy of all special inspection verifications required by the enforcing agency of this code.
    - Information from CALFIRE on maintenance of defensible space around residential structures.
- Any installed gas fireplace shall be direct-vent sealed-combustion type. Any installed woodstove or pellet stove shall comply with U.S. EPA New Source Performance Standards (NSPS) emission limits as applicable, and shall have a permanent label indicating they are certified to meet the emission limits. Woodstoves, pellet stoves and fireplaces shall also comply with applicable local ordinances.
- Paints and coatings. Architectural paints and coatings shall comply with VOC limits in Table 1 of the CARB Architectural Suggested Control Measure, as shown in Table 4.504.3, unless more stringent local limits apply. The VOC content limit for coatings that do not meet the definitions for the specialty coatings categories listed in Table 4.504.3 shall be determined by classifying the coating as a Flat, Nonflat, or Nonflat-high Gloss coating, based on its glass, as defined in subsections 4.21, 4.36, and 4.37 of the 2007 CARB, Suggested Control Measure, and the corresponding Flat, Nonflat, Nonflat-high Gloss VOC limit in Table 4.504.3 shall apply.

CARB REFRIGERANT MANAGEMENT PROGRAM

CARB adopted a regulation in 2009 to reduce refrigerant GHG emissions from stationary sources through refrigerant leak detection and monitoring, leak repair, system retirement and retrofitting, reporting and recordkeeping, and proper refrigerant cylinder use, sale, and disposal. The regulation is set forth in sections 95380 to 95398 of Title 17, CCR. The rules implementing the regulation establish a limit on statewide GHG emissions from stationary facilities with refrigeration systems with more than 50 pounds of a high GWP refrigerant. The refrigerant management program is designed to (1) reduce emissions of high-GWP GHG refrigerants from leaky stationary, non-residential refrigeration equipment; (2) reduce emissions from the installation and servicing of refrigeration and air-conditioning appliances using high-GWP refrigerants; and (3) verify GHG emission reductions.

TRACTOR-TRAILER GHG REGULATION

The tractors and trailers subject to this regulation must either use EPA SmartWay certified tractors and trailers or retrofit their existing fleet with SmartWay verified technologies. The regulation applies primarily to owners of 53-foot or longer box-type trailers, including both dry-van and refrigerated-van trailers, and owners of the HD tractors that pull them on California highways. These owners are responsible for replacing or retrofitting their affected vehicles with compliant aerodynamic technologies and low rolling resistance tires. Sleeper cab tractors MY 2011 and later must be SmartWay certified. All other tractors must use SmartWay verified low rolling resistance tires. There are also requirements for trailers to have low rolling resistance tires and aerodynamic devices.

PHASE I AND 2 HEAVY-DUTY VEHICLE GHG STANDARDS

In September 2011, CARB adopted a regulation for GHG emissions from HDTs and engines sold in California. It establishes GHG emission limits on truck and engine manufacturers and harmonizes with the EPA rule for new trucks and engines nationally. Existing HD vehicle regulations in California include engine criteria emission standards, tractor-trailer GHG requirements to implement SmartWay strategies (i.e., the Heavy-Duty Tractor-Trailer GHG Regulation), and in-use fleet retrofit requirements such as the Truck and Bus Regulation. The EPA rule has compliance requirements for new compression and spark ignition engines, as well as trucks from Class 2b through Class 8. Compliance requirements began with MY 2014 with stringency levels increasing through MY 2018. The rule organizes truck compliance into three groupings, which include a) HD pickups and vans; b) vocational vehicles; and c) combination tractors. The EPA rule does not regulate trailers.

CARB staff has worked jointly with the EPA and the NHTSA on the next phase of federal GHG emission standards for medium-duty trucks (MDT) and HDT vehicles, called federal Phase 2. The federal Phase 2 standards were built on the improvements in engine and vehicle efficiency required by the Phase 1 emission standards and represent a significant opportunity to achieve further GHG reductions for 2018 and later MY HDT vehicles, including trailers. The EPA and NHTSA have proposed to roll back GHG and fuel economy standards for cars and light-duty trucks, which suggests a similar rollback of Phase 2 standards for MDT and HDT vehicles may be pursued.

SB 97 AND THE CEQA GUIDELINES UPDATE

Passed in August 2007, SB 97 added Section 21083.05 to the Public Resources Code. The code states "(a) On or before July 1, 2009, the Office of Planning and Research (OPR) shall prepare, develop, and transmit to the Resources Agency guidelines for the mitigation of GHG emissions or the effects of GHG emissions as required by this division, including, but not limited to, effects associated with transportation or energy consumption. (b) On or before January 1, 2010, the Resources Agency shall certify and adopt guidelines prepared and developed by the OPR pursuant to subdivision (a)."

In 2012, Public Resources Code Section 21083.05 was amended to state:

> *"The Office of Planning and Research and the Natural Resources Agency shall periodically update the guidelines for the mitigation of greenhouse gas emissions or the effects of greenhouse gas emissions as required by this division, including, but not limited to, effects associated with transportation or energy consumption, to incorporate new information or criteria established by the State Air Resources Board pursuant to Division 25.5 (commencing with Section 38500) of the Health and Safety Code."*

On December 28, 2018, the Natural Resources Agency announced the OAL approved the amendments to the State *CEQA Guidelines* for implementing CEQA. The CEQA Amendments provide guidance to public agencies regarding the analysis and mitigation of the effects of GHG emissions in CEQA documents. The CEQA Amendments fit within the existing CEQA framework by amending existing State *CEQA Guidelines* to reference climate change.

Section 15064.4 was added to the State *CEQA Guidelines* and states that in determining the significance of a project's GHG emissions, the lead agency should focus its analysis on the reasonably foreseeable incremental contribution of the project's emissions to the effects of climate change. A project's incremental contribution may be cumulatively considerable even if it appears relatively insignificant compared to statewide, national, or global emissions. The agency's analysis should consider a timeframe that is appropriate for the project. The agency's analysis also must reasonably reflect evolving scientific knowledge and state regulatory schemes. Additionally, a lead agency may use a model or methodology to estimate GHG emissions resulting from a project. The lead agency has 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. The lead agency must support its selection of a model or methodology with substantial evidence. The lead agency should explain the limitations of the particular model or methodology selected for use (44).

LOW CARBON TRANSPORTATION INCENTIVES AND THE AIR QUALITY IMPROVEMENT PROGRAM (AB 118)

Low Carbon Transportation Incentives and the Air Quality Improvement Program provide mobile source incentives to reduce greenhouse gas, criteria pollutant, and toxic air contaminant emissions through the deployment of advanced technology and clean transportation in the light-duty and heavy-duty sectors. Low Carbon Transportation Incentives are supported by Cap-and-Trade auction proceeds. The Air Quality Improvement Program (AQIP), established by the California Alternative and Renewable Fuel, Vehicle Technology, Clean Air, and Carbon Reduction

Act of 2007 (Assembly Bill 118), is a voluntary incentive program administered by CARB to fund clean vehicle and equipment projects, research on biofuels production, and the air quality impacts of alternative fuels, and workforce training (45).

ADVANCED CLEAN FLEETS REGULATION

The Advanced Clean Fleets (ACF) requires fleets that are well suited for electrification to reduce emissions through requirements to both phase-in the use of Zero-Emission Vehicles (ZEVs) for targeted fleets and requirements that manufacturers only manufacture ZEV trucks starting in the 2036 model year.

STATE AND ALTERNATIVE FUEL PROVIDER FLEET PROGRAM

The State and Alternative Fuel Provider Fleet Program requires covered fleets to acquire alternative fuel vehicles (AFVs) as a percentage of their annual light-duty vehicle acquisitions or to employ other petroleum-reduction methods in lieu of acquiring AFVs. The U.S. Department of Energy (DOE) established these requirements through 10 CFR Part 490.

2.7.4 REGIONAL

The Project site is located within the South Coast Air Basin (SCAB), which is under the jurisdiction of the South Coast Air Quality Management District (SCAQMD).

SCAQMD

The SCAQMD is the agency responsible for air quality planning and regulation in the SCAB. The SCAQMD addresses the impacts to climate change of projects subject to SCAQMD permit as a lead agency if they are the only agency having discretionary approval for the project and acts as a responsible agency when a land use agency must also approve discretionary permits for the project. The SCAQMD acts as an expert commenting agency for impacts to air quality. This expertise carries over to GHG emissions, so the agency helps local land use agencies through the development of models and emission thresholds that can be used to address GHG emissions.

The SCAQMD has been evaluating GHG significance thresholds since April 2008. On December 5, 2008, the SCAQMD Governing Board adopted an Interim CEQA Greenhouse Gas Significance Threshold of 10,000 $MTCO_2e$ per year for stationary source/industrial projects for which the SCAQMD is the lead agency. The SCAQMD has continued to consider then adoption of significance thresholds for projects where the SCAQMD is not the lead agency. The most recent proposal issued in September 2010 uses the following tiered approach to evaluate potential GHG impacts from various uses:

- Tier 1 consists of evaluating whether or not the project qualifies for any applicable exemption under CEQA.
- Tier 2 consists of determining whether the project is consistent with a locally adopted GHG reduction plan. If a project is consistent with a qualifying locally adopted GHG reduction plan, it does not have significant GHG emissions.
- Tier 3 consists of screening thresholds, which the lead agency can choose, but must be consistent with all projects within its jurisdiction. A project's construction emissions are averaged over 30

years and are added to the project's operational emissions. If a project's emissions are below one of the following screening thresholds, then the project is less than significant:

- Residential and commercial land use: 3,000 $MTCO_2e$/yr
- Industrial land use: 10,000 $MTCO_2e$/yr
- Option 1: Based on land use type: residential: 3,500 $MTCO_2e$/yr; commercial: 1,400 $MTCO_2e$/yr; or mixed use: 3,000 $MTCO_2e$/yr
- Option 2: All non-industrial land uses: 3,000 $MTCO_2e$/yr

- Tier 4 has the following options:
  - Option 1: Percent emission reduction target; this percentage is currently undefined.
  - Option 2: Early implementation of applicable AB 32 Scoping Plan measures
  - Option 3: 2020 target for service populations (SP), which includes residents and employees: 4.8 $MTCO_2e$ per SP per year for projects and 6.6 $MTCO_2e$ per SP per year for plans;
  - Option 3, 2035 target: 3.0 $MTCO_2e$ per SP per year for projects and 4.1 $MTCO_2e$ per SP per year for plans
- Tier 5 involves mitigation offsets to achieve target significance threshold.

The SCAQMD's draft thresholds used the Executive Order S-3-05-year 2050 goal as the basis for the Tier 3 screening level. Achieving the Executive Order's objective would contribute to worldwide efforts to cap CO_2 concentrations at 450 ppm, thus stabilizing global climate.

SCAQMD Regulation XXVII, adopted in 2009 includes the following rules:

- Rule 2700 defines terms and post global warming potentials.
- Rule 2701, SoCal Climate Solutions Exchange, establishes a voluntary program to encourage, quantify, and certify voluntary, high-quality certified GHG emission reductions in the SCAQMD.
- Rule 2702, GHG Reduction Program created a program to produce GHG emission reductions within the SCAQMD. The SCAQMD would fund projects through contracts in response to requests for proposals or purchase reductions from other parties.

CONNECT SOCAL 2024-2050 REGIONAL TRANSPORTATION PLAN/SUSTAINABLE COMMUNITIES STRATEGY

On April 4, 2024, Southern California Association of Governments' (SCAG) Regional Council adopted the Connect SoCal 2024-2050 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). The SCAG 2024 Connect SoCal refers to the Southern California Association of Governments' (SCAG) Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) for the year 2024. It outlines a comprehensive vision and plan for transportation and sustainable growth across Southern California, addressing issues such as transportation infrastructure, land use, housing, and environmental sustainability. The plan aims to guide development and policy decisions to support a more connected, efficient, and sustainable future for the region (46).

2.7.5 LOCAL

CITY OF ANAHEIM GENERAL PLAN GREEN ELEMENT

The Green Element of the City's General Plan contains policies relating to energy, including policies encouraging: the use of electric and alternative fueled vehicles; energy conservation; usage of passive and active solar design in existing and new development; energy-efficient retrofitting of existing buildings; the provision of free energy audits to the public; and the use of solar and wind for daylighting and natural ventilation. Consistent with The Green Element, the Project will continue to maintain and update energy conservation programs and information provided on the City's website (47).

Water Conservation

Goal 5.1: Continue Anaheim's water conservation efforts to ensure that all City facilities are water efficient.

Policies

1. Continue to inspect, maintain and enhance City facilities relative to their water use.

Energy Conservation

Goal 15.1: Continue to lead the County in energy conservation programs, practices and community outreach.

Policies

1. Continue to maintain and update energy conservation programs and information provided on the City's website.

Goal 15.2: Continue to encourage site design practices that reduce and conserve energy.

1. Encourage increased use of passive and active solar design in existing and new development (e.g., orienting buildings to maximize exposure to cooling effects of prevailing winds and locating landscaping and landscape structures to shade buildings).

ANAHEIM MUNICIPAL CODE

The 2022 California Energy Code (CCR Title 24 Part 6), which includes the Energy Efficiency Standards for Residential and Nonresidential Buildings, is adopted, with specified amendments, as Anaheim Municipal Code (AMC) Section 15.03.080. The 2022 California Green Building Standards Code (CCR Title 24 Part 11) is adopted, with specified amendments, as AMC Section 15.03.100 (48).

ANAHEIM PUBLIC UTILITIES INTEGRATED RESOURCE PLAN

On October 7, 2015, Governor Brown signed SB 350 (Clean Energy and Pollution Reduction Act of 2015), which mandated an increase in the procurement of renewables from 33% to 50% by 2030 and requires certain publicly-owned utilities, including Anaheim, to adopt and file an Integrated Resources Plan (IRP) no less than once every five years. An IRP is a comprehensive planning strategy and long-term road map for meeting state Greenhouse Gas (GHG) reduction goals, while balancing the need for reliable and affordable electric service to customers. Subsequent legislation, SB 100 (100 Percent Clean Energy Act of 2018), accelerated the adoption of renewables to 60% by 2030, and established a longer-term goal of 100% carbon-free resources by 2045. The 2023 IRP reflects APU's ongoing efforts to reduce its GHG emissions by more than 80% from 1990 levels by 2030. Near-term procurement of power supplies includes solar, wind, and battery storage. Beyond the 2030 horizon, APU will evaluate new technologies that further decarbonize its portfolio and gradually reduce reliance on other fossil-fuel resources.

Included as the basis for modeling portfolio alternatives was a forecast of customer energy needs, which was based on customer growth from development activities as well as electric vehicles and building electrification. However, increases in energy use are expected to be offset by customer-owned rooftop solar installations and customer energy efficiency reductions. Based on the results of this modeling, APU estimates an average cumulative increase in customer energy demand of approximately 1.41% between 2024 and 2035, which is effectively a low-growth energy demand forecast (49).

CITY OF ANAHEIM GREENHOUSE GAS REDUCTION PLAN

The APU's Greenhouse Gas Reduction Plan (GHGRP), approved in 2015, and updated in 2020, identifies renewable energy and energy conservation targets for APU for the years 2020, 2030 and 2045. The GHGRP identifies renewables portfolio targets for increasing the APU power supply generated from renewable sources up to 33 percent by year 2020, 60 percent by year 2030, and 100 percent by 2045. In 2020, 34,000 kilowatt (kW) of photovoltaic systems were installed in the City, 50,000 kW of photovoltaic systems are expected to be installed by 2030, and 75,000 kW of photovoltaic systems are expected to be installed by 2045. The GHGRP also establishes transportation-related goals for APU to convert its fleet vehicles to result in emissions reductions of 500 $MTCO_2e$ in 2020, 1,200 $MTCO_2e$ in 2030, and 32,000 $MTCO_2e$ in 2045 (50).

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3 PROJECT GHG IMPACT

3.1 INTRODUCTION

The Project has been evaluated to determine if it will result in a significant GHG impact. The significance of these potential impacts is described in the following sections.

3.2 STANDARDS OF SIGNIFICANCE

The criteria used to determine the significance of potential Project-related GHG impacts are taken from the Initial Study Checklist in Appendix G of the State *CEQA Guidelines* (14 California Code of Regulations §§15000, et seq.). Based on these thresholds, a project would result in a significant impact related to GHG if it would (51):

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

The evaluation of an impact under CEQA requires measuring data from a project against both existing conditions and a "threshold of significance." For establishing significance thresholds, the Office of Planning and Research's amendments to the State *CEQA Guidelines* Section 15064.7(c) state "[w]hen adopting 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."

State CEQA Guidelines Section 15064.4(a) further states, ". . . A lead agency shall have discretion to determine, in the context of a particular project, whether to: (1) Use a model or methodology to quantify greenhouse gas emissions resulting from a project, and which model or methodology to use . . .; or (2) Rely on a qualitative analysis or performance-based standards."

State CEQA Guidelines Section 15064.4 provides that a lead agency should consider the following factors, among others, in assessing the significance of impacts from greenhouse gas emissions:

- **Consideration #1:** The extent to which the project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting.
- **Consideration #2:** Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project.
- **Consideration #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 greenhouse gas emissions. Such regulations or requirements must be adopted by the relevant public agency through a public review process and must reduce or mitigate the project's incremental contribution of greenhouse gas emissions. In determining the significance of impacts, the lead agency may consider a project's consistency with the State's long-term climate goals or strategies, provided that substantial evidence supports the agency's analysis of how those

goals or strategies address the project's incremental contribution to climate change and its conclusion that the project's incremental contribution is not cumulatively considerable.

3.2.1 THRESHOLDS OF SIGNIFICANCE

The City of Anaheim has not adopted its own numeric threshold of significance for determining impacts concerning GHG emissions. A screening threshold of 3,000 $MTCO_2e$/yr to determine if additional analysis is required is an acceptable approach for small projects. This approach is a widely accepted screening threshold used by the City of Anaheim and numerous cities in the South Coast Air Basin (SCAB) and is based on the SCAQMD staff's proposed GHG screening threshold for stationary source emissions for non-industrial projects, as described in the SCAQMD's Interim CEQA GHG Significance Threshold for Stationary Sources, Rules and Plans ("SCAQMD Interim GHG Threshold"). The SCAQMD Interim GHG Threshold identifies a screening threshold to determine whether additional analysis is required (52). As noted by the SCAQMD:

> *"…the…screening level for stationary sources is based on an emission capture rate of 90% for all new or modified projects...the policy objective of [SCAQMD's] recommended interim GHG significance threshold proposal is to achieve an emission capture rate of 90% of all new or modified stationary source projects. A GHG significance threshold based on a 90% emission capture rate may be more appropriate to address the long-term adverse impacts associated with global climate change because most projects will be required to implement GHG reduction measures. Further, a 90% emission capture rate sets the emission threshold low enough to capture a substantial fraction of future stationary source projects that will be constructed to accommodate future statewide population and economic growth, while setting the emission threshold high enough to exclude small projects that will in aggregate contribute a relatively small fraction of the cumulative statewide GHG emissions. This assertion is based on the fact that [SCAQMD] staff estimates that these GHG emissions would account for slightly less than 1% of future 2050 statewide GHG emissions target (85 [MMTCO2e/yr]). In addition, these small projects may be subject to future applicable GHG control regulations that would further reduce their overall future contribution to the statewide GHG inventory. Finally, these small sources are already subject to [Best Available Control Technology] (BACT) for criteria pollutants and are more likely to be single-permit facilities, so they are more likely to have few opportunities readily available to reduce GHG emissions from other parts of their facility."*

Thus, and based on guidance from the SCAQMD, if a non-industrial project would emit GHGs less than 3,000 $MTCO_2e$/yr, the project is not considered a substantial GHG emitter and the GHG impact is less than significant, requiring no additional analysis and no mitigation. Conversely, if a non-industrial project would emit GHGs in excess of 3,000 $MTCO_2e$/yr, then the project could be considered a substantial GHG emitter, requiring additional analysis and potential mitigation. As previously discussed, a screening threshold of 3,000 $MTCO_2e$/yr is an acceptable approach for small projects to determine if additional analysis is required and is therefore applied for this Project.

3.3 MODELS EMPLOYED TO ANALYZE GHGS

3.3.1 CALIFORNIA EMISSIONS ESTIMATOR MODEL (CALEEMOD)

In May 2022, the California Air Pollution Control Officers Association (CAPCOA) in conjunction with other California air districts, including the SCAQMD, released the latest version of CalEEMod, version 2022. The purpose of this model is to calculate construction-source and operational-source criteria pollutants and GHG emissions from direct and indirect sources; and quantify applicable air quality and GHG reductions achieved from mitigation measures (53). Accordingly, the latest version of CalEEMod has been used for this Project to determine GHG emissions. Output from the model runs for construction and operational activity are provided in Appendices 3.1 and 3.2. CalEEMod includes GHG emissions from the following source categories: construction, area, energy, mobile, waste, water, and refrigerants.

3.4 LIFE-CYCLE ANALYSIS NOT REQUIRED

A full life-cycle analysis (LCA) for construction and operational activity is not included in this analysis due to the lack of consensus guidance on LCA methodology at this time (54). Life-cycle analysis (i.e., assessing economy-wide GHG emissions from the processes in manufacturing and transporting all raw materials used in the Project development, infrastructure, and on-going operations) depends on emission factors or econometric factors that are not well established for all processes. At this time, an LCA would be extremely speculative and thus has not been prepared.

Additionally, the SCAQMD recommends analyzing direct and indirect project GHG emissions generated within California and not life-cycle emissions because the life-cycle effects from a project could occur outside of California, might not be very well understood, or documented, and would be challenging to mitigate (55). Additionally, the science to calculate life cycle emissions is not yet established or well defined; therefore, the SCAQMD has not recommended, and is not requiring, life-cycle emissions analysis.

3.5 CONSTRUCTION EMISSIONS

Project construction activities would generate CO_2, N_2O and CH_4 emissions. The *Anaheim Hills Festival Specific Plan Amendment Air Quality Impact Analysis* (AQIA) report contains detailed information regarding Project construction activities (56). As discussed in the AQIA, construction-related emissions are expected from the following activities:

- Demolition
- Site Preparation
- Grading
- Building Construction
- Paving
- Architectural Coating

3.5.1 CONSTRUCTION DURATION

For purposes of analysis, construction of Project is expected to commence in September 2026 and would last through December 2029. The construction schedule utilized in the analysis, shown in Table 3-1, represents a "worst-case" analysis scenario should construction occur any time after the respective dates since emission factors for construction decrease as time passes and the analysis year increases due to emission regulations becoming more stringent.[3] The duration of construction activity and associated equipment represents a reasonable approximation of the expected construction fleet as required per the *CEQA Guidelines* (57).

TABLE 3-1: CONSTRUCTION DURATION

Construction Activity	Start Date	End Date	Working Days
Demolition	9/1/2026	10/30/2026	44
Site Preparation	11/2/2026	12/31/2026	44
Grading	1/1/2027	4/1/2027	65
Building Construction	4/2/2027	12/17/2029	707
Paving	10/1/2029	12/28/2029	65
Architectural Coating	8/1/2029	12/28/2029	108

3.5.2 CONSTRUCTION EQUIPMENT

Consistent with industry standards and typical construction practices, each piece of equipment listed in Table 3-2 is assumed to operate up to a total of eight (8) hours per day, or more than two-thirds of the period during which construction activities are allowed pursuant to the City code.

TABLE 3-2: CONSTRUCTION EQUIPMENT ASSUMPTIONS

Construction Activity	Equipment	Amount	Hours Per Day
Demolition	Rubber Tired Dozers	2	8
	Excavators	3	8
	Concrete/Industrial Saws	2	8
Site Preparation	Rubber Tired Dozers	1	8
	Crawler Tractors	2	8
Grading	Graders	1	8
	Excavators	2	8
	Scrapers	1	8
	Rubber Tired Dozers	1	8

[3] As shown in the CalEEMod User's Guide Version 2022, Appendix G "Table G-11. Statewide Average Annual Offoad Equipment Emission Factors" as the analysis year increases, emission factors for the same equipment pieces decrease due to the natural turnover of older equipment being replaced by newer less polluting equipment and new regulatory requirements.

Construction Activity	Equipment	Amount	Hours Per Day
	Crawler Tractors	2	8
Building Construction	Forklifts	3	8
	Generator Sets	3	8
	Cranes	1	8
	Welders	4	8
	Tractors/Loaders/Backhoes	4	8
Paving	Pavers	1	8
	Paving Equipment	2	8
	Rollers	1	8
Architectural Coating	Air Compressors	3	8

3.5.3 CONSTRUCTION EMISSIONS SUMMARY

For construction phase Project emissions, GHGs are quantified and amortized over the life of the Project. To amortize the emissions over the life of the Project, the SCAQMD recommends calculating the total GHG emissions for the construction activities, dividing it by a 30-year Project life then adding that number to the annual operational phase GHG emissions (58). As such, construction emissions were amortized over a 30-year period and added to the annual operational phase GHG emissions. The amortized construction emissions are presented in Table 3-3.

TABLE 3-3: AMORTIZED ANNUAL CONSTRUCTION EMISSIONS

Year	Emissions (MT/yr)				
	CO_2	CH_4	N_2O	Refrigerants	Total CO_2e[4]
2026	336.83	0.02	0.04	0.20	348.07
2027	1,077.95	0.04	0.05	0.73	1,095.83
2028	1,046.83	0.03	0.04	0.73	1,060.60
2029	1,091.17	0.03	0.04	0.67	1,105.01
Total GHG Emissions	3,552.78	0.12	0.17	2.34	3,609.51
Amortized Construction Emissions	**118.43**	**0.00**	**0.01**	**0.08**	**120.32**

Source: CalEEMod annual construction-source emissions are presented in Appendix 3.1.

3.6 OPERATIONAL EMISSIONS

Operational activities associated with the Project would result in emissions of CO_2, CH_4, N_2O, and Refrigerant emissions from the following primary sources:

[4] CalEEMod reports the most common GHGs emitted which include CO_2, CH_4, and N_2O. These GHGs are then converted into the CO_2e by multiplying the individual GHG by the GWP.

- Area Source Emissions
- Energy Source Emissions
- Mobile Source Emissions
- Water Supply, Treatment, and Distribution
- Solid Waste
- Refrigerants

3.6.1 AREA SOURCE EMISSIONS

LANDSCAPE MAINTENANCE EQUIPMENT

Landscape maintenance equipment would generate emissions from fuel combustion and evaporation of unburned fuel. Equipment in this category would include lawnmowers, shedders/grinders, blowers, trimmers, chain saws, and hedge trimmers used to maintain the landscaping of the Project. It should be noted that on October 9, 2021, Governor Gavin Newsom signed AB 1346. The bill aims to ban the sale of new gasoline-powered equipment under 25 gross horsepower (known as small off-road engines [SOREs]) by 2024, which is now effective. For purposes of analysis, the emissions associated with landscape maintenance equipment were calculated based on assumptions provided in CalEEMod.

3.6.2 ENERGY SOURCE EMISSIONS

COMBUSTION EMISSIONS ASSOCIATED WITH NATURAL GAS AND ELECTRICITY

GHGs are emitted from buildings as a result of activities for which electricity and natural gas are typically used as energy sources. Combustion of any type of fuel emits CO_2 and other GHGs directly into the atmosphere; these emissions are considered direct emissions associated with a building; the building energy use emissions do not include street lighting.[5] GHGs are also emitted during the generation of electricity from fossil fuels; these emissions are considered to be indirect emissions. Electricity usage associated with the Project was calculated by CalEEMod using default parameters. Based on information provided by the Project Applicant, no natural gas would be used as a result of the Project, and as such use of natural gas is not considered in the analysis.

Based on PDF-1, Prior to issuance of certificate of occupancy for each building, developers/contractors shall require the installation of ENERGY STAR-certified appliances that exceed the energy efficiency of conventional appliances. By committing to more efficient appliances, the building's energy use is reduced, thereby reducing GHG emissions. The emissions presented in this report reflect the implementation of PDF-1, which was modeled using CalEEMod.

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[5] The CalEEMod emissions inventory model does not include indirect emission related to street lighting. Indirect emissions related to street lighting are expected to be negligible and cannot be accurately quantified at this time as there is insufficient information as to the number and type of street lighting that would occur.

3.6.3 MOBILE SOURCE EMISSIONS

The Project related GHG emissions derive primarily from vehicle trips generated by the Project, including employee trips to and from the site associated with the proposed uses. Trip characteristics available from the *Anaheim Hills Festival Specific Plan Amendment Traffic Analysis* were utilized in this analysis.

Per the *Anaheim Hills Festival Specific Plan Amendment Traffic Analysis*, the proposed Project is expected to generate approximately 1,624 total trips per day (59) [6].

3.6.4 WATER SUPPLY, TREATMENT, AND DISTRIBUTION

Indirect GHG emissions result from the production of electricity used to convey, treat, and distribute water and wastewater. The amount of electricity required to convey, treat, and distribute water depends on the volume of water as well as the sources of the water. Based on information provided by the Project Applicant, the anticipated water demand would be 52,724,250 gallons per year.

3.6.5 SOLID WASTE

The proposed land uses would result in the generation and disposal of solid waste. A percentage of this waste would be diverted from landfills by a variety of means, such as reducing the amount of waste generated, recycling, and/or composting. The remainder of the waste not diverted would be disposed of at a landfill. GHG emissions from landfills are associated with the anaerobic breakdown of material. GHG emissions associated with the disposal of solid waste associated with the proposed Project were calculated by CalEEMod using default parameters.

3.6.6 REFRIGERANTS

Air conditioning (A/C) and refrigeration equipment associated with the buildings are anticipated to generate GHG emissions. CalEEMod automatically generates a default A/C and refrigeration equipment inventory for each project land use subtype based on industry data from the USEPA (2016b). CalEEMod quantifies refrigerant emissions from leaks during regular operation and routine servicing over the equipment lifetime and then derives average annual emissions from the lifetime estimate. Note that CalEEMod does not quantify emissions from the disposal of refrigeration and A/C equipment at the end of its lifetime. Per 17 CCR 95371, new facilities with refrigeration equipment containing more than 50 pounds of refrigerant are prohibited from utilizing refrigerants with a GWP of 150 or greater as of January 1, 2022. Additionally, beginning January 1, 2025, all new air conditioning equipment may not use refrigerants with a GWP of 750 or greater. GHG emissions associated with refrigerants were calculated by CalEEMod using default parameters.

[6] The analysis uses the traffic data provided in the Traffic Analysis. Based on the Traffic Analysis, the Project would generate a total of 1,624 daily trips which were calculated using the ITE Land Use Code 221 weekday rate. It should be noted that, CalEEMod includes trips for Saturday and Sunday activities. For purposes of analysis and consistent with the Traffic Analysis, the trip rates for these days were derived from ITE Land Use Code 221.

3.6.7 EMISSIONS SUMMARY

The estimated Project-related GHG emissions are summarized in Table 3-4. Detailed operation model outputs for the Project are presented in Appendix 3.1. As shown in Table 3-4, construction and operation of the Project would generate approximately 2,885.77 $MTCO_2e$/yr, after incorporating PDF-1.

TABLE 3-4: PROJECT GHG EMISSIONS

Emission Source	Emissions (MT/yr)				
	CO_2	CH_4	N_2O	Refrigerants	Total CO_2e
Annual construction-related emissions amortized over 30 years	118.43	4.11E-03	5.74E-03	7.78E-02	120.32
Mobile Source	2145.62	0.09	0.08	2.42	2174.76
Area Source	114.42	0.00	0.00	0.00	114.56
Energy Source	250.97	0.00	0.00	0.00	251.23
Water Usage	66.21	1.72	0.04	0.00	121.28
Waste	29.49	2.95	0.00	0.00	103.18
Refrigerants	0.00	0.00	0.00	0.45	0.45
Total CO_2e (All Sources)	**2,885.77**				

Source: CalEEMod output, See Appendix 3.1 for detailed model outputs.

3.7 GHG EMISSIONS FINDINGS AND RECOMMENDATIONS

3.7.1 GHG IMPACT 1

Potential to generate direct or indirect GHG emissions that would result in a significant impact on the environment.

The City of Anaheim has not adopted its own numeric threshold of significance for determining impacts with respect to GHG emissions. A screening threshold of 3,000 $MTCO_2e$/yr to determine if additional analysis is required is an acceptable approach for small projects. This approach is a widely accepted screening threshold used by the City of Anaheim and numerous cities in the SCAB and is based on the SCAQMD staff's proposed GHG screening threshold for stationary source emissions for non-industrial projects, as described in the SCAQMD's *Interim CEQA GHG Significance Threshold for Stationary Sources, Rules and Plans* ("SCAQMD Interim GHG Threshold"). The SCAQMD Interim GHG Threshold identifies a screening threshold to determine whether additional analysis is required (52).

As shown on Table 3-4, the Project will result in approximately 2,885.77 $MTCO_2$/yr; the proposed Project would not exceed the SCAQMD's recommended numeric of 3,000 $MTCO_2e$/yr if it were applied. Thus, the Project would result in a less than significant impact with respect to GHG emissions and no mitigation is required.

3.7.2 GHG IMPACT 2

Would the Project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs?

As previously stated, pursuant to Section 15604.4 of the *CEQA Guidelines*, a lead agency may rely on qualitative analysis or performance-based standards to determine the significance of impacts from GHG emissions (44). As such, the Project's consistency with the 2022 Scoping Plan is discussed below. It should be noted that the Project's consistency with the 2022 Scoping Plan also satisfies consistency with AB 32 since the 2022 Scoping Plan is based on the overall targets established by AB 32 and SB 32. Consistency with the 2008 and 2017 Scoping Plan is not necessary since both of these plans have been superseded by the 2022 Scoping Plan. For reasons outlined herein, the proposed Project would result in a less than significant impact with respect to GHG emissions for GHG Impact #2.

SCAG 2024 CONNECT SOCAL CONSISTENCY

Given that the Project proposes to develop 447 multifamily residential dwelling units, it is anticipated to experience population growth according to both existing General Plan policies and SCAG forecasts. The Project would modify the existing land use for the Project site to accommodate residential uses. The California Department of Finance reports the City's estimated population was 328,580 as of January 1, 2023, with an estimated 3.02 persons per household. The Project proposes the development of a 447 DU multiple-family rental residential community. Assuming 3.02 persons per household and 447 DU, the Project would generate a population increase of approximately 1,350 persons, which represents a nominal population growth (approximately 0.40%) over the City's existing population of 328,580 persons. Therefore, would not result in long-term operational employment growth that exceeds planned growth projections in the RTP/SCS, or result in employment growth that would substantially add to traffic congestion.

2022 SCOPING PLAN CONSISTENCY

Included in the 2022 Scoping Plan is a set of Local Actions (Appendix D to the 2022 Scoping Plan) aimed at providing local jurisdictions with tools to reduce GHGs and assist the state in meeting the ambitious targets set forth in the 2022 Scoping Plan. Appendix D to the 2022 Scoping Plan includes a section on evaluating plan-level and project-level alignment with the State's Climate Goals in CEQA GHG analyses. In this section, CARB identifies several recommendations and strategies that should be considered for new development in order to determine consistency with the 2022 Scoping Plan. Notably, this section is focused on Residential and Mixed-Use Projects, in fact CARB states in Appendix D (page 4): "…focuses primarily on climate action plans (CAPs) and local authority over new residential development. It does not address other land use types (e.g., industrial) or air permitting."

The 2022 Scoping Plan lays out a framework to determine Project-level consistency when there is not a CEQA-qualified CAP available to tier off of. CARB recommends that the first approach for determining whether a proposed residential or mixed-use residential development would align with the State's climate goals is to examine whether the project includes key project attributes that reduce operational GHG emissions while simultaneously advancing fair housing. The 2022 Scoping Plan goes on to note that Projects that can demonstrate consistency with the priority areas identified on Table 3 *Key Residential and Mixed-Use Project Attributes that Reduce GHGs* from the 2022 Scoping Plan would be aligned with the State's priority GHG reduction strategies and would be deemed consistent with the Scoping Plan. As such, these Projects are considered to be consistent with the Scoping Plan or other plans, policies, or regulations adopted for the purposes of reducing GHGs; therefore, the GHG emissions associated with such projects would result in a less-than-significant GHG impact under CEQA.

The Project's consistency with the *Key Residential and Mixed-Use Project Attributes that Reduce GHGs* is summarized on Table 3-5.

TABLE 3-5: PROJECT CONSISTENCY WITH 2022 SCOPING PLAN KEY RESIDENTIAL AND MIXED-USE PROJECT ATTRIBUTES THAT REDUCE GHGS

Priority Areas	Key Project Attribute	Consistency Analysis
Transportation Electrification	Provides EV charging infrastructure that, at minimum, meets the most ambitious voluntary standard in the California Green Building Standards Code at the time of project approval	**Consistent.** The Project would include EV charging infrastructure that, at minimum, would equal the Tier 2 Residential and Nonresidential Voluntary Measures of the California Green Building Standards Code, Section A5.106.5.3.2 Therefore, the Project is consistent with this attribute.
VMT Reduction	Is located on infill sites that are surrounded by existing urban uses and reuses or redevelops previously undeveloped or underutilized land that is presently served by existing utilities and essential public services (e.g., transit, streets, water, sewer)	**Consistent.** The Project proposes to demolish the existing 62,676 square foot vacant cinema and develop in its place 447 multifamily residential dwelling units while retaining the remaining existing commercial uses within the new DA 5. Approximately 13,310 square feet of existing retail would be retained in DA 2 as a result of the new DA 5 (resulting in a net reduction of 49,366 square feet of retail space). The retail within DA 5 will include the following existing uses: 9,200 square feet of office use, 38,160 square feet of fitness/gym use, and 13,276 square feet of retail space. The Project would be developed on an infill site that is well served by existing infrastructure and public services. Therefore, the Project is consistent with this attribute.
	Does not result in the loss or conversion of natural and working lands	**Consistent.** The Project site is currently developed with an 62,676 square foot vacant cinema. The Project would not result in the loss or conversion of natural and working lands. Therefore, the Project is consistent with this attribute.

	Consists of transit-supportive densities (minimum of 20 residential dwelling units per acre), or Is in proximity to existing transit stops (within a half mile), or Satisfies more detailed and stringent criteria specified in the region's SCS	**Consistent.** The overall density for the Project would be 30.2 dwelling units per acre. Therefore, the Project is consistent with this attribute.
	Reduces parking requirements by: Eliminating parking requirements or including maximum allowable parking ratios (i.e., the ratio of parking spaces to residential units or square feet); or Providing residential parking supply at a ratio of less than one parking space per dwelling unit; or For multifamily residential development, requiring parking costs to be unbundled from costs to rent or own a residential unit.	**Consistent.** Although the Project does not specifically reduce parking requirements, the Project proposes to provide parking limited to 893 parking spaces, which is 70 parking spaces below the 963 parking spaces required by the City. As discussed in the VMT Analysis, the Project would reduce its project-generated VMT by 1.0% or 567 VMT. As such, the Project would not conflict with VMT reductions consistent with the 2022 Scoping Plan. In accordance with Civil Code Section 1947.1, the parking for the apartment units will be unbundled from the unit rent.
	At least 20 percent of units included are affordable to lower-income residents	**Consistent.** Although the Project does not include 20 percent affordable or low-income units, the VMT analysis found the Project's cumulative effect on VMT to not increase in the baseline or cumulative conditions. The Project's cumulative effect on VMT is considered to be less than significant. As such, the Project would not conflict with VMT reductions consistent with the 2022 Scoping Plan.
	Results in no net loss of existing	**Consistent.** There are no existing

	affordable units	affordable units on the Project site. The Project site is currently developed with a 62,676 square foot vacant cinema. The Project would not result in a net loss of existing affordable units. Therefore, the Project is consistent with this attribute.
Building Decarbonization	Uses all-electric appliances without any natural gas connections and does not use propane or other fossil fuels for space heating, water heating, or indoor cooking	**Consistent.** No natural gas would be used as part of the proposed residential units. The residential units would use all-electric appliances without any natural gas connections and would not include the use of propane or other fossils fuels for space heating, water heating, or indoor cooking consistent with Title 24 requirements. Therefore, the Project is consistent with this attribute.

As demonstrated on Table 3-7, the Project would be consistent with the 2022 Scoping Plan's key residential and mixed-use project attributes to reduce GHGs. As such, the Project would not impede the State's progress towards carbon neutrality by 2045 under the 2022 Scoping Plan. The Project would be required to comply with applicable current and future regulatory requirements promulgated through the 2022 Scoping Plan.

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5 CERTIFICATIONS

The contents of this GHG study report represent an accurate depiction of the GHG impacts associated with the proposed Anaheim Hills Festival Specific Plan Amendment Project. The information contained in this GHG report is based on the best available data at the time of preparation. If you have any questions, please contact me directly at hqureshi@urbanxroads.com.

Haseeb Qureshi
Principal
URBAN CROSSROADS, INC.
hqureshi@urbanxroads.com

EDUCATION

Master of Science in Environmental Studies
California State University, Fullerton • May 2010

Bachelor of Arts in Environmental Analysis and Design
University of California, Irvine • June, 2006

PROFESSIONAL AFFILIATIONS

AEP – Association of Environmental Professionals
AWMA – Air and Waste Management Association
ASTM – American Society for Testing and Materials

PROFESSIONAL CERTIFICATIONS

Planned Communities and Urban Infill – Urban Land Institute • June 2011
Indoor Air Quality and Industrial Hygiene – EMSL Analytical • April 2008
Principles of Ambient Air Monitoring – California Air Resources Board • August 2007
AB2588 Regulatory Standards – Trinity Consultants • November 2006
Air Dispersion Modeling – Lakes Environmental • June 2006

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APPENDIX 3.1:

CALEEMOD PROJECT EMISSIONS MODEL OUTPUTS

15699 - Anaheim Hills Festival SPA (Apartments) Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	15699 - Anaheim Hills Festival SPA (Apartments)
Construction Start Date	9/1/2026
Operational Year	2029
Lead Agency	—
Land Use Scale	Plan/community
Analysis Level for Defaults	County
Windspeed (m/s)	2.60
Precipitation (days)	21.0
Location	33.86508251537006, -117.75196363842772
County	Orange
City	Anaheim
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	5794
EDFZ	7
Electric Utility	City of Anaheim Public Utilities Department
Gas Utility	Southern California Gas
App Version	2022.1.1.22

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

Apartments Mid Rise	447	Dwelling Unit	8.84	424,144	93,027	—	1,332	—
Parking Lot	1,088	Space	7.36	0.00	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Energy	E-2	Require Energy Efficient Appliances

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.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.05	28.6	35.0	43.7	0.11	1.10	16.6	17.6	1.02	2.90	3.84	—	14,650	14,650	0.97	1.74	22.6	15,215
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.43	29.4	35.5	48.6	0.11	1.10	16.6	17.6	1.02	2.90	3.84	—	14,643	14,643	0.96	1.74	0.59	15,186
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.49	9.62	15.1	27.4	0.04	0.49	3.35	3.70	0.45	0.81	1.26	—	6,591	6,591	0.24	0.33	4.43	6,674
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.45	1.76	2.76	5.01	0.01	0.09	0.61	0.67	0.08	0.15	0.23	—	1,091	1,091	0.04	0.05	0.73	1,105

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	4.05	2.68	35.0	27.4	0.11	1.02	16.6	17.6	0.95	2.90	3.84	—	14,650	14,650	0.97	1.74	22.6	15,215
2027	3.54	2.83	27.7	38.4	0.08	1.10	4.54	5.09	1.02	1.36	2.37	—	9,692	9,692	0.55	0.79	15.9	9,953
2028	3.30	2.72	17.9	37.4	0.05	0.49	4.54	5.03	0.45	1.08	1.53	—	8,970	8,970	0.25	0.22	14.3	9,055
2029	3.90	28.6	20.7	43.7	0.05	0.50	5.38	5.88	0.46	1.28	1.74	—	10,200	10,200	0.28	0.22	14.8	10,288
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	4.04	2.67	35.5	27.4	0.11	1.02	16.6	17.6	0.95	2.90	3.84	—	14,643	14,643	0.96	1.74	0.59	15,186
2027	3.53	2.82	27.9	36.2	0.08	1.10	4.54	5.09	1.02	1.36	2.37	—	9,683	9,683	0.55	0.79	0.41	9,934
2028	3.29	2.72	18.0	35.3	0.05	0.49	4.54	5.03	0.45	1.08	1.53	—	8,776	8,776	0.26	0.35	0.37	8,886
2029	4.43	29.4	25.0	48.6	0.06	0.65	5.51	6.17	0.60	1.31	1.91	—	11,141	11,141	0.33	0.39	0.39	11,268
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.70	0.50	5.89	4.79	0.02	0.21	2.25	2.45	0.19	0.46	0.65	—	2,034	2,034	0.13	0.21	1.20	2,102
2027	2.46	1.99	15.1	24.4	0.04	0.49	3.09	3.58	0.45	0.81	1.26	—	6,511	6,511	0.24	0.33	4.43	6,619
2028	2.36	1.95	12.9	25.7	0.03	0.35	3.21	3.56	0.33	0.76	1.09	—	6,323	6,323	0.19	0.25	4.42	6,406
2029	2.49	9.62	13.7	27.4	0.04	0.35	3.35	3.70	0.32	0.79	1.12	—	6,591	6,591	0.19	0.25	4.06	6,674
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.13	0.09	1.08	0.87	< 0.005	0.04	0.41	0.45	0.03	0.08	0.12	—	337	337	0.02	0.04	0.20	348
2027	0.45	0.36	2.76	4.44	0.01	0.09	0.56	0.65	0.08	0.15	0.23	—	1,078	1,078	0.04	0.05	0.73	1,096
2028	0.43	0.36	2.36	4.69	0.01	0.06	0.59	0.65	0.06	0.14	0.20	—	1,047	1,047	0.03	0.04	0.73	1,061
2029	0.45	1.76	2.50	5.01	0.01	0.06	0.61	0.67	0.06	0.14	0.20	—	1,091	1,091	0.03	0.04	0.67	1,105

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	4.05	2.68	35.0	27.4	0.11	1.02	16.6	17.6	0.95	2.90	3.84	—	14,650	14,650	0.97	1.74	22.6	15,215
2027	3.54	2.83	27.7	38.4	0.08	1.10	4.54	5.09	1.02	1.36	2.37	—	9,692	9,692	0.55	0.79	15.9	9,953
2028	3.30	2.72	17.9	37.4	0.05	0.49	4.54	5.03	0.45	1.08	1.53	—	8,970	8,970	0.25	0.22	14.3	9,055
2029	3.90	28.6	20.7	43.7	0.05	0.50	5.38	5.88	0.46	1.28	1.74	—	10,200	10,200	0.28	0.22	14.8	10,288
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	4.04	2.67	35.5	27.4	0.11	1.02	16.6	17.6	0.95	2.90	3.84	—	14,643	14,643	0.96	1.74	0.59	15,186
2027	3.53	2.82	27.9	36.2	0.08	1.10	4.54	5.09	1.02	1.36	2.37	—	9,683	9,683	0.55	0.79	0.41	9,934
2028	3.29	2.72	18.0	35.3	0.05	0.49	4.54	5.03	0.45	1.08	1.53	—	8,776	8,776	0.26	0.35	0.37	8,886
2029	4.43	29.4	25.0	48.6	0.06	0.65	5.51	6.17	0.60	1.31	1.91	—	11,141	11,141	0.33	0.39	0.39	11,268
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.70	0.50	5.89	4.79	0.02	0.21	2.25	2.45	0.19	0.46	0.65	—	2,034	2,034	0.13	0.21	1.20	2,102
2027	2.46	1.99	15.1	24.4	0.04	0.49	3.09	3.58	0.45	0.81	1.26	—	6,511	6,511	0.24	0.33	4.43	6,619
2028	2.36	1.95	12.9	25.7	0.03	0.35	3.21	3.56	0.33	0.76	1.09	—	6,323	6,323	0.19	0.25	4.42	6,406
2029	2.49	9.62	13.7	27.4	0.04	0.35	3.35	3.70	0.32	0.79	1.12	—	6,591	6,591	0.19	0.25	4.06	6,674
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.13	0.09	1.08	0.87	< 0.005	0.04	0.41	0.45	0.03	0.08	0.12	—	337	337	0.02	0.04	0.20	348
2027	0.45	0.36	2.76	4.44	0.01	0.09	0.56	0.65	0.08	0.15	0.23	—	1,078	1,078	0.04	0.05	0.73	1,096
2028	0.43	0.36	2.36	4.69	0.01	0.06	0.59	0.65	0.06	0.14	0.20	—	1,047	1,047	0.03	0.04	0.73	1,061
2029	0.45	1.76	2.50	5.01	0.01	0.06	0.61	0.67	0.06	0.14	0.20	—	1,091	1,091	0.03	0.04	0.67	1,105

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.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	8.59	17.3	11.4	75.8	0.18	0.68	13.6	14.2	0.68	3.44	4.12	279	25,136	25,415	28.9	0.76	37.6	26,401
Mit.	8.59	17.3	11.4	75.8	0.18	0.68	13.6	14.2	0.68	3.44	4.12	279	25,053	25,332	28.9	0.76	37.6	26,318
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	< 0.5%	< 0.5%	< 0.5%	—	—	< 0.5%
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	6.23	15.1	11.5	46.5	0.18	0.67	13.6	14.2	0.67	3.44	4.11	279	24,538	24,818	28.9	0.78	3.62	25,776
Mit.	6.23	15.1	11.5	46.5	0.18	0.67	13.6	14.2	0.67	3.44	4.11	279	24,456	24,735	28.9	0.78	3.62	25,694
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	< 0.5%	< 0.5%	< 0.5%	—	—	< 0.5%
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	6.82	16.0	4.68	60.8	0.13	0.12	13.0	13.1	0.11	3.29	3.40	279	15,548	15,827	28.7	0.75	17.3	16,786
Mit.	6.82	16.0	4.68	60.8	0.13	0.12	13.0	13.1	0.11	3.29	3.40	279	15,466	15,745	28.7	0.75	17.3	16,704
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	1%	1%	< 0.5%	—	—	< 0.5%
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.24	2.92	0.85	11.1	0.02	0.02	2.37	2.39	0.02	0.60	0.62	46.2	2,574	2,620	4.76	0.12	2.86	2,779
Mit.	1.24	2.92	0.85	11.1	0.02	0.02	2.37	2.39	0.02	0.60	0.62	46.2	2,560	2,607	4.76	0.12	2.86	2,765
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	1%	1%	< 0.5%	< 0.5%	—	< 0.5%

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	5.39	4.85	3.77	47.2	0.13	0.07	13.6	13.6	0.07	3.44	3.51	—	13,759	13,759	0.53	0.49	34.9	13,953
Area	3.19	12.5	7.65	28.6	0.05	0.61	—	0.61	0.61	—	0.61	0.00	9,480	9,480	0.18	0.02	—	9,490
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	1,598	1,598	0.03	< 0.005	—	1,600
Water	—	—	—	—	—	—	—	—	—	—	—	101	299	400	10.4	0.25	—	733
Waste	—	—	—	—	—	—	—	—	—	—	—	178	0.00	178	17.8	0.00	—	623
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.72	2.72
Total	8.59	17.3	11.4	75.8	0.18	0.68	13.6	14.2	0.68	3.44	4.12	279	25,136	25,415	28.9	0.76	37.6	26,401
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	5.36	4.81	4.10	43.4	0.13	0.07	13.6	13.6	0.07	3.44	3.51	—	13,229	13,229	0.54	0.51	0.90	13,396
Area	0.87	10.3	7.41	3.16	0.05	0.60	—	0.60	0.60	—	0.60	0.00	9,412	9,412	0.18	0.02	—	9,422
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	1,598	1,598	0.03	< 0.005	—	1,600
Water	—	—	—	—	—	—	—	—	—	—	—	101	299	400	10.4	0.25	—	733
Waste	—	—	—	—	—	—	—	—	—	—	—	178	0.00	178	17.8	0.00	—	623
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.72	2.72
Total	6.23	15.1	11.5	46.5	0.18	0.67	13.6	14.2	0.67	3.44	4.11	279	24,538	24,818	28.9	0.78	3.62	25,776
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	5.16	4.63	4.01	43.2	0.13	0.07	13.0	13.0	0.07	3.29	3.36	—	12,960	12,960	0.52	0.50	14.6	13,136
Area	1.65	11.4	0.67	17.6	< 0.005	0.05	—	0.05	0.05	—	0.05	0.00	691	691	0.01	< 0.005	—	692
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	1,598	1,598	0.03	< 0.005	—	1,600
Water	—	—	—	—	—	—	—	—	—	—	—	101	299	400	10.4	0.25	—	733
Waste	—	—	—	—	—	—	—	—	—	—	—	178	0.00	178	17.8	0.00	—	623

Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.72	2.72
Total	6.82	16.0	4.68	60.8	0.13	0.12	13.0	13.1	0.11	3.29	3.40	279	15,548	15,827	28.7	0.75	17.3	16,786
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.94	0.85	0.73	7.88	0.02	0.01	2.37	2.38	0.01	0.60	0.61	—	2,146	2,146	0.09	0.08	2.42	2,175
Area	0.30	2.08	0.12	3.22	< 0.005	0.01	—	0.01	0.01	—	0.01	0.00	114	114	< 0.005	< 0.005	—	115
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	265	265	< 0.005	< 0.005	—	265
Water	—	—	—	—	—	—	—	—	—	—	—	16.7	49.5	66.2	1.72	0.04	—	121
Waste	—	—	—	—	—	—	—	—	—	—	—	29.5	0.00	29.5	2.95	0.00	—	103
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.45	0.45
Total	1.24	2.92	0.85	11.1	0.02	0.02	2.37	2.39	0.02	0.60	0.62	46.2	2,574	2,620	4.76	0.12	2.86	2,779

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	5.39	4.85	3.77	47.2	0.13	0.07	13.6	13.6	0.07	3.44	3.51	—	13,759	13,759	0.53	0.49	34.9	13,953
Area	3.19	12.5	7.65	28.6	0.05	0.61	—	0.61	0.61	—	0.61	0.00	9,480	9,480	0.18	0.02	—	9,490
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	1,516	1,516	0.03	< 0.005	—	1,517
Water	—	—	—	—	—	—	—	—	—	—	—	101	299	400	10.4	0.25	—	733
Waste	—	—	—	—	—	—	—	—	—	—	—	178	0.00	178	17.8	0.00	—	623
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.72	2.72
Total	8.59	17.3	11.4	75.8	0.18	0.68	13.6	14.2	0.68	3.44	4.12	279	25,053	25,332	28.9	0.76	37.6	26,318
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	5.36	4.81	4.10	43.4	0.13	0.07	13.6	13.6	0.07	3.44	3.51	—	13,229	13,229	0.54	0.51	0.90	13,396
Area	0.87	10.3	7.41	3.16	0.05	0.60	—	0.60	0.60	—	0.60	0.00	9,412	9,412	0.18	0.02	—	9,422

Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	1,516	1,516	0.03	< 0.005	—	1,517
Water	—	—	—	—	—	—	—	—	—	—	—	101	299	400	10.4	0.25	—	733
Waste	—	—	—	—	—	—	—	—	—	—	—	178	0.00	178	17.8	0.00	—	623
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.72	2.72
Total	6.23	15.1	11.5	46.5	0.18	0.67	13.6	14.2	0.67	3.44	4.11	279	24,456	24,735	28.9	0.78	3.62	25,694
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	5.16	4.63	4.01	43.2	0.13	0.07	13.0	13.0	0.07	3.29	3.36	—	12,960	12,960	0.52	0.50	14.6	13,136
Area	1.65	11.4	0.67	17.6	< 0.005	0.05	—	0.05	0.05	—	0.05	0.00	691	691	0.01	< 0.005	—	692
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	1,516	1,516	0.03	< 0.005	—	1,517
Water	—	—	—	—	—	—	—	—	—	—	—	101	299	400	10.4	0.25	—	733
Waste	—	—	—	—	—	—	—	—	—	—	—	178	0.00	178	17.8	0.00	—	623
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.72	2.72
Total	6.82	16.0	4.68	60.8	0.13	0.12	13.0	13.1	0.11	3.29	3.40	279	15,466	15,745	28.7	0.75	17.3	16,704
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.94	0.85	0.73	7.88	0.02	0.01	2.37	2.38	0.01	0.60	0.61	—	2,146	2,146	0.09	0.08	2.42	2,175
Area	0.30	2.08	0.12	3.22	< 0.005	0.01	—	0.01	0.01	—	0.01	0.00	114	114	< 0.005	< 0.005	—	115
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	251	251	< 0.005	< 0.005	—	251
Water	—	—	—	—	—	—	—	—	—	—	—	16.7	49.5	66.2	1.72	0.04	—	121
Waste	—	—	—	—	—	—	—	—	—	—	—	29.5	0.00	29.5	2.95	0.00	—	103
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.45	0.45
Total	1.24	2.92	0.85	11.1	0.02	0.02	2.37	2.39	0.02	0.60	0.62	46.2	2,560	2,607	4.76	0.12	2.86	2,765

3. Construction Emissions Details

3.1. Demolition (2026) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.94	2.46	22.1	20.8	0.04	0.88	—	0.88	0.81	—	0.81	—	3,671	3,671	0.15	0.03	—	3,683
Demolition	—	—	—	—	—	—	13.5	13.5	—	2.05	2.05	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.94	2.46	22.1	20.8	0.04	0.88	—	0.88	0.81	—	0.81	—	3,671	3,671	0.15	0.03	—	3,683
Demolition	—	—	—	—	—	—	13.5	13.5	—	2.05	2.05	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.35	0.30	2.67	2.51	< 0.005	0.11	—	0.11	0.10	—	0.10	—	442	442	0.02	< 0.005	—	444
Demolition	—	—	—	—	—	—	1.63	1.63	—	0.25	0.25	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	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	0.06	0.05	0.49	0.46	< 0.005	0.02	—	0.02	0.02	—	0.02	—	73.3	73.3	< 0.005	< 0.005	—	73.5
Demolition	—	—	—	—	—	—	0.30	0.30	—	0.05	0.05	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.05	0.92	0.00	0.00	0.23	0.23	0.00	0.05	0.05	—	228	228	< 0.005	0.01	0.79	231
Vendor	< 0.005	< 0.005	0.06	0.03	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	62.7	62.7	< 0.005	0.01	0.16	65.6
Hauling	1.05	0.16	12.8	5.65	0.07	0.14	2.82	2.96	0.14	0.79	0.93	—	10,689	10,689	0.81	1.69	21.6	11,235
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.06	0.80	0.00	0.00	0.23	0.23	0.00	0.05	0.05	—	217	217	< 0.005	0.01	0.02	219
Vendor	< 0.005	< 0.005	0.07	0.03	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	62.8	62.8	< 0.005	0.01	< 0.005	65.5
Hauling	1.04	0.15	13.2	5.69	0.07	0.14	2.82	2.96	0.14	0.79	0.93	—	10,692	10,692	0.81	1.69	0.56	11,217
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.10	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	26.5	26.5	< 0.005	< 0.005	0.04	26.8
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	7.56	7.56	< 0.005	< 0.005	0.01	7.90
Hauling	0.13	0.02	1.61	0.68	0.01	0.02	0.34	0.35	0.02	0.09	0.11	—	1,289	1,289	0.10	0.20	1.13	1,353
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.39	4.39	< 0.005	< 0.005	0.01	4.45
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.25	1.25	< 0.005	< 0.005	< 0.005	1.31
Hauling	0.02	< 0.005	0.29	0.12	< 0.005	< 0.005	0.06	0.06	< 0.005	0.02	0.02	—	213	213	0.02	0.03	0.19	224

3.2. Demolition (2026) - Mitigated

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

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.94	2.46	22.1	20.8	0.04	0.88	—	0.88	0.81	—	0.81	—	3,671	3,671	0.15	0.03	—	3,683
Demolition	—	—	—	—	—	—	13.5	13.5	—	2.05	2.05	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.94	2.46	22.1	20.8	0.04	0.88	—	0.88	0.81	—	0.81	—	3,671	3,671	0.15	0.03	—	3,683
Demolition	—	—	—	—	—	—	13.5	13.5	—	2.05	2.05	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.35	0.30	2.67	2.51	< 0.005	0.11	—	0.11	0.10	—	0.10	—	442	442	0.02	< 0.005	—	444
Demolition	—	—	—	—	—	—	1.63	1.63	—	0.25	0.25	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	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	0.06	0.05	0.49	0.46	< 0.005	0.02	—	0.02	0.02	—	0.02	—	73.3	73.3	< 0.005	< 0.005	—	73.5
Demolition	—	—	—	—	—	—	0.30	0.30	—	0.05	0.05	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.05	0.92	0.00	0.00	0.23	0.23	0.00	0.05	0.05	—	228	228	< 0.005	0.01	0.79	231
Vendor	< 0.005	< 0.005	0.06	0.03	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	62.7	62.7	< 0.005	0.01	0.16	65.6
Hauling	1.05	0.16	12.8	5.65	0.07	0.14	2.82	2.96	0.14	0.79	0.93	—	10,689	10,689	0.81	1.69	21.6	11,235
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.06	0.80	0.00	0.00	0.23	0.23	0.00	0.05	0.05	—	217	217	< 0.005	0.01	0.02	219
Vendor	< 0.005	< 0.005	0.07	0.03	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	62.8	62.8	< 0.005	0.01	< 0.005	65.5
Hauling	1.04	0.15	13.2	5.69	0.07	0.14	2.82	2.96	0.14	0.79	0.93	—	10,692	10,692	0.81	1.69	0.56	11,217
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.10	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	26.5	26.5	< 0.005	< 0.005	0.04	26.8
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	7.56	7.56	< 0.005	< 0.005	0.01	7.90
Hauling	0.13	0.02	1.61	0.68	0.01	0.02	0.34	0.35	0.02	0.09	0.11	—	1,289	1,289	0.10	0.20	1.13	1,353
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.39	4.39	< 0.005	< 0.005	0.01	4.45
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.25	1.25	< 0.005	< 0.005	< 0.005	1.31
Hauling	0.02	< 0.005	0.29	0.12	< 0.005	< 0.005	0.06	0.06	< 0.005	0.02	0.02	—	213	213	0.02	0.03	0.19	224

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

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.74	1.46	13.1	12.0	0.02	0.70	—	0.70	0.64	—	0.64	—	2,076	2,076	0.08	0.02	—	2,084
Dust From Material Movement	—	—	—	—	—	—	1.98	1.98	—	0.91	0.91	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.21	0.18	1.58	1.44	< 0.005	0.08	—	0.08	0.08	—	0.08	—	250	250	0.01	< 0.005	—	251
Dust From Material Movement	—	—	—	—	—	—	0.24	0.24	—	0.11	0.11	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.03	0.29	0.26	< 0.005	0.02	—	0.02	0.01	—	0.01	—	41.4	41.4	< 0.005	< 0.005	—	41.6
Dust From Material Movement	—	—	—	—	—	—	0.04	0.04	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.03	0.34	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	92.9	92.9	< 0.005	< 0.005	0.01	94.0
Vendor	< 0.005	< 0.005	0.07	0.03	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	62.8	62.8	< 0.005	0.01	< 0.005	65.5
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	11.4	11.4	< 0.005	< 0.005	0.02	11.5
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	7.56	7.56	< 0.005	< 0.005	0.01	7.90
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.88	1.88	< 0.005	< 0.005	< 0.005	1.91
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.25	1.25	< 0.005	< 0.005	< 0.005	1.31
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.4. 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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.74	1.46	13.1	12.0	0.02	0.70	—	0.70	0.64	—	0.64	—	2,076	2,076	0.08	0.02	—	2,084

Dust From Material Movement	—	—	—	—	—	—	1.98	1.98	—	0.91	0.91	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.21	0.18	1.58	1.44	< 0.005	0.08	—	0.08	0.08	—	0.08	—	250	250	0.01	< 0.005	—	251
Dust From Material Movement	—	—	—	—	—	—	0.24	0.24	—	0.11	0.11	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.03	0.29	0.26	< 0.005	0.02	—	0.02	0.01	—	0.01	—	41.4	41.4	< 0.005	< 0.005	—	41.6
Dust From Material Movement	—	—	—	—	—	—	0.04	0.04	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.03	0.34	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	92.9	92.9	< 0.005	< 0.005	0.01	94.0
Vendor	< 0.005	< 0.005	0.07	0.03	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	62.8	62.8	< 0.005	0.01	< 0.005	65.5
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	11.4	11.4	< 0.005	< 0.005	0.02	11.5
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	7.56	7.56	< 0.005	< 0.005	0.01	7.90
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.88	1.88	< 0.005	< 0.005	< 0.005	1.91
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.25	1.25	< 0.005	< 0.005	< 0.005	1.31
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Grading (2027) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.05	2.56	22.2	22.9	0.04	1.04	—	1.04	0.96	—	0.96	—	4,822	4,822	0.20	0.04	—	4,839
Dust From Material Movement	—	—	—	—	—	—	2.40	2.40	—	0.95	0.95	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	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	3.05	2.56	22.2	22.9	0.04	1.04	—	1.04	0.96	—	0.96	—	4,822	4,822	0.20	0.04	—	4,839

Dust From Material Movement	—	—	—	—	—	—	2.40	2.40	—	0.95	0.95	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	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	0.54	0.46	3.95	4.07	0.01	0.19	—	0.19	0.17	—	0.17	—	859	859	0.03	0.01	—	862
Dust From Material Movement	—	—	—	—	—	—	0.43	0.43	—	0.17	0.17	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	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	0.10	0.08	0.72	0.74	< 0.005	0.03	—	0.03	0.03	—	0.03	—	142	142	0.01	< 0.005	—	143
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	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.05	0.87	0.00	0.00	0.23	0.23	0.00	0.05	0.05	—	224	224	< 0.005	0.01	0.71	227
Vendor	0.01	< 0.005	0.12	0.06	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	123	123	0.01	0.02	0.29	129
Hauling	0.42	0.07	5.32	2.38	0.03	0.06	1.22	1.28	0.06	0.34	0.40	—	4,523	4,523	0.35	0.73	8.62	4,758
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.06	0.05	0.05	0.74	0.00	0.00	0.23	0.23	0.00	0.05	0.05	—	213	213	< 0.005	0.01	0.02	216
Vendor	0.01	< 0.005	0.13	0.06	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	123	123	0.01	0.02	0.01	128
Hauling	0.42	0.06	5.54	2.40	0.03	0.06	1.22	1.28	0.06	0.34	0.40	—	4,525	4,525	0.35	0.73	0.22	4,751
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.14	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	38.5	38.5	< 0.005	< 0.005	0.05	39.0
Vendor	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	21.9	21.9	< 0.005	< 0.005	0.02	22.9
Hauling	0.07	0.01	0.99	0.42	0.01	0.01	0.21	0.23	0.01	0.06	0.07	—	806	806	0.06	0.13	0.66	847
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	6.37	6.37	< 0.005	< 0.005	0.01	6.46
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.63	3.63	< 0.005	< 0.005	< 0.005	3.79
Hauling	0.01	< 0.005	0.18	0.08	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	133	133	0.01	0.02	0.11	140

3.6. Grading (2027) - Mitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.05	2.56	22.2	22.9	0.04	1.04	—	1.04	0.96	—	0.96	—	4,822	4,822	0.20	0.04	—	4,839
Dust From Material Movement	—	—	—	—	—	—	2.40	2.40	—	0.95	0.95	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	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	3.05	2.56	22.2	22.9	0.04	1.04	—	1.04	0.96	—	0.96	—	4,822	4,822	0.20	0.04	—	4,839
Dust From Material Movement	—	—	—	—	—	—	2.40	2.40	—	0.95	0.95	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	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	0.54	0.46	3.95	4.07	0.01	0.19	—	0.19	0.17	—	0.17	—	859	859	0.03	0.01	—	862
Dust From Material Movement	—	—	—	—	—	—	0.43	0.43	—	0.17	0.17	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	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	0.10	0.08	0.72	0.74	< 0.005	0.03	—	0.03	0.03	—	0.03	—	142	142	0.01	< 0.005	—	143
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	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.05	0.87	0.00	0.00	0.23	0.23	0.00	0.05	0.05	—	224	224	< 0.005	0.01	0.71	227
Vendor	0.01	< 0.005	0.12	0.06	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	123	123	0.01	0.02	0.29	129
Hauling	0.42	0.07	5.32	2.38	0.03	0.06	1.22	1.28	0.06	0.34	0.40	—	4,523	4,523	0.35	0.73	8.62	4,758

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.05	0.74	0.00	0.00	0.23	0.23	0.00	0.05	0.05	—	213	213	< 0.005	0.01	0.02	216
Vendor	0.01	< 0.005	0.13	0.06	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	123	123	0.01	0.02	0.01	128
Hauling	0.42	0.06	5.54	2.40	0.03	0.06	1.22	1.28	0.06	0.34	0.40	—	4,525	4,525	0.35	0.73	0.22	4,751
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.14	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	38.5	38.5	< 0.005	< 0.005	0.05	39.0
Vendor	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	21.9	21.9	< 0.005	< 0.005	0.02	22.9
Hauling	0.07	0.01	0.99	0.42	0.01	0.01	0.21	0.23	0.01	0.06	0.07	—	806	806	0.06	0.13	0.66	847
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	6.37	6.37	< 0.005	< 0.005	0.01	6.46
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.63	3.63	< 0.005	< 0.005	< 0.005	3.79
Hauling	0.01	< 0.005	0.18	0.08	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	133	133	0.01	0.02	0.11	140

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.26	1.88	16.5	21.9	0.04	0.54	—	0.54	0.50	—	0.50	—	3,750	3,750	0.15	0.03	—	3,763
Onsite truck	0.00	0.00	0.00	0.00	0.00	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	2.26	1.88	16.5	21.9	0.04	0.54	—	0.54	0.50	—	0.50	—	3,750	3,750	0.15	0.03	—	3,763
Onsite truck	0.00	0.00	0.00	0.00	0.00	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	1.21	1.01	8.86	11.7	0.02	0.29	—	0.29	0.27	—	0.27	—	2,011	2,011	0.08	0.02	—	2,018
Onsite truck	0.00	0.00	0.00	0.00	0.00	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	0.22	0.18	1.62	2.14	< 0.005	0.05	—	0.05	0.05	—	0.05	—	333	333	0.01	< 0.005	—	334
Onsite truck	0.00	0.00	0.00	0.00	0.00	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	1.07	0.92	0.96	15.9	0.00	0.00	4.21	4.21	0.00	0.99	0.99	—	4,120	4,120	0.04	0.15	13.1	4,180
Vendor	0.09	0.03	1.20	0.59	0.01	0.01	0.33	0.34	0.01	0.09	0.10	—	1,201	1,201	0.06	0.16	2.87	1,254
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.07	0.91	0.99	13.7	0.00	0.00	4.21	4.21	0.00	0.99	0.99	—	3,921	3,921	0.05	0.15	0.34	3,968
Vendor	0.09	0.02	1.25	0.61	0.01	0.01	0.33	0.34	0.01	0.09	0.10	—	1,201	1,201	0.06	0.16	0.07	1,252
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.57	0.49	0.60	7.65	0.00	0.00	2.23	2.23	0.00	0.52	0.52	—	2,131	2,131	0.03	0.08	3.03	2,159
Vendor	0.05	0.01	0.67	0.32	< 0.005	< 0.005	0.18	0.18	< 0.005	0.05	0.05	—	644	644	0.03	0.09	0.66	672

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.09	0.11	1.40	0.00	0.00	0.41	0.41	0.00	0.10	0.10	—	353	353	< 0.005	0.01	0.50	358
Vendor	0.01	< 0.005	0.12	0.06	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	107	107	0.01	0.01	0.11	111
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.26	1.88	16.5	21.9	0.04	0.54	—	0.54	0.50	—	0.50	—	3,750	3,750	0.15	0.03	—	3,763
Onsite truck	0.00	0.00	0.00	0.00	0.00	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	2.26	1.88	16.5	21.9	0.04	0.54	—	0.54	0.50	—	0.50	—	3,750	3,750	0.15	0.03	—	3,763
Onsite truck	0.00	0.00	0.00	0.00	0.00	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	1.21	1.01	8.86	11.7	0.02	0.29	—	0.29	0.27	—	0.27	—	2,011	2,011	0.08	0.02	—	2,018
Onsite truck	0.00	0.00	0.00	0.00	0.00	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	0.22	0.18	1.62	2.14	< 0.005	0.05	—	0.05	0.05	—	0.05	—	333	333	0.01	< 0.005	—	334
Onsite truck	0.00	0.00	0.00	0.00	0.00	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	1.07	0.92	0.96	15.9	0.00	0.00	4.21	4.21	0.00	0.99	0.99	—	4,120	4,120	0.04	0.15	13.1	4,180
Vendor	0.09	0.03	1.20	0.59	0.01	0.01	0.33	0.34	0.01	0.09	0.10	—	1,201	1,201	0.06	0.16	2.87	1,254
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.07	0.91	0.99	13.7	0.00	0.00	4.21	4.21	0.00	0.99	0.99	—	3,921	3,921	0.05	0.15	0.34	3,968
Vendor	0.09	0.02	1.25	0.61	0.01	0.01	0.33	0.34	0.01	0.09	0.10	—	1,201	1,201	0.06	0.16	0.07	1,252
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.57	0.49	0.60	7.65	0.00	0.00	2.23	2.23	0.00	0.52	0.52	—	2,131	2,131	0.03	0.08	3.03	2,159
Vendor	0.05	0.01	0.67	0.32	< 0.005	< 0.005	0.18	0.18	< 0.005	0.05	0.05	—	644	644	0.03	0.09	0.66	672
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.09	0.11	1.40	0.00	0.00	0.41	0.41	0.00	0.10	0.10	—	353	353	< 0.005	0.01	0.50	358
Vendor	0.01	< 0.005	0.12	0.06	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	107	107	0.01	0.01	0.11	111
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.17	1.81	15.9	21.8	0.04	0.48	—	0.48	0.45	—	0.45	—	3,751	3,751	0.15	0.03	—	3,763
Onsite truck	0.00	0.00	0.00	0.00	0.00	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	2.17	1.81	15.9	21.8	0.04	0.48	—	0.48	0.45	—	0.45	—	3,751	3,751	0.15	0.03	—	3,763
Onsite truck	0.00	0.00	0.00	0.00	0.00	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	1.56	1.30	11.4	15.6	0.03	0.35	—	0.35	0.32	—	0.32	—	2,686	2,686	0.11	0.02	—	2,696
Onsite truck	0.00	0.00	0.00	0.00	0.00	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	0.28	0.24	2.08	2.86	0.01	0.06	—	0.06	0.06	—	0.06	—	445	445	0.02	< 0.005	—	446
Onsite truck	0.00	0.00	0.00	0.00	0.00	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	1.04	0.89	0.83	15.0	0.00	0.00	4.21	4.21	0.00	0.99	0.99	—	4,047	4,047	0.04	0.02	11.7	4,066
Vendor	0.09	0.02	1.15	0.58	0.01	0.01	0.33	0.34	0.01	0.09	0.10	—	1,173	1,173	0.06	0.16	2.58	1,226
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.04	0.88	0.97	12.9	0.00	0.00	4.21	4.21	0.00	0.99	0.99	—	3,852	3,852	0.05	0.15	0.30	3,899
Vendor	0.08	0.02	1.20	0.59	0.01	0.01	0.33	0.34	0.01	0.09	0.10	—	1,173	1,173	0.06	0.16	0.07	1,224
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.75	0.64	0.70	9.66	0.00	0.00	2.97	2.97	0.00	0.70	0.70	—	2,796	2,796	0.04	0.11	3.62	2,833
Vendor	0.06	0.02	0.86	0.42	0.01	0.01	0.24	0.24	0.01	0.07	0.07	—	840	840	0.04	0.12	0.80	877
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.14	0.12	0.13	1.76	0.00	0.00	0.54	0.54	0.00	0.13	0.13	—	463	463	0.01	0.02	0.60	469
Vendor	0.01	< 0.005	0.16	0.08	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	139	139	0.01	0.02	0.13	145
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.17	1.81	15.9	21.8	0.04	0.48	—	0.48	0.45	—	0.45	—	3,751	3,751	0.15	0.03	—	3,763
Onsite truck	0.00	0.00	0.00	0.00	0.00	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	2.17	1.81	15.9	21.8	0.04	0.48	—	0.48	0.45	—	0.45	—	3,751	3,751	0.15	0.03	—	3,763
Onsite truck	0.00	0.00	0.00	0.00	0.00	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	1.56	1.30	11.4	15.6	0.03	0.35	—	0.35	0.32	—	0.32	—	2,686	2,686	0.11	0.02	—	2,696
Onsite truck	0.00	0.00	0.00	0.00	0.00	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	0.28	0.24	2.08	2.86	0.01	0.06	—	0.06	0.06	—	0.06	—	445	445	0.02	< 0.005	—	446
Onsite truck	0.00	0.00	0.00	0.00	0.00	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	1.04	0.89	0.83	15.0	0.00	0.00	4.21	4.21	0.00	0.99	0.99	—	4,047	4,047	0.04	0.02	11.7	4,066
Vendor	0.09	0.02	1.15	0.58	0.01	0.01	0.33	0.34	0.01	0.09	0.10	—	1,173	1,173	0.06	0.16	2.58	1,226
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.04	0.88	0.97	12.9	0.00	0.00	4.21	4.21	0.00	0.99	0.99	—	3,852	3,852	0.05	0.15	0.30	3,899
Vendor	0.08	0.02	1.20	0.59	0.01	0.01	0.33	0.34	0.01	0.09	0.10	—	1,173	1,173	0.06	0.16	0.07	1,224
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.75	0.64	0.70	9.66	0.00	0.00	2.97	2.97	0.00	0.70	0.70	—	2,796	2,796	0.04	0.11	3.62	2,833
Vendor	0.06	0.02	0.86	0.42	0.01	0.01	0.24	0.24	0.01	0.07	0.07	—	840	840	0.04	0.12	0.80	877

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.14	0.12	0.13	1.76	0.00	0.00	0.54	0.54	0.00	0.13	0.13	—	463	463	0.01	0.02	0.60	469
Vendor	0.01	< 0.005	0.16	0.08	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	139	139	0.01	0.02	0.13	145
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Building Construction (2029) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.11	1.76	15.4	21.8	0.04	0.44	—	0.44	0.41	—	0.41	—	3,750	3,750	0.15	0.03	—	3,763
Onsite truck	0.00	0.00	0.00	0.00	0.00	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	2.11	1.76	15.4	21.8	0.04	0.44	—	0.44	0.41	—	0.41	—	3,750	3,750	0.15	0.03	—	3,763
Onsite truck	0.00	0.00	0.00	0.00	0.00	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	1.45	1.21	10.6	15.0	0.03	0.30	—	0.30	0.28	—	0.28	—	2,576	2,576	0.10	0.02	—	2,584
Onsite truck	0.00	0.00	0.00	0.00	0.00	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	0.26	0.22	1.93	2.73	< 0.005	0.06	—	0.06	0.05	—	0.05	—	426	426	0.02	< 0.005	—	428
Onsite truck	0.00	0.00	0.00	0.00	0.00	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	1.01	0.86	0.82	14.1	0.00	0.00	4.21	4.21	0.00	0.99	0.99	—	3,979	3,979	0.04	0.02	10.4	3,996
Vendor	0.09	0.02	1.10	0.56	0.01	0.01	0.33	0.34	0.01	0.09	0.10	—	1,142	1,142	0.06	0.16	2.31	1,194
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.00	0.85	0.83	12.1	0.00	0.00	4.21	4.21	0.00	0.99	0.99	—	3,787	3,787	0.04	0.15	0.27	3,834
Vendor	0.08	0.02	1.15	0.57	0.01	0.01	0.33	0.34	0.01	0.09	0.10	—	1,142	1,142	0.06	0.16	0.06	1,193
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.68	0.58	0.57	8.73	0.00	0.00	2.85	2.85	0.00	0.67	0.67	—	2,637	2,637	0.03	0.10	3.08	2,672
Vendor	0.06	0.02	0.79	0.39	0.01	0.01	0.23	0.23	0.01	0.06	0.07	—	784	784	0.04	0.11	0.68	820
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.11	0.10	1.59	0.00	0.00	0.52	0.52	0.00	0.12	0.12	—	437	437	< 0.005	0.02	0.51	442
Vendor	0.01	< 0.005	0.14	0.07	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	130	130	0.01	0.02	0.11	136
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.12. Building Construction (2029) - Mitigated

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

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

Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.11	1.76	15.4	21.8	0.04	0.44	—	0.44	0.41	—	0.41	—	3,750	3,750	0.15	0.03	—	3,763
Onsite truck	0.00	0.00	0.00	0.00	0.00	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	2.11	1.76	15.4	21.8	0.04	0.44	—	0.44	0.41	—	0.41	—	3,750	3,750	0.15	0.03	—	3,763
Onsite truck	0.00	0.00	0.00	0.00	0.00	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	1.45	1.21	10.6	15.0	0.03	0.30	—	0.30	0.28	—	0.28	—	2,576	2,576	0.10	0.02	—	2,584
Onsite truck	0.00	0.00	0.00	0.00	0.00	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	0.26	0.22	1.93	2.73	< 0.005	0.06	—	0.06	0.05	—	0.05	—	426	426	0.02	< 0.005	—	428
Onsite truck	0.00	0.00	0.00	0.00	0.00	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	1.01	0.86	0.82	14.1	0.00	0.00	4.21	4.21	0.00	0.99	0.99	—	3,979	3,979	0.04	0.02	10.4	3,996
Vendor	0.09	0.02	1.10	0.56	0.01	0.01	0.33	0.34	0.01	0.09	0.10	—	1,142	1,142	0.06	0.16	2.31	1,194
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.00	0.85	0.83	12.1	0.00	0.00	4.21	4.21	0.00	0.99	0.99	—	3,787	3,787	0.04	0.15	0.27	3,834
Vendor	0.08	0.02	1.15	0.57	0.01	0.01	0.33	0.34	0.01	0.09	0.10	—	1,142	1,142	0.06	0.16	0.06	1,193
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.68	0.58	0.57	8.73	0.00	0.00	2.85	2.85	0.00	0.67	0.67	—	2,637	2,637	0.03	0.10	3.08	2,672
Vendor	0.06	0.02	0.79	0.39	0.01	0.01	0.23	0.23	0.01	0.06	0.07	—	784	784	0.04	0.11	0.68	820
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.11	0.10	1.59	0.00	0.00	0.52	0.52	0.00	0.12	0.12	—	437	437	< 0.005	0.02	0.51	442
Vendor	0.01	< 0.005	0.14	0.07	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	130	130	0.01	0.02	0.11	136
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.13. Paving (2029) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.51	0.43	4.27	6.87	0.01	0.15	—	0.15	0.14	—	0.14	—	1,053	1,053	0.04	0.01	—	1,057
Paving	—	0.30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	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	0.09	0.08	0.76	1.22	< 0.005	0.03	—	0.03	0.02	—	0.02	—	188	188	0.01	< 0.005	—	188
Paving	—	0.05	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.14	0.22	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	31.1	31.1	< 0.005	< 0.005	—	31.2
Paving	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.03	0.38	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	118	118	< 0.005	< 0.005	0.01	119
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	< 0.005	< 0.005	0.07	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	21.2	21.2	< 0.005	< 0.005	0.02	21.5
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	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.52	3.52	< 0.005	< 0.005	< 0.005	3.56

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.14. Paving (2029) - Mitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.51	0.43	4.27	6.87	0.01	0.15	—	0.15	0.14	—	0.14	—	1,053	1,053	0.04	0.01	—	1,057
Paving	—	0.30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	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	0.09	0.08	0.76	1.22	< 0.005	0.03	—	0.03	0.02	—	0.02	—	188	188	0.01	< 0.005	—	188
Paving	—	0.05	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.14	0.22	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	31.1	31.1	< 0.005	< 0.005	—	31.2
Paving	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.03	0.38	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	118	118	< 0.005	< 0.005	0.01	119
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	< 0.005	< 0.005	0.07	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	21.2	21.2	< 0.005	< 0.005	0.02	21.5
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	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.52	3.52	< 0.005	< 0.005	< 0.005	3.56
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.15. Architectural Coating (2029) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.50	0.41	3.18	4.45	0.01	0.05	—	0.05	0.05	—	0.05	—	534	534	0.02	< 0.005	—	536

Architectural	—	25.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.50	0.41	3.18	4.45	0.01	0.05	—	0.05	0.05	—	0.05	—	534	534	0.02	< 0.005	—	536
Architectural Coatings	—	25.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.12	0.94	1.32	< 0.005	0.02	—	0.02	0.01	—	0.01	—	158	158	0.01	< 0.005	—	159
Architectural Coatings	—	7.52	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	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	0.02	0.17	0.24	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	26.2	26.2	< 0.005	< 0.005	—	26.3
Architectural Coatings	—	1.37	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	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	0.20	0.17	0.16	2.82	0.00	0.00	0.84	0.84	0.00	0.20	0.20	—	796	796	0.01	< 0.005	2.08	799
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.20	0.17	0.17	2.42	0.00	0.00	0.84	0.84	0.00	0.20	0.20	—	757	757	0.01	0.03	0.05	767
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.05	0.75	0.00	0.00	0.25	0.25	0.00	0.06	0.06	—	227	227	< 0.005	0.01	0.27	230
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.14	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	37.6	37.6	< 0.005	< 0.005	0.04	38.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.16. Architectural Coating (2029) - Mitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.50	0.41	3.18	4.45	0.01	0.05	—	0.05	0.05	—	0.05	—	534	534	0.02	< 0.005	—	536

Architectural Coatings	—	25.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.50	0.41	3.18	4.45	0.01	0.05	—	0.05	0.05	—	0.05	—	534	534	0.02	< 0.005	—	536
Architectural Coatings	—	25.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.12	0.94	1.32	< 0.005	0.02	—	0.02	0.01	—	0.01	—	158	158	0.01	< 0.005	—	159
Architectural Coatings	—	7.52	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	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	0.02	0.17	0.24	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	26.2	26.2	< 0.005	< 0.005	—	26.3
Architectural Coatings	—	1.37	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	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	0.20	0.17	0.16	2.82	0.00	0.00	0.84	0.84	0.00	0.20	0.20	—	796	796	0.01	< 0.005	2.08	799
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.20	0.17	0.17	2.42	0.00	0.00	0.84	0.84	0.00	0.20	0.20	—	757	757	0.01	0.03	0.05	767
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.05	0.75	0.00	0.00	0.25	0.25	0.00	0.06	0.06	—	227	227	< 0.005	0.01	0.27	230
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.14	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	37.6	37.6	< 0.005	< 0.005	0.04	38.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

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

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	5.39	4.85	3.77	47.2	0.13	0.07	13.6	13.6	0.07	3.44	3.51	—	13,759	13,759	0.53	0.49	34.9	13,953
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	5.39	4.85	3.77	47.2	0.13	0.07	13.6	13.6	0.07	3.44	3.51	—	13,759	13,759	0.53	0.49	34.9	13,953
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	5.36	4.81	4.10	43.4	0.13	0.07	13.6	13.6	0.07	3.44	3.51	—	13,229	13,229	0.54	0.51	0.90	13,396
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	5.36	4.81	4.10	43.4	0.13	0.07	13.6	13.6	0.07	3.44	3.51	—	13,229	13,229	0.54	0.51	0.90	13,396
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	0.94	0.85	0.73	7.88	0.02	0.01	2.37	2.38	0.01	0.60	0.61	—	2,146	2,146	0.09	0.08	2.42	2,175
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.94	0.85	0.73	7.88	0.02	0.01	2.37	2.38	0.01	0.60	0.61	—	2,146	2,146	0.09	0.08	2.42	2,175

4.1.2. Mitigated

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

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

Apartme Mid Rise	5.39	4.85	3.77	47.2	0.13	0.07	13.6	13.6	0.07	3.44	3.51	—	13,759	13,759	0.53	0.49	34.9	13,953
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	5.39	4.85	3.77	47.2	0.13	0.07	13.6	13.6	0.07	3.44	3.51	—	13,759	13,759	0.53	0.49	34.9	13,953
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartme nts Mid Rise	5.36	4.81	4.10	43.4	0.13	0.07	13.6	13.6	0.07	3.44	3.51	—	13,229	13,229	0.54	0.51	0.90	13,396
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	5.36	4.81	4.10	43.4	0.13	0.07	13.6	13.6	0.07	3.44	3.51	—	13,229	13,229	0.54	0.51	0.90	13,396
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartme nts Mid Rise	0.94	0.85	0.73	7.88	0.02	0.01	2.37	2.38	0.01	0.60	0.61	—	2,146	2,146	0.09	0.08	2.42	2,175
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.94	0.85	0.73	7.88	0.02	0.01	2.37	2.38	0.01	0.60	0.61	—	2,146	2,146	0.09	0.08	2.42	2,175

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

Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	1,365	1,365	0.03	< 0.005	—	1,366
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	234	234	< 0.005	< 0.005	—	234
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,598	1,598	0.03	< 0.005	—	1,600
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	1,365	1,365	0.03	< 0.005	—	1,366
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	234	234	< 0.005	< 0.005	—	234
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,598	1,598	0.03	< 0.005	—	1,600
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	226	226	< 0.005	< 0.005	—	226
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	38.7	38.7	< 0.005	< 0.005	—	38.8
Total	—	—	—	—	—	—	—	—	—	—	—	—	265	265	< 0.005	< 0.005	—	265

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	1,282	1,282	0.02	< 0.005	—	1,283

Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	234	234	< 0.005	< 0.005	—	234
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,516	1,516	0.03	< 0.005	—	1,517
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	1,282	1,282	0.02	< 0.005	—	1,283
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	234	234	< 0.005	< 0.005	—	234
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,516	1,516	0.03	< 0.005	—	1,517
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	212	212	< 0.005	< 0.005	—	212
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	38.7	38.7	< 0.005	< 0.005	—	38.8
Total	—	—	—	—	—	—	—	—	—	—	—	—	251	251	< 0.005	< 0.005	—	251

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

4.2.4. 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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Apartme Mid Rise	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

4.3. Area Emissions by Source

4.3.1. Unmitigated

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

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.87	0.43	7.41	3.16	0.05	0.60	—	0.60	0.60	—	0.60	0.00	9,412	9,412	0.18	0.02	—	9,422
Consumer Products	—	9.10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.75	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	2.32	2.20	0.24	25.4	< 0.005	0.01	—	0.01	0.01	—	0.01	—	67.8	67.8	< 0.005	< 0.005	—	68.0
Total	3.19	12.5	7.65	28.6	0.05	0.61	—	0.61	0.61	—	0.61	0.00	9,480	9,480	0.18	0.02	—	9,490

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.87	0.43	7.41	3.16	0.05	0.60	—	0.60	0.60	—	0.60	0.00	9,412	9,412	0.18	0.02	—	9,422
Consumer Products	—	9.10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.75	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.87	10.3	7.41	3.16	0.05	0.60	—	0.60	0.60	—	0.60	0.00	9,412	9,412	0.18	0.02	—	9,422
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.01	0.01	0.09	0.04	< 0.005	0.01	—	0.01	0.01	—	0.01	0.00	107	107	< 0.005	< 0.005	—	107
Consumer Products	—	1.66	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.14	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.29	0.28	0.03	3.18	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.69	7.69	< 0.005	< 0.005	—	7.72
Total	0.30	2.08	0.12	3.22	< 0.005	0.01	—	0.01	0.01	—	0.01	0.00	114	114	< 0.005	< 0.005	—	115

4.3.2. Mitigated

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

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.87	0.43	7.41	3.16	0.05	0.60	—	0.60	0.60	—	0.60	0.00	9,412	9,412	0.18	0.02	—	9,422

Consumer	—	9.10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.75	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	2.32	2.20	0.24	25.4	< 0.005	0.01	—	0.01	0.01	—	0.01	—	67.8	67.8	< 0.005	< 0.005	—	68.0
Total	3.19	12.5	7.65	28.6	0.05	0.61	—	0.61	0.61	—	0.61	0.00	9,480	9,480	0.18	0.02	—	9,490
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.87	0.43	7.41	3.16	0.05	0.60	—	0.60	0.60	—	0.60	0.00	9,412	9,412	0.18	0.02	—	9,422
Consumer Products	—	9.10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.75	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.87	10.3	7.41	3.16	0.05	0.60	—	0.60	0.60	—	0.60	0.00	9,412	9,412	0.18	0.02	—	9,422
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.01	0.01	0.09	0.04	< 0.005	0.01	—	0.01	0.01	—	0.01	0.00	107	107	< 0.005	< 0.005	—	107
Consumer Products	—	1.66	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.14	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.29	0.28	0.03	3.18	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.69	7.69	< 0.005	< 0.005	—	7.72
Total	0.30	2.08	0.12	3.22	< 0.005	0.01	—	0.01	0.01	—	0.01	0.00	114	114	< 0.005	< 0.005	—	115

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	101	299	400	10.4	0.25	—	733
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	101	299	400	10.4	0.25	—	733
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	101	299	400	10.4	0.25	—	733
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	101	299	400	10.4	0.25	—	733
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	16.7	49.5	66.2	1.72	0.04	—	121
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	16.7	49.5	66.2	1.72	0.04	—	121

4.4.2. Mitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	101	299	400	10.4	0.25	—	733
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	101	299	400	10.4	0.25	—	733
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	101	299	400	10.4	0.25	—	733
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	101	299	400	10.4	0.25	—	733
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	16.7	49.5	66.2	1.72	0.04	—	121
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	16.7	49.5	66.2	1.72	0.04	—	121

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	178	0.00	178	17.8	0.00	—	623
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	178	0.00	178	17.8	0.00	—	623
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	178	0.00	178	17.8	0.00	—	623
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	178	0.00	178	17.8	0.00	—	623
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	29.5	0.00	29.5	2.95	0.00	—	103
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	29.5	0.00	29.5	2.95	0.00	—	103

4.5.2. Mitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	178	0.00	178	17.8	0.00	—	623
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	178	0.00	178	17.8	0.00	—	623
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	178	0.00	178	17.8	0.00	—	623
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	178	0.00	178	17.8	0.00	—	623
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	29.5	0.00	29.5	2.95	0.00	—	103
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	29.5	0.00	29.5	2.95	0.00	—	103

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.72	2.72
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.72	2.72
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.72	2.72
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.72	2.72
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.45	0.45
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.45	0.45

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.72	2.72
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.72	2.72

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.72	2.72
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.72	2.72
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.45	0.45
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.45	0.45

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

4.7.2. Mitigated

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

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

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

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

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

4.8.2. Mitigated

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

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

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

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

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

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

4.9.2. Mitigated

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

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

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

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

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

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

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

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

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

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

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

Sequest	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Remove d	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequest ered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Remove d	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequest ered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Remove d	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

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

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

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

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

Remove	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	9/1/2026	10/30/2026	5.00	44.0	20
Site Preparation	Site Preparation	11/2/2026	12/31/2026	5.00	44.0	10
Grading	Grading	1/1/2027	4/1/2027	5.00	65.0	30
Building Construction	Building Construction	4/2/2027	12/17/2029	5.00	707	300
Paving	Paving	10/1/2029	12/28/2029	5.00	65.0	20
Architectural Coating	Architectural Coating	8/1/2029	12/28/2029	5.00	108	20

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Rubber Tired Dozers	Diesel	Average	2.00	8.00	367	0.40
Demolition	Excavators	Diesel	Average	3.00	8.00	36.0	0.38
Demolition	Concrete/Industrial Saws	Diesel	Average	2.00	8.00	33.0	0.73
Site Preparation	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Site Preparation	Crawler Tractors	Diesel	Average	2.00	8.00	87.0	0.43
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38

Grading	Scrapers	Diesel	Average	1.00	8.00	423	0.48
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Crawler Tractors	Diesel	Average	2.00	8.00	87.0	0.43
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	3.00	8.00	14.0	0.74
Building Construction	Cranes	Diesel	Average	1.00	8.00	367	0.29
Building Construction	Welders	Diesel	Average	4.00	8.00	46.0	0.45
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Paving	Pavers	Diesel	Average	1.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	1.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	3.00	8.00	37.0	0.48

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Rubber Tired Dozers	Diesel	Average	2.00	8.00	367	0.40
Demolition	Excavators	Diesel	Average	3.00	8.00	36.0	0.38
Demolition	Concrete/Industrial Saws	Diesel	Average	2.00	8.00	33.0	0.73
Site Preparation	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Site Preparation	Crawler Tractors	Diesel	Average	2.00	8.00	87.0	0.43
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Grading	Scrapers	Diesel	Average	1.00	8.00	423	0.48
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Crawler Tractors	Diesel	Average	2.00	8.00	87.0	0.43
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20

Building Construction	Generator Sets	Diesel	Average	3.00	8.00	14.0	0.74
Building Construction	Cranes	Diesel	Average	1.00	8.00	367	0.29
Building Construction	Welders	Diesel	Average	4.00	8.00	46.0	0.45
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Paving	Pavers	Diesel	Average	1.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	1.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	3.00	8.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	17.5	18.5	LDA,LDT1,LDT2
Demolition	Vendor	2.00	10.2	HHDT,MHDT
Demolition	Hauling	156	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	7.50	18.5	LDA,LDT1,LDT2
Site Preparation	Vendor	2.00	10.2	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	17.5	18.5	LDA,LDT1,LDT2
Grading	Vendor	4.00	10.2	HHDT,MHDT
Grading	Hauling	67.3	20.0	HHDT

Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	322	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	39.0	10.2	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	10.0	18.5	LDA,LDT1,LDT2
Paving	Vendor	—	10.2	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	64.4	18.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	10.2	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	17.5	18.5	LDA,LDT1,LDT2
Demolition	Vendor	2.00	10.2	HHDT,MHDT
Demolition	Hauling	156	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	7.50	18.5	LDA,LDT1,LDT2
Site Preparation	Vendor	2.00	10.2	HHDT,MHDT

Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	17.5	18.5	LDA,LDT1,LDT2
Grading	Vendor	4.00	10.2	HHDT,MHDT
Grading	Hauling	67.3	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	322	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	39.0	10.2	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	10.0	18.5	LDA,LDT1,LDT2
Paving	Vendor	—	10.2	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	64.4	18.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	10.2	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	858,892	286,297	0.00	0.00	19,236

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (Ton of Debris)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	27,451	—
Site Preparation	—	—	66.0	0.00	—
Grading	—	35,000	195	0.00	—
Paving	0.00	0.00	0.00	0.00	7.36

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	3	74%	74%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Apartments Mid Rise	—	0%
Parking Lot	7.36	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2027	0.00	469	0.01	< 0.005
2028	0.00	311	0.01	< 0.005
2029	0.00	304	0.01	< 0.005
2026	0.00	568	0.01	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Apartments Mid Rise	1,623	1,636	1,350	578,734	19,013	19,170	15,818	6,781,304
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.9.2. Mitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Apartments Mid Rise	1,623	1,636	1,350	578,734	19,013	19,170	15,818	6,781,304
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

Hearth Type	Unmitigated (number)
Apartments Mid Rise	—
Wood Fireplaces	0
Gas Fireplaces	447

Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	0

5.10.1.2. Mitigated

Hearth Type	Unmitigated (number)
Apartments Mid Rise	—
Wood Fireplaces	0
Gas Fireplaces	447
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	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)
858891.6	286,297	0.00	0.00	19,236

5.10.3. Landscape Equipment

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

5.10.4. Landscape Equipment - Mitigated

Season	Unit	Value
Snow Days	day/yr	0.00

Summer Days	day/yr	250

5.11. Operational Energy Consumption

5.11.1. Unmitigated

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

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Apartments Mid Rise	1,638,628	304	0.0056	0.0006	0.00
Parking Lot	280,847	304	0.0056	0.0006	0.00

5.11.2. Mitigated

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

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Apartments Mid Rise	1,539,516	304	0.0056	0.0006	0.00
Parking Lot	280,847	304	0.0056	0.0006	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Apartments Mid Rise	52,724,250	0.00
Parking Lot	0.00	0.00

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Apartments Mid Rise	52,724,250	0.00
Parking Lot	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Apartments Mid Rise	331	—
Parking Lot	0.00	—

5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Apartments Mid Rise	331	—
Parking Lot	0.00	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Apartments Mid Rise	Average room A/C & Other residential A/C and heat pumps	User Defined	750	< 0.005	2.50	2.50	10.0
Apartments Mid Rise	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
Apartments Mid Rise	Average room A/C & Other residential A/C and heat pumps	User Defined	750	< 0.005	2.50	2.50	10.0

Apartments Mid Rise	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

5.18.1.2. Mitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

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

5.18.2.2. Mitigated

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

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

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

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	13.0	annual days of extreme heat
Extreme Precipitation	4.65	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	9.46	annual hectares burned

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

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	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	0	0	0	N/A

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

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	1	1	2
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
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	1	1	1	2

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

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

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

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	59.7
AQ-PM	86.9
AQ-DPM	40.4
Drinking Water	57.1
Lead Risk Housing	3.86

Pesticides	0.00
Toxic Releases	81.7
Traffic	86.0
Effect Indicators	—
CleanUp Sites	2.07
Groundwater	0.00
Haz Waste Facilities/Generators	52.6
Impaired Water Bodies	0.00
Solid Waste	0.00
Sensitive Population	—
Asthma	7.98
Cardio-vascular	22.7
Low Birth Weights	53.8
Socioeconomic Factor Indicators	—
Education	11.4
Housing	60.9
Linguistic	52.0
Poverty	10.7
Unemployment	6.30

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	87.501604
Employed	97.78005903
Median HI	68.304889

Education	—
Bachelor's or higher	73.68150905
High school enrollment	100
Preschool enrollment	82.98472989
Transportation	—
Auto Access	48.80020531
Active commuting	1.039394328
Social	—
2-parent households	35.37790325
Voting	56.91004748
Neighborhood	—
Alcohol availability	66.57256512
Park access	50.90465803
Retail density	80.49531631
Supermarket access	54.49762607
Tree canopy	71.89785705
Housing	—
Homeownership	61.08045682
Housing habitability	33.90221994
Low-inc homeowner severe housing cost burden	21.73745669
Low-inc renter severe housing cost burden	15.92454767
Uncrowded housing	84.29359682
Health Outcomes	—
Insured adults	85.29449506
Arthritis	60.6
Asthma ER Admissions	90.4
High Blood Pressure	65.9

Cancer (excluding skin)	29.3
Asthma	69.3
Coronary Heart Disease	79.3
Chronic Obstructive Pulmonary Disease	76.7
Diagnosed Diabetes	85.5
Life Expectancy at Birth	96.9
Cognitively Disabled	64.4
Physically Disabled	21.7
Heart Attack ER Admissions	63.6
Mental Health Not Good	76.1
Chronic Kidney Disease	79.8
Obesity	86.9
Pedestrian Injuries	19.6
Physical Health Not Good	82.3
Stroke	80.6
Health Risk Behaviors	—
Binge Drinking	16.3
Current Smoker	73.3
No Leisure Time for Physical Activity	77.8
Climate Change Exposures	—
Wildfire Risk	12.1
SLR Inundation Area	0.0
Children	73.7
Elderly	26.8
English Speaking	41.4
Foreign-born	50.3
Outdoor Workers	61.9

Climate Change Adaptive Capacity	—
Impervious Surface Cover	69.7
Traffic Density	89.2
Traffic Access	23.0
Other Indices	—
Hardship	13.7
Other Decision Support	—
2016 Voting	80.4

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	22.0
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	Taken from site plan Based on project description, Project site will be 16.20 acres.
Construction: Construction Phases	Taken from client data Building Construction, Paving, and Architectural Coating overlap to present a conservative analysis
Construction: Off-Road Equipment	Taken from client provided data. T/L/B replaced with Crawler Tractor to accurately calculate disturbance for Site Preparation and Grading phases. Standard 8 hours work days.
Construction: Trips and VMT	Vendor Trips adjusted based on CalEEMod defaults for Building Construction and number of days for Demolition, Site Preparation, Grading, and Building Construction
Operations: Vehicle Data	Trip characteristics based on information provided in the Trip Generation.
Operations: Hearths	SCAQMD Rule 445 no wood burning devices. Wood burning devices added to gas devices.
Operations: Water and Waste Water	Based on client data, the anticipated water demand would be 52,724,250 gal/year.
Operations: Refrigerants	As of 1 January 2022, new commercial refrigeration equipment may not use refrigerants with a GWP of 150 or greater. Further, R-404A (the CalEEMod default) is unacceptable for new supermarket and cold storage systems as of 1 January 2019 and 2023, respectively. Beginning 1 January 2025, all new air conditioning equipment may not use refrigerants with a GWP of 750 or greater.
Construction: Architectural Coatings	SCAQMD Rule 1113
Operations: Architectural Coatings	SCAQMD Rule 1113
Operations: Energy Use	Project will not utilize natural gas.

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