

Appendix 4.5-1
Greenhouse Gas Emissions
Assessment



Prepared by
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Expect More. Experience Better.



Greenhouse Gas Emissions Assessment
Artesia Place Project
(Artesia Boulevard Corridor Specific Plan Amendment)
City of Artesia, California



Expect More. Experience Better.

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APPENDIX

Appendix A: Greenhouse Gas Emissions Data

LIST OF ABBREVIATED TERMS

AB	Assembly Bill
AGP	Air Quality/Greenhouse Gas Sub-Element of the City of Artesia General Plan
AQMD	Air Quality Management District
CARB	California Air Resource Board
CCR	California Code of Regulations
CalEEMod	California Emissions Estimator Model
CEQA	California Environmental Quality Act
CALGreen	California Green Building Standards
CH ₄	methane
CPUC	California Public Utilities Commission
CO ₂	carbon dioxide
CO ₂ e	carbon dioxide equivalent
CFC	Chlorofluorocarbon
CCSP	Climate Change Scoping Plan
cy	cubic yard
DU	dwelling unit(s)
EVSE	electric vehicle supply equipment
FCAA	Federal Clean Air Act
FR	Federal Register
GHG	greenhouse gas
GSF	gross square feet
HCFC	Hydrochlorofluorocarbon
HFC	Hydrofluorocarbon
HVAC	heating, ventilation, and air-conditioning
LCFS	Low Carbon Fuel Standard
MMTCO ₂ e	million metric tons of carbon dioxide equivalent
MTCO ₂ e	metric tons of carbon dioxide equivalent
NHTSA	National Highway Traffic Safety Administration
NF ₃	nitrogen trifluoride
N ₂ O	nitrous oxide
PFC	Perfluorocarbon
RTP/SCS	Regional Transportation Plan/Sustainable Communities Strategy
SB	Senate Bill
SCAB	South Coast Air Basin
SCAG	Southern California Association of Government
SCE	Southern California Edison
SF	square feet or square foot
SF ₆	sulfur hexafluoride
TAC	toxic air contaminants
U.S. EPA	U.S. Environmental Protection Agency
ZEV	zero emission vehicle

1 INTRODUCTION

This report documents the results of a Greenhouse Gas (GHG) Emissions Assessment for the Artesia Place Project (Artesia Boulevard Corridor Specific Plan [ABCSP] Amendment) (Project). The purpose of this GHG Emissions Assessment is to evaluate potential Project construction and operational emissions and determine the level of impact the Project would have on the environment.

1.1 Project Location and Setting

The Project site is in the City of Artesia (City), approximately 14 miles southeast of downtown Los Angeles; see **Figure 1: Regional Vicinity Map**. The Project site consists of one approximately 3.3 acre parcel (Assessor Parcel Number [APN] 7035-016-064) located at 11709 Artesia Boulevard; see **Figure 2: Local Vicinity Map**. The Project site is generally bound by roadways, with Artesia Boulevard on the south, Albutis Avenue on the east, and Fallon Avenue on the west.

The Project site is at the northeast portion of the 21-acre ABCSP area, which extends along Artesia Boulevard, generally between Corby Avenue on the east and Gridley Road on the west. As shown in **Figure 3: Project Site Boundary Within ABCSP**, the Project site is at the eastern extent of ABCSP's Quadrant 2, which is comprised of approximately 6.0 acres located north of Artesia Boulevard between Albutis Avenue on the east and Roseton Avenue on the west. Two major freeways provide regional access to the Project site: Artesia Freeway (State Route 91 [SR-91]) to the north; and Interstate 605 (I-605) to the west. From SR-91, access to the Project site is provided via Pioneer Boulevard, which is east of the Project site. From I-605, access to the Project site is provided via Artesia Boulevard, which bisects the ABCSP area. Local access to the Project site is provided via Artesia Boulevard, which is a four-lane divided arterial roadway oriented east-west through the ABCSP area. Local access is also provided via Pioneer Boulevard, which is a four-lane arterial oriented north-south to the west of the Project site.

The City encompasses approximately 1.6 square miles in southeast Los Angeles County. The City is a suburban jurisdiction with a mix of residential densities, although low-density residential uses predominate. The City also contains a mix of retail commercial, office, and industrial uses.

The General Plan land use designation for the ABCSP area is Gateway Community Commercial, except for two parcels southeast of the Roseton Avenue at Artesia Boulevard intersection (within ABCSP's Quadrant 4), which are designated Low Density Residential.¹ The Gateway Community Commercial designation provides for a complementary mix of job-creating industrial, manufacturing uses, and local/regional-serving commercial retail and office uses.² The Low Density Residential designation, which is the City's predominant land use designation, is characterized by single-family, detached units.³

The Project site is in ABCSP Quadrant 2. Quadrant 2 is comprised of five parcels with four unique landowners. Quadrant 2 supports a variety of commercial, retail, and industrial uses. Existing uses include a Public Storage complex, a small industrial building, and a retail center that was redeveloped in 2004. The Project site comprises the eastern portion of Quadrant 2.

The Project site is currently vacant. California Dairies, Inc., a dairy manufacturing plant totaling approximately 27,290 gross square feet (GSF) occupied the Project site until it was demolished in 2022.

¹ City of Artesia. (2010). *City of Artesia General Plan 2030*. Exhibit LU-3: General Plan 2030 Land Use. <http://www.cityofartesia.us/DocumentCenter/View/226/Artesia-General-Plan?bidId=>.

² City of Artesia. (2010). *City of Artesia General Plan 2030*. Land Use Sub-Element. Page LU-10. <http://www.cityofartesia.us/DocumentCenter/View/226/Artesia-General-Plan?bidId=>.

³ City of Artesia. (2010). *City of Artesia General Plan 2030*. Land Use Sub-Element. Page LU-9. <http://www.cityofartesia.us/DocumentCenter/View/226/Artesia-General-Plan?bidId=>.

All existing onsite utility connections remain capped and abandoned. The Project site is generally surrounded by residential, business park, commercial, and light industrial land uses.

1.2 Project Description

The Project proposes construction and operation of a mixed-use development comprised of 80 dwelling units (DU) and approximately 11,257 GSF of non-residential (commercial and office) land uses, as described below. To allow the proposed development, the Applicant proposes to amend the ABCSP. The proposed Zoning Code Text Amendment (Specific Plan Amendment) would amend the ABCSP to permit residential uses on the Project site, establish a maximum allowable development within the Project site, and amend the ABCSP's Design Standards and Guidelines (among other chapters). In addition to the Zoning Code Text Amendment, the Project seeks approval of the following entitlements: a General Plan Amendment; Design Review; Development Agreement; Vesting Tentative Tract Map No. 83834; and CEQA EIR certification.

The Project would construct a mixed-use development generally comprised of two portions – a commercial portion and a residential portion – connected by pedestrian walkways. **Figure 4: Conceptual Site Plan**, depicts the proposed land plan. In total, the Project proposes 80 DU and approximately 11,257 GSF of non-residential (commercial and office) land uses, including the components summarized in **Table 1: Project Development Summary** below:

Land Use	Residential (DU)	Non-Residential (GSF)			
		Office	Restaurant	Retail	Total
Townhomes	59				
Mixed-Use Carriage Townhomes (Commercial Ground Floor)	4		1,725	1,725	3,450
Shopkeeper Units (Commercial Condominiums with Townhomes above)	8		1,332	1,332	2,664
Commercial			1,350	1,350	2,700
Live/Work Townhomes	9	2,443			2,443
Total	80	2,443	4,407	4,407	11,257

DU = dwelling units; GSF = gross square feet

The following proposed land uses would be developed at a density of 23.2 dwelling units per acre (DU/AC) and floor area ratio (FAR) of 1.21:

- Townhomes: 10 buildings with 59 three-story townhome units.
- Mixed-Use Carriage Townhomes: One mixed-use building with approximately 3,450 GSF of commercial uses on the ground level and 4 carriage-type townhome units above;
- Shopkeeper Units: Two buildings with 8 commercial condominiums totaling approximately 2,664 GSF on the ground level and 8 townhome units above;
- Commercial: One building with approximately 2,700 GSF of commercial uses; and
- Live/Work Townhomes: Two buildings with approximately 2,443 GSF of office uses and 9 townhome units.

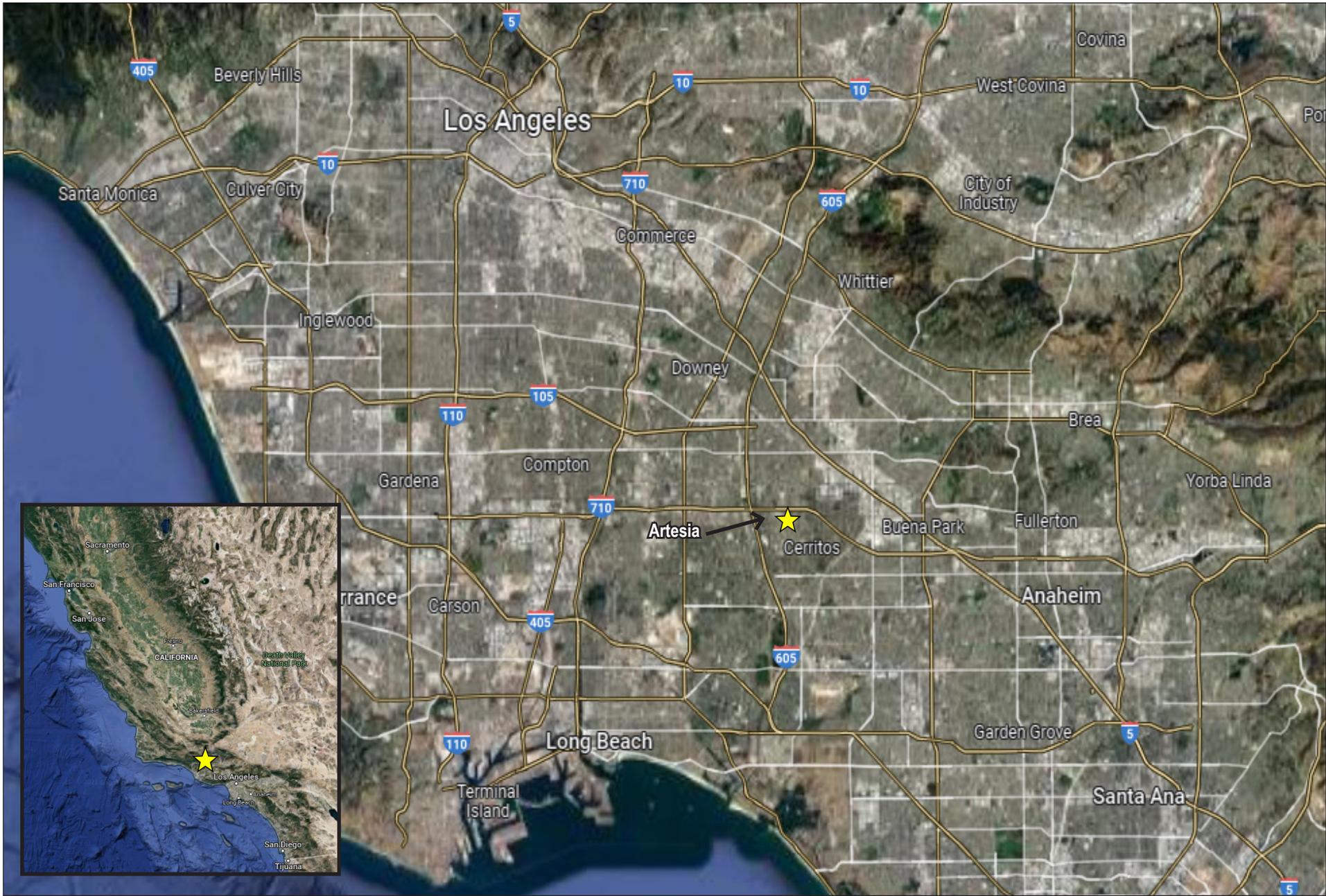


FIGURE 1: REGIONAL VICINITY MAP

Artesia Place Project (Artesia Boulevard Corridor Specific Plan Amendment)

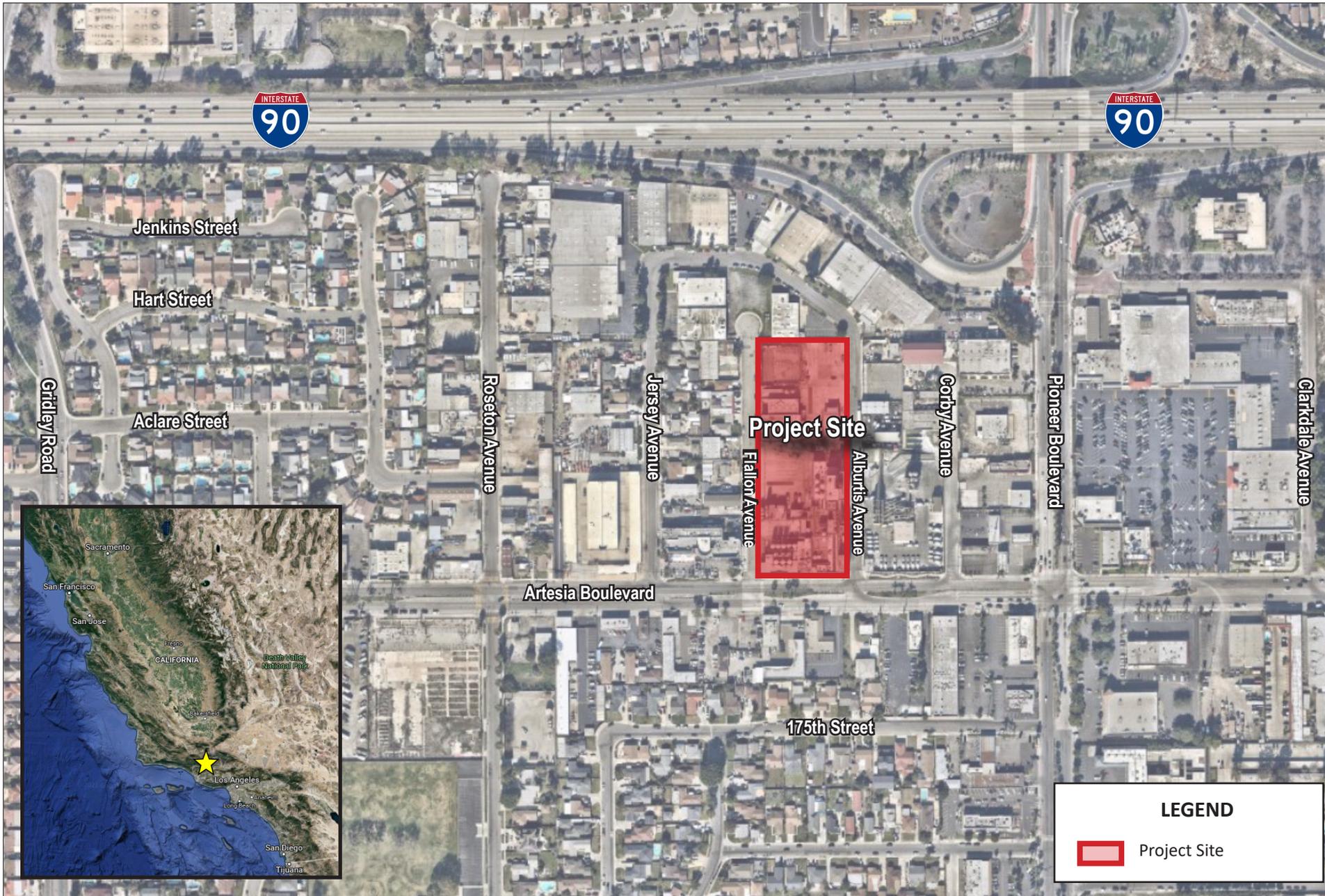


FIGURE 2: LOCAL VICINITY MAP

Artesia Place Project (Artesia Boulevard Corridor Specific Plan Amendment)

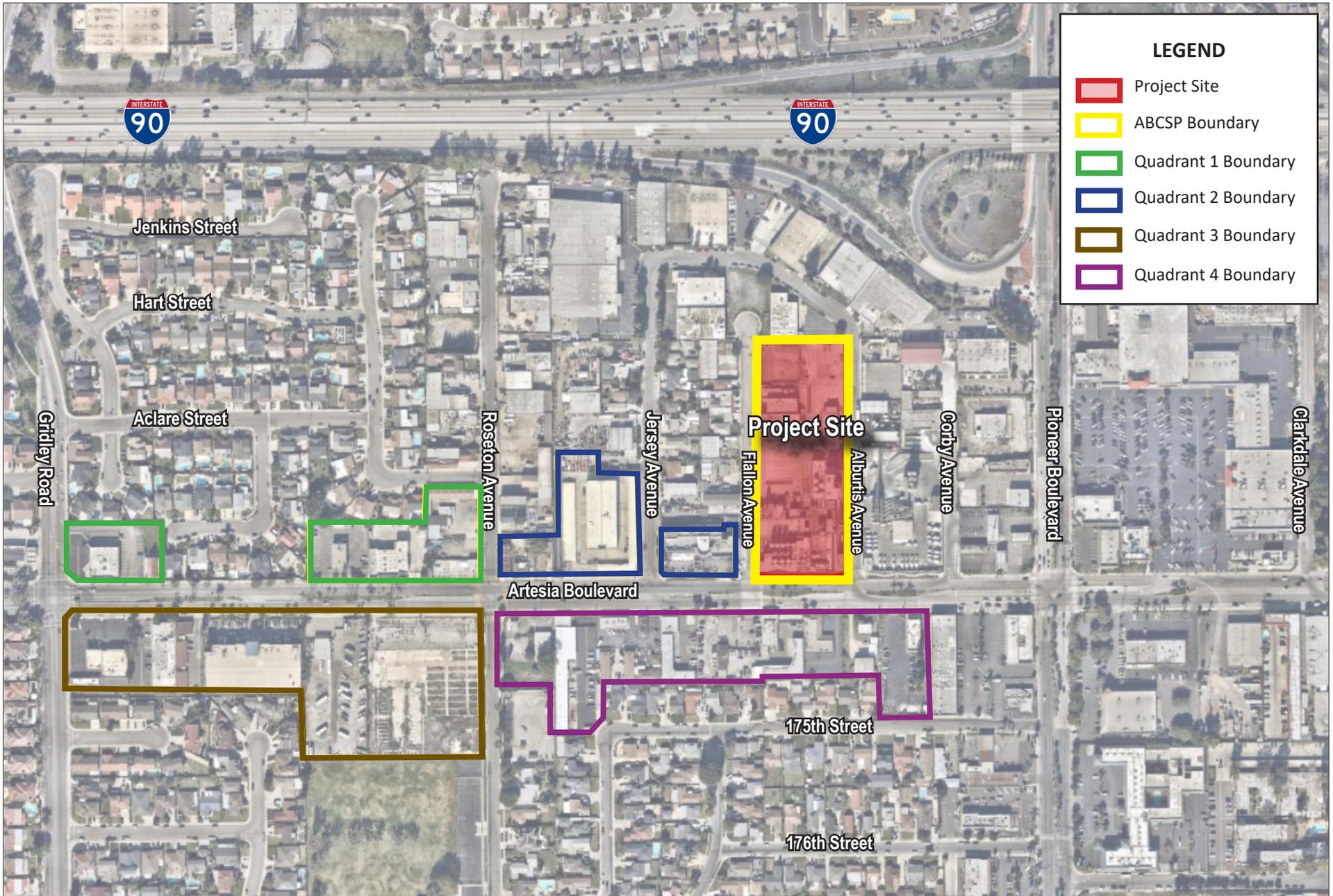
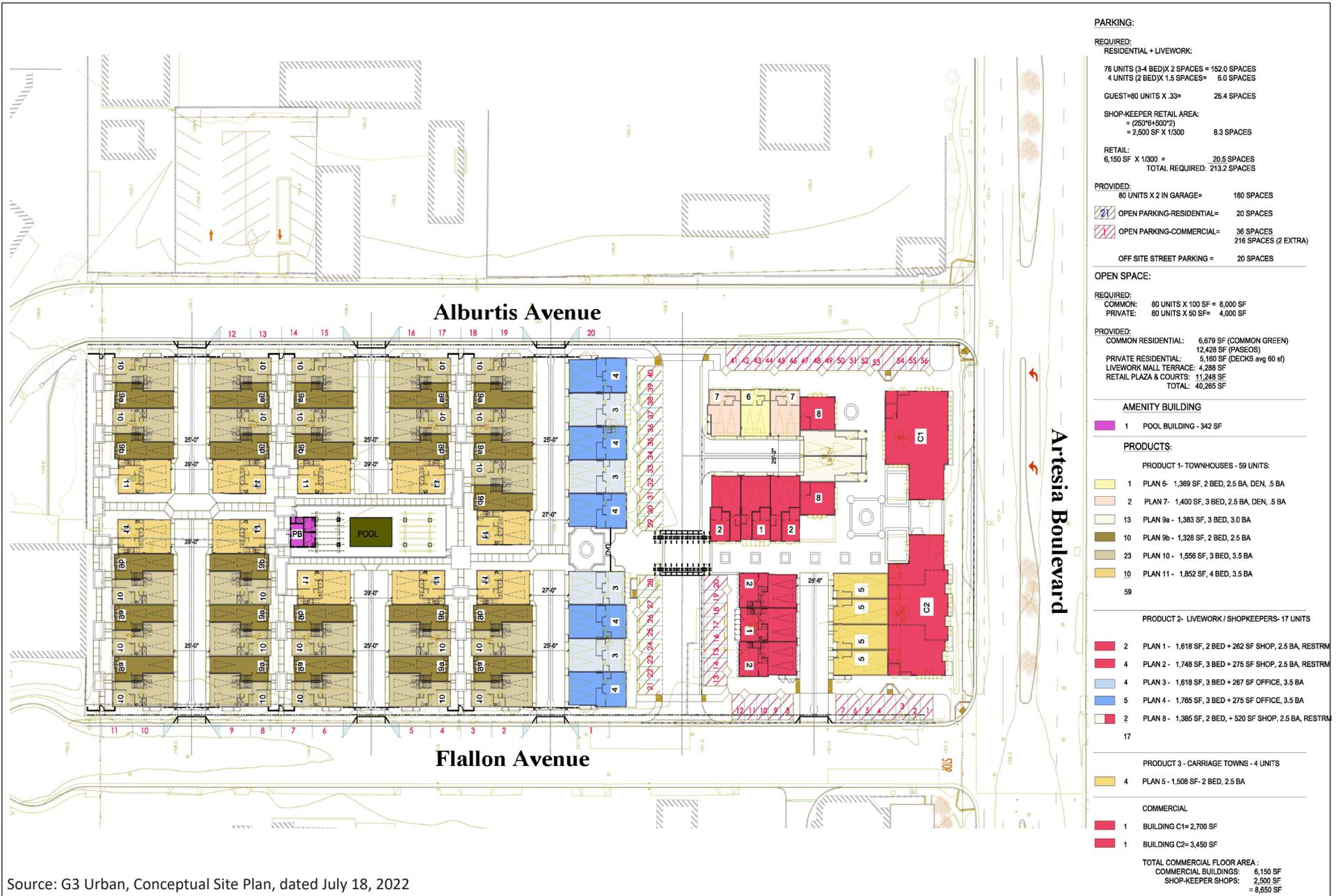


FIGURE 3: PROJECT SITE BOUNDARY WITHIN ABCSP

Artesia Place Project (Artesia Boulevard Corridor Specific Plan Amendment)



Source: G3 Urban, Conceptual Site Plan, dated July 18, 2022

FIGURE 4: CONCEPTUAL SITE PLAN

Artesia Place Project (Artesia Boulevard Corridor Specific Plan Amendment)

The Project is designed to be a mixed-use, pedestrian-oriented, and placemaking development with various commercial opportunities. The various buildings are linked by a central pedestrian walkway through a series of landscaped courtyards. The Project site is divided into two portions: the northern portion is bisected by the central pedestrian walkway, pool, and pool building and consists of traditional paseo rowtown-inspired residential clustering around a recreation area; and the southern portion fronting Artesia Boulevard consists of the urban commercial mixed-use buildings.

The Project site is designated Gateway Community Commercial.⁴ As noted above, Gateway Community Commercial designation provides for a complimentary mix of job-creating industrial and manufacturing uses, and local/regional-serving commercial retail and office uses. The City's Zoning Map classifies the Project site as Artesia Boulevard Corridor Specific Plan (ABCSP).⁵ The ABCSP establishes the City's vision for a 21-acre area along Artesia Boulevard, between Gridley Road and Pioneer Boulevard. For Quadrant 2 of the ABCSP area, the City's primary goal is to establish a retail, commercial, and industrial center.

⁴ City of Artesia. (2010). *City of Artesia General Plan 2030*. Exhibit LU-3: General Plan 2030 Land Use. [http://www.cityofartesia.us/DocumentCenter/View/226/Artesia-General-Plan?bidId=.](http://www.cityofartesia.us/DocumentCenter/View/226/Artesia-General-Plan?bidId=)

⁵ City of Artesia. (2019). *Zoning Map*. [https://www.cityofartesia.us/DocumentCenter/View/1877/Zoning-Map-January-7-2019?bidId=.](https://www.cityofartesia.us/DocumentCenter/View/1877/Zoning-Map-January-7-2019?bidId=)

2 ENVIRONMENTAL SETTING

2.1 Greenhouse Gases and Climate Change

Certain gases in the earth's atmosphere classified as GHGs, play a critical role in determining the earth's surface temperature. Solar radiation enters the earth's atmosphere from space. A portion of the radiation is absorbed by the earth's surface and a smaller portion of this radiation is reflected back toward space. This absorbed radiation is then emitted from the earth as low-frequency infrared radiation. The frequencies at which bodies emit radiation are proportional to temperature. Because the earth has a much lower temperature than the sun, it emits lower-frequency radiation. Most solar radiation passes through GHGs; however, infrared radiation is absorbed by these gases. As a result, radiation that otherwise would have escaped back into space is instead "trapped," resulting in a warming of the atmosphere. This phenomenon, known as the greenhouse effect, is responsible for maintaining a habitable climate on earth.

The primary GHGs contributing to the greenhouse effect are carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O). Fluorinated gases also make up a small fraction of the GHGs that contribute to climate change. Examples of fluorinated gases include chlorofluorocarbons (CFCs), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF₆), and nitrogen trifluoride (NF₃); however, it is noted that these gases are not associated with typical land use development. Human-caused emissions of GHGs exceeding natural ambient concentrations are believed to be responsible for intensifying the greenhouse effect and leading to a trend of unnatural warming of the Earth's climate, known as global climate change or global warming.

GHGs are global pollutants, unlike criteria air pollutants and toxic air contaminants (TACs), which are pollutants of regional and local concern. Whereas pollutants with localized air quality effects have relatively short atmospheric lifetimes (about one day), GHGs have long atmospheric lifetimes (one to several thousand years). GHGs persist in the atmosphere for long enough time periods to be dispersed around the globe. Although the exact lifetime of a GHG molecule is dependent on multiple variables and cannot be pinpointed, more CO₂ is emitted into the atmosphere than is sequestered by ocean uptake, vegetation, or other forms of carbon sequestration. Of the total annual human-caused CO₂ emissions, approximately 55 percent is sequestered through ocean and land uptakes every year, averaged over the last 50 years, whereas the remaining 45 percent of human-caused CO₂ emissions remains stored in the atmosphere.⁶ **Table 2: Description of Greenhouse Gases** describes the primary GHGs attributed to global climate change, including their physical properties.

⁶ Intergovernmental Panel on Climate Change, *Carbon and Other Biogeochemical Cycles*. In: *Climate Change 2013: The Physical Science Basis, Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*, 2013. http://www.climatechange2013.org/images/report/WG1AR5_ALL_FINAL.pdf.

Greenhouse Gas	Description
Carbon Dioxide (CO ₂)	CO ₂ is a colorless, odorless gas that is emitted naturally and through human activities. Natural sources include decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungus; evaporation from oceans; and volcanic outgassing. Anthropogenic sources are from burning coal, oil, natural gas, and wood. The largest source of CO ₂ emissions globally is the combustion of fossil fuels such as coal, oil, and gas in power plants, automobiles, and industrial facilities. The atmospheric lifetime of CO ₂ is variable because it is readily exchanged in the atmosphere. CO ₂ is the most widely emitted GHG and is the reference gas (Global Warming Potential of 1) for determining Global Warming Potentials for other GHGs.
Nitrous Oxide (N ₂ O)	N ₂ O is largely attributable to agricultural practices and soil management. Primary human-related sources of N ₂ O include agricultural soil management, sewage treatment, combustion of fossil fuels, and adipic and nitric acid production. N ₂ O is produced from biological sources in soil and water, particularly microbial action in wet tropical forests. The atmospheric lifetime of N ₂ O is approximately 120 years. The Global Warming Potential of N ₂ O is 298.
Methane (CH ₄)	CH ₄ , a highly potent GHG, primarily results from off-gassing (the release of chemicals from nonmetallic substances under ambient or greater pressure conditions) and is largely associated with agricultural practices and landfills. Methane is the major component of natural gas, about 87 percent by volume. Human-related sources include fossil fuel production, animal husbandry, rice cultivation, biomass burning, and waste management. Natural sources of CH ₄ include wetlands, gas hydrates, termites, oceans, freshwater bodies, non-wetland soils, and wildfires. The atmospheric lifetime of CH ₄ is about 12 years and the Global Warming Potential is 25.
Hydrofluorocarbons (HFCs)	HFCs are typically used as refrigerants for both stationary refrigeration and mobile air conditioning. The use of HFCs for cooling and foam blowing is increasing, as the continued phase out of CFCs and HCFCs gains momentum. The 100-year Global Warming Potential of HFCs range from 124 for HFC-152 to 14,800 for HFC-23.
Perfluorocarbons (PFCs)	PFCs have stable molecular structures and only break down by ultraviolet rays about 60 kilometers above Earth's surface. Because of this, they have long lifetimes, between 10,000 and 50,000 years. Two main sources of PFCs are primary aluminum production and semiconductor manufacturing. Global Warming Potentials range from 6,500 to 9,200.
Chlorofluorocarbons (CFCs)	CFCs are gases formed synthetically by replacing all hydrogen atoms in methane or ethane with chlorine and/or fluorine atoms. They are nontoxic, nonflammable, insoluble, and chemically unreactive in the troposphere (the level of air at the earth's surface). CFCs were synthesized in 1928 for use as refrigerants, aerosol propellants, and cleaning solvents. The Montreal Protocol on Substances that Deplete the Ozone Layer prohibited their production in 1987. Global Warming Potentials for CFCs range from 3,800 to 14,400.
Sulfur Hexafluoride (SF ₆)	SF ₆ is an inorganic, odorless, colorless, and nontoxic, nonflammable gas. It has a lifetime of 3,200 years. This gas is manmade and used for insulation in electric power transmission equipment, in the magnesium industry, in semiconductor manufacturing, and as a tracer gas. The Global Warming Potential of SF ₆ is 23,900.
Hydrochlorofluorocarbons (HCFCs)	HCFCs are solvents, similar in use and chemical composition to CFCs. The main uses of HCFCs are for refrigerant products and air conditioning systems. As part of the Montreal Protocol, HCFCs are subject to a consumption cap and gradual phase out. The United States is scheduled to achieve a 100 percent reduction to the cap by 2030. The 100-year Global Warming Potentials of HCFCs range from 90 for HCFC-123 to 1,800 for HCFC-142b.
Nitrogen Trifluoride (NF ₃)	NF ₃ was added to Health and Safety Code section 38505(g)(7) as a GHG of concern. This gas is used in electronics manufacture for semiconductors and liquid crystal displays. It has a high global warming potential of 17,200.
Source: Compiled from U.S. EPA, <i>Overview of Greenhouse Gases</i> , (https://www.epa.gov/ghgemissions/overview-greenhouse-gases); U.S. EPA, <i>Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2016</i> , 2018; Intergovernmental Panel on Climate Change, <i>Climate Change 2007: The Physical Science Basis</i> , 2007; National Research Council, <i>Advancing the Science of Climate Change</i> , 2010; U.S. EPA, <i>Methane and Nitrous Oxide Emission from Natural Sources</i> , April 2010.	

3 REGULATORY SETTING

3.1 Federal

To date, national standards have not been established for nationwide GHG reduction targets, nor have any regulations or legislation been enacted specifically to address climate change and GHG emissions reduction at the project level. Various efforts have been promulgated at the federal level to improve fuel economy and energy efficiency to address climate change and its associated effects.

Energy Independence and Security Act of 2007

The Energy Independence and Security Act of 2007 (December 2007), among other key measures, requires the following, which would aid in the reduction of national GHG emissions:

- Increase the supply of alternative fuel sources by setting a mandatory Renewable Fuel Standard requiring fuel producers to use at least 36 billion gallons of biofuel in 2022.
- Set a target of 35 miles per gallon for the combined fleet of cars and light trucks by model year 2020 and direct the National Highway Traffic Safety Administration (NHTSA) to establish a fuel economy program for medium- and heavy-duty trucks and create a separate fuel economy standard for work trucks.
- Prescribe or revise standards affecting regional efficiency for heating and cooling products and procedures for new or amended standards, energy conservation, energy efficiency labeling for consumer electronic products, residential boiler efficiency, electric motor efficiency, and home appliances.

U.S. Environmental Protection Agency Endangerment Finding

The U.S. Environmental Protection Agency (U.S. EPA) authority to regulate GHG emissions stems from the U.S. Supreme Court decision in *Massachusetts v. EPA* (2007). The Supreme Court ruled that GHGs meet the definition of air pollutants under the existing Federal Clean Air Act (FCAA) and must be regulated if these gases could be reasonably anticipated to endanger public health or welfare. Responding to the Court's ruling, the U.S. EPA finalized an endangerment finding in December 2009. Based on scientific evidence it found that six GHGs (CO₂, CH₄, N₂O, HFCs, PFCs, and SF₆) constitute a threat to public health and welfare. Thus, it is the Supreme Court's interpretation of the existing FCAA and the U.S. EPA's assessment of the scientific evidence that form the basis for the U.S. EPA's regulatory actions.

Federal Vehicle Standards

In response to the U.S. Supreme Court ruling discussed above, Executive Order 13432 was issued in 2007 directing the U.S. EPA, the Department of Transportation, and the Department of Energy to establish regulations that reduce GHG emissions from motor vehicles, non-road vehicles, and non-road engines by 2008. In 2009, the NHTSA issued a final rule regulating fuel efficiency and GHG emissions from cars and light-duty trucks for model year 2011, and in 2010, the U.S. EPA and NHTSA issued a final rule regulating cars and light-duty trucks for model years 2012–2016.

In 2010, an Executive Memorandum was issued directing the Department of Transportation, Department of Energy, U.S. EPA, and NHTSA to establish additional standards regarding fuel efficiency and GHG reduction, clean fuels, and advanced vehicle infrastructure. In response to this directive, the U.S. EPA and NHTSA proposed stringent, coordinated federal GHG and fuel economy standards for model years 2017–2025 light-duty vehicles. The proposed standards projected to achieve 163 grams per mile of CO₂ in model year 2025, on an average industry fleet-wide basis, which is equivalent to 54.5 miles per gallon if this level were achieved solely through fuel efficiency. The final rule was adopted in 2012 for model years 2017–2021, and NHTSA intends to set standards for model years 2022–2025 in a future rulemaking. On January

12, 2017, the U.S. EPA finalized its decision to maintain the current GHG emissions standards for model years 2022–2025 cars and light trucks. It should be noted that the U.S. EPA is currently proposing to freeze the vehicle fuel efficiency standards at their planned 2020 level (37 mpg), canceling any future strengthening (currently 54.5 mpg by 2026).

In addition to the regulations applicable to cars and light-duty trucks described above, in 2011, the U.S. EPA and NHTSA announced fuel economy and GHG standards for medium- and heavy-duty trucks for model years 2014–2018. The standards for CO₂ emissions and fuel consumption are tailored to three main vehicle categories: combination tractors, heavy-duty pickup trucks and vans, and vocational vehicles. According to the U.S. EPA, this regulatory program will reduce GHG emissions and fuel consumption for the affected vehicles by 6 to 23 percent over the 2010 baselines.

In August 2016, the U.S. EPA and NHTSA announced the adoption of the phase two program related to the fuel economy and GHG standards for medium- and heavy-duty trucks. The phase two program apply to vehicles with model year 2018 through 2027 for certain trailers, and model years 2021 through 2027 for semi-trucks, large pickup trucks, vans, and all types and sizes of buses and work trucks. The final standards are expected to lower CO₂ emissions by approximately 1.1 billion metric tons and reduce oil consumption by up to 2 billion barrels over the lifetime of the vehicles sold under the program.⁷

On September 27, 2019, the U.S. EPA and the NHTSA published the “*Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule Part One: One National Program*” (84 Fed. Reg. 51,310 (Sept. 27, 2019)).⁸ The SAFE Rule (Part One) revoked California’s authority to set its own GHG emissions standards and set zero-emission vehicle (ZEV) mandates in California. On March 31, 2020, the U.S. EPA and NHTSA finalized rulemaking for SAFE Part Two sets CO₂ emissions standards and corporate average fuel economy (CAFE) standards for passenger vehicles and light duty trucks, covering model years 2021-2026. The current U.S. EPA administration has repealed SAFE Rule Part One, effective January 28, 2022 and is reconsidering Part Two.

In December 2021, the U.S. EPA finalized federal GHG emissions standards for passenger cars and light trucks for Model Years 2023 through 2026. These standards are the strongest vehicle emissions standards ever established for the light-duty vehicle sector and are based on sound science and grounded in a rigorous assessment of current and future technologies. The updated standards will result in avoiding more than three billion tons of GHG emissions through 2050.⁹

3.2 State

California Air Resources Board

The California Air Resources Board (CARB) is responsible for coordination and oversight of State and local air pollution control programs. Various statewide and local initiatives to reduce California’s contribution to GHG emissions have raised awareness about climate change and its potential for severe long-term adverse environmental, social, and economic effects. California is a significant emitter of CO₂ equivalents (CO₂e) in the world and produced 459 gross million metric tons of carbon dioxide equivalent (MMTCO₂e) in 2013. The transportation sector is the State’s largest emitter of GHGs, followed by industrial operations such as manufacturing and oil and gas extraction.

⁷ U.S. EPA and NHTSA. (2016). *Greenhouse Gas Emissions and Fuel Efficiency Standards for Medium and Heavy-Duty Engines and Vehicles – Phase 2*. <https://www.gpo.gov/fdsys/pkg/FR-2016-10-25/pdf/2016-21203.pdf>. Accessed March 1, 2023.

⁸ U.S. EPA and NHTSA. (2019). Federal Register, Vol. 84, No. 188, The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule Part One: One National Program, September 27, 2019. <https://www.govinfo.gov/content/pkg/FR-2019-09-27/pdf/2019-20672.pdf>. Accessed March 1, 2023.

⁹ U.S. EPA. (2021). Final Rule to Revise Existing National GHG Emissions Standards for Passenger Cars and Light Trucks Through Model Year 2026. <https://www.epa.gov/regulations-emissions-vehicles-and-engines/final-rule-revise-existing-national-ghg-emissions>. Accessed March 1, 2023.

The State's legislature 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 Assembly Bill (AB) 32, *California Global Warming Solutions Act of 2006*, was specifically enacted to address GHG emissions. Other legislation, such as Title 24 building efficiency standards and Title 20 appliance energy standards, were originally adopted for other purposes such as energy and water conservation, but also provide GHG reductions. This section describes the legislation's major provisions.

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

AB 32 instructs the CARB to develop and enforce regulations for reporting and verification of statewide GHG emissions. AB 32 also directed CARB to set a GHG emissions limit based on 1990 levels, to be achieved by 2020. It set a timeline for adopting a scoping plan for achieving GHG reductions in a technologically and economically feasible manner.

California Air Resource Board Scoping Plan

CARB adopted the Scoping Plan to achieve AB 32 goals. The Scoping Plan establishes an overall framework for the measures that would be adopted to reduce California's GHG emissions. CARB determined that achieving the 1990 emissions level would require a reduction of GHG emissions of approximately 29 percent below what would otherwise occur in 2020 in the absence of new laws and regulations (referred to as "business-as-usual").¹⁰ The Scoping Plan evaluates opportunities for sector-specific reductions, integrates early actions and additional GHG reduction measures by both CARB and the State's Climate Action Team, identifies additional measures to be pursued as regulations, and outlines the adopted role of a cap-and-trade program.¹¹ Additional development of these measures and adoption of the appropriate regulations occurred through the end of 2013. Key Scoping Plan elements include:

- Expanding and strengthening existing energy efficiency programs, as well as building and appliance standards.
- Achieving a statewide renewables energy mix of 33 percent by 2020.
- Developing a California cap-and-trade program that links with other programs to create a regional market system and caps sources contributing 85 percent of California's GHG emissions (adopted in 2011).
- Establishing targets for transportation-related GHG emissions for regions throughout California and pursuing policies and incentives to achieve those targets (several sustainable community strategies have been adopted).
- Adopting and implementing measures pursuant to existing State laws and policies, including California's clean car standards, heavy-duty truck measures, the Low Carbon Fuel Standard (amendments to the Pavley Standard adopted 2009; Advanced Clean Car standard adopted 2012), goods movement measures, and the Low Carbon Fuel Standard (adopted 2009).
- Creating targeted fees, including a public goods charge on water use, fees on gasses with high global warming potential, and a fee to fund the administrative costs of the State of California's long-term commitment to AB 32 implementation.

¹⁰ CARB defines business-as-usual (BAU) in its Scoping Plan as emissions levels that would occur if California continued to grow and add new GHG emissions but did not adopt any measures to reduce emissions. Projections for each emission-generating sector were compiled and used to estimate emissions for 2020 based on 2002–2004 emissions intensities. Under CARB's definition of BAU, new growth is assumed to have the same carbon intensities as was typical from 2002 through 2004.

¹¹ The Climate Action Team, led by the secretary of the California Environmental Protection Agency, is a group of State agency secretaries and heads of agencies, boards, and departments. Team members work to coordinate statewide efforts to implement global warming emissions reduction programs and the State's Climate Adaptation Strategy.

- The California Sustainable Freight Action Plan was developed in 2016 and provides a vision for California's transition to a more efficient, more economically competitive, and less polluting freight transport system. This transition of California's freight transport system is essential to supporting the State's economic development in coming decades while reducing pollution.
- CARB's Mobile Source Strategy demonstrates how the State can simultaneously meet air quality standards, achieve GHG emission reduction targets, decrease health risk from transportation emissions, and reduce petroleum consumption over the next fifteen years. The mobile Source Strategy includes increasing zero emission vehicles (ZEV) buses and trucks.

In 2012, CARB released revised estimates of the expected 2020 emissions reductions. The revised analysis relied on emissions projections updated in light of current economic forecasts that accounted for the economic downturn since 2008, reduction measures already approved and put in place relating to future fuel and energy demand, and other factors. This update reduced the projected 2020 emissions from 596 MMTCO₂e to 545 MMTCO₂e. The reduction in forecasted 2020 emissions means that the revised business-as-usual reduction necessary to achieve AB 32's goal of reaching 1990 levels by 2020 is now 21.7 percent, down from 29 percent. CARB also provided a lower 2020 inventory forecast that incorporated State-led GHG emissions reduction measures already in place. When this lower forecast is considered, the necessary reduction from business-as-usual needed to achieve the goals of AB 32 is approximately 16 percent.

CARB adopted the first major update to the Scoping Plan on May 22, 2014. The updated Scoping Plan summarizes the most recent science related to climate change, including anticipated impacts to California and the levels of GHG emissions reductions necessary to likely avoid risking irreparable damage. It identifies the actions California has already taken to reduce GHG emissions and focuses on areas where further reductions could be achieved to help meet the 2020 target established by AB 32. By 2016, California had reduced GHG emissions below 1990 levels, achieving AB 32's 2020 goal four years ahead of schedule.

In 2016, the Legislature passed Senate Bill (SB) 32, which codified a 2030 GHG emissions reduction target of 40 percent below 1990 levels. With SB 32, the Legislature passed companion legislation, AB 197, which provides additional direction for developing the Scoping Plan. On December 14, 2017, CARB adopted a second update to the Scoping Plan.¹² The 2017 Scoping Plan details how the State will reduce GHG emissions to meet the 2030 target set by Executive Order B-30-15 and codified by SB 32. Other objectives listed in the 2017 Scoping plan are to provide direct GHG emissions reductions; support climate investment in disadvantaged communities; and support the Clean Power Plan and other federal actions.

Adopted December 15, 2022, CARB's 2022 Scoping Plan for Achieving Carbon Neutrality (2022 Scoping Plan) sets a path to achieve targets for carbon neutrality and reduce anthropogenic GHG emissions by 85 percent below 1990 levels by 2045 in accordance with AB 1279. To achieve the targets of AB 1279, the 2022 Scoping Plan relies on existing and emerging fossil fuel alternatives and clean technologies, as well as carbon capture and storage. Specifically, the 2022 Scoping Plan focuses on zero-emission transportation; phasing out use of fossil gas use for heating homes and buildings; reducing chemical and refrigerants with high GWP; providing communities with sustainable options for walking, biking, and public transit; displacement of fossil-fuel fired electrical generation through use of renewable energy alternatives (e.g., solar arrays and wind turbines); and scaling up new options such as green hydrogen. 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

¹² California Air Resources Board, *California's 2017 Climate Change Scoping Plan*, https://www.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf. Accessed December 2, 2022.

advocates for compliance with a local GHG reduction strategy (i.e., Climate Action Plan) consistent with CEQA Guidelines Section 15183.5.

The key elements of the 2022 CARB Scoping Plan focus on transportation. Specifically, the 2022 Scoping Plan aims to rapidly move towards zero-emission transportation (i.e., electrifying cars, buses, trains, and trucks), which constitutes California's single largest source of GHGs. The regulations that impact the transportation sector are adopted and enforced by CARB on vehicle manufacturers and are outside the jurisdiction and control of local governments. The 2022 Scoping Plan accelerates development of new regulations as well as amendments to strengthen regulations and programs already in place.

Included in the 2022 Scoping Plan is a set of Local Actions (2022 Scoping Plan Appendix D) 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. The 2022 Scoping Plan Appendix D 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 residential and mixed-use development in order to determine consistency with the 2022 Scoping Plan.¹³ These approaches are recommendations only and are not requirements. They do not supplant lead agencies' discretion to develop their own evidence-based approaches for determining whether a project would have a potentially significant impact on GHG emissions.

Senate Bill 32 (California Global Warming Solutions Act of 2006: Emissions Limit)

Signed into law in September 2016, SB 32 codifies the 2030 GHG reduction target in Executive Order B-30-15 (40 percent below 1990 levels by 2030). The bill authorizes CARB to adopt an interim GHG emissions level target to be achieved by 2030. CARB also must adopt rules and regulations in an open public process to achieve the maximum, technologically feasible, and cost-effective GHG reductions.

SB 375 (The Sustainable Communities and Climate Protection Act of 2008)

Signed into law on September 30, 2008, SB 375 provides a process to coordinate land use planning, regional transportation plans, and funding priorities to help California meet AB 32's GHG reduction goals. SB 375 requires metropolitan planning organizations to include sustainable community strategies in their regional transportation plans for reducing GHG emissions, aligns planning for transportation and housing, and creates specified incentives for the implementation of the strategies.

AB 1493 (Pavley Regulations and Fuel Efficiency Standards)

AB 1493, enacted on July 22, 2002, required CARB to develop and adopt regulations that reduce GHGs emitted by passenger vehicles and light duty trucks. Implementation of the regulation was delayed by lawsuits filed by automakers and by the U.S. EPA's denial of an implementation waiver. The U.S. EPA subsequently granted the requested waiver in 2009, which was upheld by the U.S. District Court for the District of Columbia in 2011. The regulations establish one set of emission standards for passenger vehicle and light duty truck model years 2009–2016 and a second set of emissions standards for model years 2017 to 2025. By 2025, when all rules will be fully implemented, new passenger vehicles are anticipated to emit 34 percent fewer CO₂e emissions and 75 percent fewer smog-forming emissions.

SB 1368 (Emission Performance Standards)

SB 1368 is the companion bill of AB 32, which directs the California Public Utilities Commission (CPUC) to adopt a performance standard for GHG emissions for the future power purchases of California utilities. SB 1368 limits carbon emissions associated with electrical energy consumed in California by forbidding procurement arrangements for energy longer than five years from resources that exceed the emissions

¹³ California Air Resources Board. (2022). 2022 Scoping Plan for Achieving Carbon Neutrality, Appendix D: Local Actions.

of a relatively clean, combined cycle natural gas power plant. The law effectively prevents California's utilities from investing in, otherwise financially supporting, or purchasing power from new coal plants located in or out of the State. The CPUC adopted the regulations required by SB 1368 on August 29, 2007. The regulations implementing SB 1368 establish a standard for baseload generation owned by, or under long-term contract to publicly owned utilities, for 1,100 pounds of CO₂ per megawatt-hour.

SB 1078, SB 107, and SBX1-2 (Renewable Electricity Standards)

SB 1078 requires California to generate 20 percent of its electricity from renewable energy by 2017. SB 107 (2006) changed the due date to 2010 instead of 2017. On November 17, 2008, then Governor Arnold Schwarzenegger signed Executive Order S-14-08, which established a Renewable Portfolio Standard target for California requiring that all retail sellers of electricity serve 33 percent of their load with renewable energy by 2020. Executive Order S-21-09 also directed CARB to adopt a regulation by July 31, 2010, requiring the State's load serving entities to meet a 33 percent renewable energy target by 2020. CARB approved the Renewable Electricity Standard on September 23, 2010 by Resolution 10-23. SBX1-2 codified the 33 percent by 2020 target.

SB 350 (Clean Energy and Pollution Reduction Act of 2015)

Signed into law on October 7, 2015, SB 350 implements Executive Order B-30-15's goals. The SB 350 objectives are to increase the procurement of electricity from renewable sources from 33 percent to 50 percent (with interim targets of 40 percent by 2024, and 45 percent by 2027) and to double the energy efficiency savings in electricity and natural gas end uses of retail customers through energy efficiency and conservation. SB 350 also reorganizes the Independent System Operator to develop more regional electricity transmission markets and improve accessibility in these markets, which will facilitate the growth of renewable energy markets in the western United States.

AB 398 (Market-Based Compliance Mechanisms)

Signed on July 25, 2017, AB 398 extended the duration of the Cap-and-Trade program from 2020 to 2030. AB 398 required CARB to update the Scoping Plan and for all GHG rules and regulations adopted by the State. It also designated CARB as the statewide regulatory body responsible for ensuring that California meets its statewide carbon pollution reduction targets, while retaining local air districts' responsibility and authority to curb toxic air contaminants and criteria pollutants from local sources that severely impact public health. AB 398 also decreased free carbon allowances over 40 percent by 2030 and prioritized Cap-and-Trade spending to various programs including reducing diesel emissions in impacted communities.

SB 150 (Regional Transportation Plans)

Signed on October 10, 2017, SB 150 aligns local and regional GHG reduction targets with State targets (i.e., 40 percent below 1990 levels by 2030). SB 150 creates a process to include communities in discussions on how to monitor their regions' progress on meeting these goals. The bill also requires the CARB to regularly report on that progress, as well as on the successes and the challenges regions experience associated with achieving their targets. SB 150 provides for accounting of climate change efforts and GHG reductions and identify effective reduction strategies.

SB 100 (California Renewables Portfolio Standard Program: Emissions of Greenhouse Gases)

Signed into law in September 2018, SB 100 increased California's renewable electricity portfolio from 50 to 60 percent by 2030. SB 100 also established a further goal to have an electric grid that is entirely powered by clean energy by 2045.

AB 1346 (Air Pollution: Small Off-Road Engines)

Signed into law in October 2021, AB 1346 requires CARB, to adopt cost-effective and technologically feasible regulations to prohibit engine exhaust and evaporative emissions from new small off-road engines, consistent with federal law, by July 1, 2022. AB 1346 requires CARB to identify and, to the extent feasible, make available funding for commercial rebates or similar incentive funding as part of any updates to existing applicable funding program guidelines to local air pollution control districts and air quality management districts to implement to support the transition to zero-emission small off-road equipment operations.

AB 1279 (The California Climate Crisis Act)

AB 1279 establishes the policy of the state to achieve carbon neutrality as soon as possible, but no later than 2045; to maintain net negative GHG emissions thereafter; and to ensure that by 2045 statewide anthropogenic GHG emissions are reduced at least 85 percent below 1990 levels. The bill requires CARB to ensure that Scoping Plan updates identify and recommend measures to achieve carbon neutrality, and to identify and implement policies and strategies that enable CO₂ removal solutions and carbon capture, utilization, and storage technologies.

SB 1020 (100 Percent Clean Electric Grid)

Signed on September 16, 2022, SB 1020 provides additional goals for the path to the 2045 goal of 100 percent clean electricity retail sales. It creates a target of 90 percent clean electricity retail sales by 2035 and 95 percent clean electricity retail sales by 2040.

SB 905 (Carbon Sequestration Program)

Signed on September 16, 2022, SB 905 establishes regulatory framework and policies that involve carbon removal, carbon capture, utilization, and sequestration. It also prohibits the injecting of concentrated carbon dioxide fluid into a Class II injection well for the purpose of enhanced oil recovery.

Executive Orders Related to GHG Emissions

California's Executive Branch has taken several actions to reduce GHGs using executive orders. Although not regulatory, they set the tone for the State and guide the actions of State agencies.

Executive Order S-3-05. Executive Order S-3-05 was issued on June 1, 2005, which established the following GHG emissions reduction targets:

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

The 2050 reduction goal represents what some scientists believe is necessary to reach levels that will 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. Issued on January 18, 2007, Executive Order S 01-07 mandates that a statewide goal shall be established to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020. The executive order established a Low Carbon Fuel Standard (LCFS) and directed the Secretary for Environmental Protection to coordinate the actions of the California Energy Commission, CARB, the University of California, and other agencies to develop and propose protocols for measuring the "life-cycle carbon intensity" of transportation fuels. CARB adopted the LCFS on April 23, 2009.

Executive Order S-13-08. Issued on November 14, 2008, Executive Order S-13-08 facilitated the California Natural Resources Agency’s development of the 2009 California Climate Adaptation Strategy. 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 S-14-08. Issued on November 17, 2008, Executive Order S-14-08 expands the State’s Renewable Energy Standard to 33 percent renewable power by 2020. Additionally, Executive Order S-21-09 (signed on September 15, 2009) directs CARB to adopt regulations requiring 33 percent of electricity sold in the State come from renewable energy by 2020. CARB adopted the Renewable Electricity Standard on September 23, 2010, which requires 33 percent renewable energy by 2020 for most publicly owned electricity retailers.

Executive Order S-21-09. Issued on July 17, 2009, Executive Order S-21-09 directs CARB to adopt regulations to increase California’s Renewable Portfolio Standard (RPS) to 33 percent by 2020. This builds upon SB 1078 (2002), which established the California RPS program, requiring 20 percent renewable energy by 2017, and SB 107 (2006), which advanced the 20 percent deadline to 2010, a goal that was expanded to 33 percent by 2020 in the 2005 Energy Action Plan II.

Executive Order B-30-15. Issued on April 29, 2015, Executive Order B-30-15 establishes a California GHG reduction target of 40 percent below 1990 levels by 2030 and directs CARB to update the Climate Change Scoping Plan to express the 2030 target in terms of MMTCO_{2e}. The 2030 target acts as an interim goal on the way to achieving reductions of 80 percent below 1990 levels by 2050, a goal set by Executive Order S-3-05. Executive Order B-30-15 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. With the enactment of SB 32 in 2016, the Legislature codified the goal of reducing GHG emissions to 40 percent below 1990 levels by 2030.

Executive Order B-55-18. Issued on September 10, 2018, Executive Order B-55-18 establishes a goal to achieve carbon neutrality as soon as possible, and no later than 2045, and achieve and maintain net negative emissions thereafter. This goal is in addition to the existing statewide targets of reducing GHG emissions. The executive order requires CARB to work with relevant state agencies to develop a framework for implementing this goal. It also requires CARB to update the Scoping Plan to identify and recommend measures to achieve carbon neutrality. The executive order also requires state agencies to develop sequestration targets in the Natural and Working Lands Climate Change Implementation Plan.

Executive Order N-79-20. Signed in September 2020, Executive Order N-79-20 establishes as a goal that where feasible, all new passenger cars and trucks, as well as all drayage/cargo trucks and off-road vehicles and equipment, sold in California, will be zero-emission by 2035. The executive order sets a similar goal requiring that all medium and heavy-duty vehicles will be zero-emission by 2045 where feasible. It also directs CARB to develop and propose rulemaking for passenger vehicles and trucks, medium-and heavy-duty fleets where feasible, drayage trucks, and off-road vehicles and equipment “requiring increasing volumes” of new ZEVs “towards the target of 100 percent.” The executive order directs the California Environmental Protection Agency, the California Geologic Energy Management Division (CalGEM), and the California Natural Resources Agency to transition and repurpose oil production facilities with a goal toward meeting carbon neutrality by 2045. Executive Order N-79-20 builds upon the CARB Advanced Clean Trucks regulation, which was adopted by CARB in July 2020.

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 Appliance Efficiency Regulations. The appliance efficiency regulations (California Code of Regulations [CCR] Title 20, Sections 1601-1608) include standards for new appliances. Twenty-three categories of appliances are included in the scope of these regulations. These standards include minimum levels of operating efficiency, and other cost-effective measures, to promote the use of energy- and water-efficient appliances.

Title 24 Building Energy Efficiency Standards. California's Energy Efficiency Standards for Residential and Nonresidential Buildings (CCR Title 24, Part 6) 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. Energy efficient buildings require less electricity; therefore, increased energy efficiency reduces fossil fuel consumption and decreases GHG emissions.

On August 11, 2021, the CEC adopted the 2022 Energy Code. In December 2021, it was approved by the California Building Standards Commission for inclusion into the California Building Standards Code. Among other updates like strengthened ventilation standards for gas cooking appliances, the 2022 Energy Code includes updated standards such as new electric heat pump requirements for residential uses, schools, offices, banks, libraries, retail, and grocery stores; the promotion of electric-ready requirements for new homes including the addition of circuitry for electric appliances, battery storage panels, and dedicated infrastructure to allow for the conversion from natural gas to electricity; and the expansion of solar photovoltaic and battery storage standards to additional land uses including high-rise multi-family residences, hotels and motels, tenant spaces, offices (including medical offices and clinics), retail and grocery stores, restaurants, schools, and civic uses (including theaters auditoriums, and convention centers). Newly constructed commercial buildings would also be required to have a solar photovoltaic (PV) array and an energy storage system (ESS) installed. Projects whose permit applications are applied for on or after January 1, 2023, must comply with the 2022 Energy Code.

Title 24 California Green Building Standards Code. The California Green Building Standards Code (CCR Title 24, Part 11 code) commonly referred to as the CALGreen Code, is a statewide mandatory construction code developed and adopted by the California Building Standards Commission and the Department of Housing and Community Development. The CALGreen standards require new residential and commercial buildings to comply with mandatory measures under the topics of planning and design, energy efficiency, water efficiency/conservation, material conservation and resource efficiency, and environmental quality. CALGreen also provides voluntary tiers and measures that local governments may adopt that encourage or require additional measures in the five green building topics: planning and design; energy efficiency; water efficiency and conservation; material conservation and resource efficiency; and environmental quality. The CALGreen Code also provides voluntary measures (CALGreen Tier 1 and Tier 2) that local governments may adopt which encourage or require additional measures in the five green building topics. The CEC adopted the 2022 CALGreen Code in December 2021, went into effect on January 1, 2023. The 2022 CALGreen code focuses on battery storage system controls, demand management, heat pump space and water heating, and building electrification.

3.3 Regional

Southern California Association of Governments (SCAG)

On September 3, 2020, SCAG's Regional Council adopted Connect SoCal (*2020–2045 Regional Transportation Plan/Sustainable Communities Strategy* [2020 RTP/SCS]). The 2020 RTP/SCS charts a course for closely integrating land use and transportation so that the region can grow smartly and sustainably. The strategy was prepared through a collaborative, continuous, and comprehensive process with input from local governments, county transportation commissions, tribal governments, non-profit

organizations, businesses and local stakeholders within the counties of Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura. SCAG's 2020 RTP/SCS establishes GHG emissions goals for automobiles and light-duty trucks for 2020 and 2035 as well as an overall GHG target for the Project region consistent with both the target date of AB 32 and the post-2020 GHG reduction goals of Executive Orders 5-03-05 and B-30-15. The 2020 RTP/SCS is a long-range vision plan that balances future mobility and housing needs with economic, environmental, and public health goals.

The 2020 RTP/SCS contains over 4,000 transportation projects, ranging from highway improvements, railroad grade separations, bicycle lanes, new transit hubs and replacement bridges. These future investments were included in county plans developed by the six county transportation commissions and seek to reduce traffic bottlenecks, improve the efficiency of the region's network, and expand mobility choices for everyone. The 2020 RTP/SCS is an important planning document for the region, allowing project sponsors to qualify for federal funding.

The 2020 RTP/SCS accounts for operations and maintenance costs to ensure reliability, longevity, and cost effectiveness. It is also supported by a combination of transportation and land use strategies that help the region achieve State GHG emissions reduction goals and FCAA requirements, preserve open space areas, improve public health and roadway safety, support our vital goods movement industry, and utilize resources more efficiently.

3.4 Local

City of Artesia General Plan

The City of Artesia General Plan contains the following goals and policies that address GHG emissions and sustainability. The following apply to the Project:

Artesia General Plan, Sustainability Element

Community Policy SUS 3.1: Adopt sustainable building measures for new municipal buildings and major renovations.

Policy Action SUS 3.1.1 Educate municipal employees about sustainable building design and operations.

Policy Action SUS 3.1.2 Consider adopting green building standards for municipal buildings.

Community Policy SUS 3.2: Strongly encourage the use of green building techniques in new construction and major renovations throughout the City.

Policy Action SUS 3.2.1 Prioritize the development and implementation of an outreach and education program to promote green building practices by residents and businesses.

Policy Action SUS 3.2.2 Encourage and explore incentives or mandates for green building techniques in existing building retrofits as well as new buildings.

Community Policy SUS 3.3: Achieve and maintain a mix of affordable, livable and green housing types throughout the City for people of all socio-economic, cultural, and household groups (including seniors, families, singles and disabled).

Community Policy SUS 5.1: Decrease vehicle miles traveled by increasing per vehicle ridership and decreasing the number of trips by autos and trucks.

Policy Action SUS 5.1.2 Wherever possible, encourage opportunities for "park-once" habits for business patrons. Reduce current subsidies to auto commuting by reducing parking required

for new transit-oriented or mixed-use developments—with convenient parking reserved for carpoolers, bicycles, customers and guests.

Policy Action SUS 5.1.3 Coordinate with neighboring jurisdictions to create an integrated system of bike routes, through such improvements as signage, additional bicycle lanes and paths, and additional bicycle racks.

Policy Action SUS 5.1.4 Coordinate with regional agencies to provide convenient access to commuter-rail and other transit opportunities.

Policy Action SUS 5.1.7 Encourage and explore incentives or mandates for green building techniques in existing building retrofits as well as new buildings.

Community Policy SUS 5.2: Decrease congestion on local and regional roadways to improve safety, reduce emissions and maintain mobility.

Policy Action SUS 5.2.1 Prioritize development and implementation of a traffic signal synchronization and optimization program.

Community Policy SUS 7.1: Encourage and, where feasible, mandate the implementation of best practices towards reducing greenhouse gas emissions.

Community Policy SUS 7.2: Cooperate with the State, the Southern California Association of Governments, and the Gateway Cities Council of Governments to achieve mandates imposed by AB 32, which calls for reduction of greenhouse gas emissions to 1990 levels by 2020; [sic] by Executive Order S-3-05, which calls for a reduction of GHG emissions to 80% below 1990 levels by 2050; and by SB 375, which promotes and prioritizes transit-oriented development.

Policy Action SUS 7.2.1 Coordinate with Gateway Cities COG and participate in development of their Sustainable Communities Strategy, including a regional inventory of current GHG emissions, in compliance with SB 375.

Policy Action SUS 7.2.2 Consider pursuit of State or Federal funding available for sustainable planning efforts and projects that aim to reduce GHG emissions.

4 SIGNIFICANCE CRITERIA AND METHODOLOGY

4.1 CEQA Thresholds and Significance Criteria

Based upon the criteria derived from State California Environmental Quality Act (CEQA) Guidelines Appendix G, a project normally would have a significant effect on the environment if it would:

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

Addressing GHG emissions generation impacts requires an agency to determine what constitutes a significant impact. Amendments to the State CEQA Guidelines specifically allow lead agencies to determine thresholds of significance that illustrate the extent of an impact and are a basis from which to apply mitigation measures. This means that each agency is left to determine whether a project's GHG emissions will have a "significant" impact on the environment. The guidelines direct that agencies are to use "careful judgment" and "make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate" the project's GHG emissions.¹⁴

GHG Thresholds

The South Coast Air Quality Management District (AQMD) formed a GHG CEQA Significance Threshold Working Group to provide guidance to local lead agencies on determining significance for GHG emissions in their CEQA documents. This Working Group was formed to assist South Coast AQMD's efforts to develop a GHG significance threshold and is composed of a wide variety of stakeholders including the State Office of Planning and Research, CARB, the Attorney General's Office, a variety of city and county planning departments in the SCAB, various utilities such as sanitation and power companies throughout the SCAB, industry groups, and environmental and professional organizations. The Working Group proposed a tiered approach to evaluating GHG emissions for development projects where the South Coast AQMD is not the lead agency, wherein projects are evaluated sequentially through a series of "tiers" to determine whether the project is likely to result in a potentially significant impact due to GHG emissions.

With the tiered approach, a project is compared against the requirements of each tier sequentially and would not result in a significant impact if it complies with any tier. Tier 1 excludes projects that are specifically exempt from SB 97 from resulting in a significant impact. Tier 2 excludes projects that are consistent with a GHG reduction plan that has a certified final CEQA document and complies with AB 32 GHG reduction goals. Tier 3 excludes projects with annual emissions lower than a screening threshold. The South Coast AQMD established a threshold of 10,000 metric tons of CO₂e (MTCO₂e) per year for industrial projects and a 3,000 MTCO₂e threshold was proposed for non-industrial projects but it has not been adopted. The South Coast AQMD concluded that projects with emissions less than the screening threshold would not result in a significant cumulative impact.

Tier 4 consists of three decision tree options. Under the Tier 4 first option, the South Coast AQMD initially outlined that a project would be excluded if design features and/or mitigation measures resulted in emissions 30 percent lower than business as usual emissions. However, the Working Group did not provide a recommendation for this approach. The Working Group folded the Tier 4 second option into the third option. Under the Tier 4 third option, a project would be excluded if it was below an efficiency-based threshold of 4.8 MTCO₂e per service population per year. Tier 5 would exclude projects that implement

¹⁴ 14 California Code of Regulations, Section 15064.4a

offsite mitigation (GHG reduction projects) or purchase offsets to reduce GHG emission impacts to less than the proposed screening level.

Tier 3 Screening Thresholds. When the tiered approach is applied to a proposed project, and the project is found not to comply with Tier 1 or Tier 2, the project's emissions are compared against a screening threshold, as described above, for Tier 3. The screening threshold formally adopted by South Coast AQMD is an "interim" screening threshold for stationary source industrial projects where the South Coast AQMD is the lead agency under CEQA. The threshold was termed "interim" because, at the time, South Coast AQMD anticipated that CARB would be adopting a statewide significance threshold that would inform and provide guidance to South Coast AQMD in its adoption of a final threshold. However, no Statewide threshold was ever adopted, and the interim threshold remains in effect.

For projects where South Coast AQMD is not a lead agency, no screening thresholds have been formally adopted. However, in 2008, the South Coast AQMD Working Group has recommended a threshold of 10,000 MTCO₂e/year for industrial projects and 3,000 MTCO₂e/year for residential and commercial projects. The South Coast AQMD staff determined that these thresholds would "capture" 90 percent of GHG emissions from these sectors, "capture" meaning that 90 percent of total emissions from all new projects would be subject to some type of CEQA analysis (i.e., found potentially significant).¹⁵

On September 28, 2010, air quality experts serving on the South Coast AQMD GHG CEQA Significance Threshold Stakeholder Working Group recommended an interim screening level numeric bright-line threshold of 3,000 MTCO₂e annually. The Working Group was formed to assist the South Coast AQMD's efforts to develop a GHG significance threshold and is composed of a wide variety of stakeholders including the State Office of Planning and Research (OPR), CARB, the Attorney General's Office, various city and county planning departments. The numeric bright line and efficiency-based thresholds, which were developed for consistency with CEQA requirements for developing significance thresholds, are supported by substantial evidence and provide guidance to CEQA practitioners and lead agencies for determining whether GHG emissions from a proposed project are significant. Therefore, this analysis relies on South Coast AQMD's recommended Tier 3 screening thresholds to determine the significance of a project's GHG emissions. To provide the most conservative analysis, the City will apply the 3,000 MTCO₂e/year screening threshold recommended by South Coast AQMD for residential and commercial projects.

4.2 Methodology

Global climate change is, by definition, a cumulative impact of GHG emissions. Therefore, there is no project-level analysis. The baseline against which to compare potential impacts of the project includes the natural and anthropogenic drivers of global climate change, including world-wide GHG emissions from human activities that almost doubled between 1970 and 2010 from approximately 27 gigatonnes (Gt) of CO₂/year to nearly 49 GtCO₂/year.¹⁶ As such, the geographic extent of climate change and GHG emissions cumulative impact discussion is worldwide.

The Project's construction and operational emissions were calculated using the California Emissions Estimator Model version 2020.4.0 (CalEEMod). Details of the modeling assumptions and emission factors are provided in **Appendix A: Greenhouse Gas Emissions Data**. For construction, CalEEMod calculates emissions from off-road equipment usage and on-road vehicle travel associated with haul, delivery, and

¹⁵ South Coast AQMD, "Staff Report: Interim CEQA GHG Significance Threshold for Stationary Sources, Rules and Plans," December 5, 2008, Attachment E: "Draft Guidance Document – Interim CEQA Greenhouse Gas (GHG) Significance Threshold," October 2008, p. 3-2.

¹⁶ Intergovernmental Panel on Climate Change, *Climate Change 2014 Mitigation of Climate Change Working Group III Contribution to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*, 2014.

construction worker trips. GHG emissions during construction were forecasted based on the proposed construction schedule and applying the mobile-source and fugitive dust emissions factors derived from CalEEMod. The Project's construction-related GHG emissions would be generated from off-road construction equipment, on-road hauling and vendor (material delivery) trucks, and worker vehicles.

The Project's operational GHG emissions would be generated by vehicular traffic, area sources (e.g., landscaping maintenance, consumer products), electrical generation, natural gas consumption, water supply and wastewater treatment, and solid waste. These emissions categories are discussed below.

- **Area Sources.** Area source emissions occur from hearths, architectural coatings, landscaping equipment, and consumer products. Additionally, the primary emissions from architectural coatings are volatile organic compounds, which are relatively insignificant as direct GHG emissions.
- **Energy Consumption.** Energy consumption consists of emissions from project consumption of electricity and natural gas. Primary uses of electricity and natural gas by the Project would be for space heating and cooling, water heating, ventilation, lighting, appliances, and electronics. Energy emissions are calculated based on consumption rates and emissions factors in CalEEMod. No changes were made to the default energy usage consumption rates or emissions factors.
- **Solid Waste.** Solid waste releases GHG emissions in the form of methane when these materials decompose. Solid waste emissions are calculated based on generation rates and emissions factors in CalEEMod.
- **Water and Wastewater.** Project GHG emissions would be generated from energy consumption associated with water and wastewater conveyance and treatment. Water and wastewater emissions are calculated based on the estimated consumption and emissions factors in CalEEMod.
- **Mobile Sources.** Mobile sources are emissions from motor vehicles. Traffic to be generated by the proposed Project was obtained from the Project's Local Transportation Assessment (Kimley-Horn, July 2022). Project trip generation is based on the following 11th Edition Institute of Transportation Engineers (ITE) land use categories:
 - ITE Land Use 220: Multifamily Housing (Low-Rise) – 80 dwelling units, 539 total daily vehicle trips.
 - ITE Land Use 712: Small Office Building – 2.443 thousand SF, 35 total daily vehicle trips.
 - ITE Land Use 822: Strip Retail Plaza (<40k) – 4.407 thousand SF, 240 total daily vehicle trips.
 - ITE Land Use 933: Fast-Food Restaurant without Drive-Through – 4.407 thousand SF, 1,985 total daily vehicle trips).

When incorporating pass-by trips and internal capture, the Project would generate 2,585 net daily trips. For this analysis, it was assumed the mobile source emission rates in CalEEMod used the CARB SAFE Rule adjustment factors.¹⁷

¹⁷ The U.S. EPA repealed SAFE Rule Part 1 on January 28, 2022. Therefore, the mobile source emissions in this analysis are conservative.

5 POTENTIAL IMPACTS AND MITIGATION

5.1 Greenhouse Gas Emissions

Threshold 5.1 Would the Project generate GHG emissions, either directly or indirectly, that could have a significant impact on the environment?

Short-Term Construction Greenhouse Gas Emissions

The Project would result in direct emissions of CO₂, N₂O, and CH₄ from construction equipment and the transport of materials and construction workers to and from the Project site. The GHG emissions only occur during temporary construction activities and would be cease once construction is complete. The total GHG emissions (in MTCO₂e) generated during construction are shown in **Table 3: Construction-Related Greenhouse Gas Emissions**.

Category	MTCO ₂ e
Construction Year 1 (2023)	202
Construction Year 2 (2024)	500
Construction Year 3 (2025)	290
Total Construction Emissions	992
30-Year Amortized Construction Emissions	33

Source: CalEEMod version 2020.4.0. Refer to [Appendix A: Greenhouse Gas Emissions Data](#) for model outputs.

As shown in Table 3, the Project would result in the generation of approximately 992 MTCO₂e over the course of construction. Construction GHG emissions are typically summed and amortized over a 30-year period and then added to the operational emissions.¹⁸ The amortized Project construction emissions would be 33 MTCO₂e per year. Once construction is complete, the generation of these GHG emissions would cease.

Long-Term Operational Greenhouse Gas Emissions

Operational or long-term emissions occur over the life of the Project. GHG emissions would result from direct emissions such as Project generated vehicular traffic, onsite combustion of natural gas, and operation of any landscaping equipment. Operational GHG emissions would also result from indirect sources, such as off-site generation of electrical power, the energy required to convey water to, and wastewater from the Project, the emissions associated with solid waste generated from the Project, and any fugitive refrigerants from air conditioning or refrigerators.

Prior to issuance of a building permit, the City would review and verify that the Project plans demonstrate compliance with the current version of the Building and Energy Efficiency Standards. The Project would also be required to adhere to the provisions of CALGreen, which establishes planning and design standards for sustainable site development, and energy efficiency. Construction activities would be required to monitor air quality emissions using applicable regulatory guidance such as the South Coast AQMD Rules.

The Project's operational GHG emissions are summarized in **Table 4: Operational Greenhouse Gas Emissions**. As shown in Table 4, the Project's unmitigated emissions would be approximately 2,243

¹⁸ The Project lifetime is based on the standard 30-year assumption of the South Coast Air Quality Management District (South Coast Air Quality Management District, *Minutes for the GHG CEQA Significance Threshold Stakeholder Working Group #13*, August 26, 2009).

MTCO₂e annually from both construction and operations. Project-related GHG emissions would not exceed the City's 3,000 MTCO₂e per year threshold. The majority of the GHG emissions (83 percent) are associated with non-construction related mobile sources. Emissions of motor vehicles are controlled by State and federal standards, and the Project has no control over these standards.

Emissions Source	MTCO₂e Emissions Per Year
Construction Amortized Over 30 Years	33
Area Source	2
Energy	293
Mobile	1,832
Waste	48
Water	35
TOTAL	2,243
<i>Threshold</i>	<i>3,000</i>
Exceeds Threshold?	No

Source: CalEEMod version 2020.4.0. Refer to [Appendix A: Greenhouse Gas Emissions Data](#) for model outputs.

Standard Conditions and Requirements: Standard Conditions are existing requirements and standard conditions that are based on local, State, or federal regulations or laws that are frequently required independent of CEQA review. Typical standard conditions and requirements include compliance with the provisions of the Building Code, South Coast AQMD Rules, etc. The City may impose additional conditions during the approval process, as appropriate. Because Standard Conditions (SC) are neither project-specific nor a result of development of the Project, they are not considered to be either Project Design Features or Mitigation Measures.

- SC GHG-1** Require diesel powered construction equipment to turn off when not in use per Title 13 CCR Section 2449.
- SC GHG-2** Install water-efficient irrigation systems and devices, such as soil moisture-based irrigation controls and sensors for landscaping according to the City's Water Efficient Landscape requirements (Artesia Municipal Code Article 15.5).
- SC GHG-3** The Project shall be designed in accordance with the applicable Title 24 Energy Efficiency Standards for Residential and Nonresidential Buildings (24 CCR, Part 6). These standards are updated, nominally every three years, to incorporate improved energy efficiency technologies and methods. The Building Official, or designee shall ensure compliance prior to the issuance of each building permit. The Title 24 Energy Efficiency Standards (Section 110.10) require buildings to be designed to have 15 percent of the roof area "solar ready" that will structurally accommodate later installation of rooftop solar panels. If future building operators pursue providing rooftop solar panels, they will submit plans for solar panels prior to occupancy.
- SC GHG-4** The Project shall be designed in accordance with the applicable California Green Building Standards (CALGreen) Code (24 CCR, Part 11). The Building Official, or designee shall ensure compliance prior to the issuance of each building permit. These requirements include, but are not limited to:

- Design buildings to be water-efficient. Install water-efficient fixtures in accordance with Section 4.303 (residential) and Section 5.303 (nonresidential) of the California Green Building Standards Code Part 11.
- Recycle and/or salvage for reuse a minimum of 65 percent of the nonhazardous construction and demolition waste in accordance with Section 4.408.1 (residential) and Section 5.408.1 (nonresidential) of the California Green Building Standards Code Part 11.
- Provide storage areas for recyclables and green waste and adequate recycling containers located in readily accessible areas in accordance with Section 4.410 (residential) and Section 5.410 (nonresidential) of the California Green Building Standards Code Part 11.
- To facilitate future installation of electric vehicle supply equipment (EVSE), residential construction shall comply with Section 4.106.4 (residential electric vehicle charging) of CALGreen Part 11 and nonresidential construction shall comply with Section 5.106.5.3 (nonresidential electric vehicle charging) of CALGreen Part 11.

Mitigation Measures: No mitigation is required.

Level of Significance: Less Than Significant Impact.

5.2 Greenhouse Gas Reduction Plan Compliance

Threshold 5.2 Would the Project conflict with an applicable plan, policy, or regulation of an agency adopted for the purpose of reducing GHG emissions?

2020 Regional Transportation Plan/Sustainable Communities Strategy Consistency

SCAG's RTP/SCS establishes GHG emissions goals for automobiles and light-duty trucks for 2020 and 2035 as well as an overall GHG target for the Project region consistent with both the target date of AB 32 and the post-2020 GHG reduction goals of Executive Orders 5-03-05 and B-30-15.

GHG emissions resulting from development-related mobile sources are the most potent source of emissions, and therefore Project comparison to the RTP/SCS is an appropriate indicator of whether the Project would inhibit the post-2020 GHG reduction goals promulgated by the state. The Project's consistency with the 2020 RTP/SCS goals is analyzed in detail in **Table 5: Regional Transportation Plan/Sustainable Communities Strategy Consistency**. The goals stated in the 2020 RTP/SCS were used to determine consistency with the planning efforts previously stated. As shown in Table 5, the Project would be consistent with the stated goals of the 2020 RTP/SCS. Therefore, the Project would not result in any significant impacts or interfere with SCAG's ability to achieve the region's post-2020 mobile source GHG reduction targets.

Table 5: Project Consistency with the Regional Transportation Plan/Sustainable Communities Strategy Consistency

SCAG Goals		Consistency	
GOAL 1:	Encourage regional economic prosperity and global competitiveness.	Not Applicable:	This is not a project-specific goal. Notwithstanding, the Project is located on an existing dairy farm, and development of the site would contribute to or bring equivalent regional economic prosperity.
GOAL 2:	Improve mobility, accessibility, reliability, and travel safety for people and goods.	Consistent:	Although this Project is not a transportation improvement project, the Project is located near existing transit routes on I-605 and SR-91.
GOAL 3:	Enhance the preservation, security, and resilience of the regional transportation system.	Not Applicable:	The Project is not a transportation improvement project.
GOAL 4:	Increase person and goods movement and travel choices within the transportation system.	Not Applicable:	The Project is not a transportation improvement project.
GOAL 5:	Reduce greenhouse gas emissions and improve air quality.	Consistent:	The Project site is in an urban area near existing transit routes and freeways. The Project's location within an urbanized area would reduce trip lengths, which would reduce GHG and air quality emissions.
GOAL 6:	Support healthy and equitable communities	Consistent:	The Project does not exceed South Coast AQMD's regional or localized thresholds. Based on the Friant Ranch decision, projects that do not exceed the South Coast AQMD's localized significance thresholds (LSTs) would not violate any air quality standards or contribute substantially to an existing or projected air quality violation and result in no criteria pollutant health impacts.
GOAL 7:	Adapt to a changing climate and support an integrated regional development pattern and transportation network.	Not Applicable:	This is not a project-specific goal.
GOAL 8:	Leverage new transportation technologies and data-driven solutions that result in more efficient travel.	Not Applicable:	This is not a project-specific goal.
GOAL 9:	Encourage development of diverse housing types in areas that are supported by multiple transportation options.	Consistent:	The Project involves development of a mix of uses (commercial and residential) that would provide diverse housing options that would be served by Artesia Transit Pioneer Boulevard/Artesia Boulevard #7 stop and Los Angeles County Metropolitan Transportation Authority (Metro).
GOAL 10:	Promote conservation of natural and agricultural lands and restoration of habitats.	Not Applicable:	The Project site is not located on agricultural lands and does not contain native habitat.

Source: Southern California Association of Governments, *Connect SoCal (2020 - 2045 Regional Transportation Plan/Sustainable Communities Strategy, 2020*.

2017 California Air Resource Board Scoping Plan Consistency

Pursuant to the requirements in AB 32, CARB adopted the *Climate Change Scoping Plan* (Scoping Plan) in 2008, which provides a range of GHG reduction actions. The 2017 Scoping Plan Update identifies additional GHG reduction measures necessary to achieve the 2030 target of a 40 percent reduction below

1990 levels. These measures build upon those identified in the first update to the Scoping Plan in 2013. The Project’s consistency with the CARB Scoping Plan, and implementing regulatory programs, is analyzed in detail in **Table 6: Project Consistency with Applicable CARB Scoping Plan Measures**. As indicated in Table 6, the Project would comply with the applicable measures. As such, impacts related to consistency with the Scoping Plan would be less than significant, and no mitigation is required.

Table 6: Project Consistency with Applicable CARB Scoping Plan Measures			
Scoping Plan Sector	Scoping Plan Measure	Implementing Regulations	Project Consistency
Transportation	California Cap-and-Trade Program Linked to Western Climate Initiative	Regulation for the California Cap on GHG Emissions and Market-Based Compliance Mechanism October 20, 2015 (CCR 95800)	Consistent. The Cap-and-Trade Program applies to large industrial sources such as power plants, refineries, and cement manufacturers. However, the regulation indirectly affects people who use the products and services produced by these industrial sources when increased cost of products or services (such as electricity and fuel) are transferred to the consumers. The Cap-and-Trade Program covers the GHG emissions associated with electricity consumed in California, 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 combustion of other fossil fuels not directly covered at large sources in the Program’s first compliance period. The proposed Project would not conflict with implementation of the Cap-and-Trade Program and would indirectly be consistent with regard to the use of electricity and fuel.
	California Light-Duty Vehicle GHG Standards	Pavley I 2005 Regulations to Control GHG Emissions from Motor Vehicles Pavley I 2005 Regulations to Control GHG Emissions from Motor Vehicles	Consistent. This measure applies to all new vehicles starting with model year 2012. The Project would not conflict with its implementation as it would apply to all new passenger vehicles purchased in California. Passenger vehicles, model year 2012 and later, associated with Project construction and operation would be required to comply with the Pavley emissions standards.
		2012 LEV III California GHG and Criteria Pollutant Exhaust and Evaporative Emission Standards	Consistent. The LEV III amendments provide reductions from new vehicles sold in California between 2017 and 2025. Passenger vehicles associated with Project construction and operations would be required to comply with LEV III standards.
	Low Carbon Fuel Standard	2009 readopted in 2015. Regulations to Achieve GHG Emission Reductions Subarticle 7. Low Carbon Fuel Standard CCR 95480	Consistent. This measure applies to transportation fuels utilized by vehicles in California. The Project would not conflict with implementation of this measure. It is assumed that any motor vehicles associated with Project construction and operations would be consistent with the measure and utilize low carbon transportation fuels.
	Regional Transportation-Related GHG Targets.	SB 375. Cal. Public Resources Code §§ 21155, 21155.1, 21155.2, 21159.28	Consistent. The Project would provide development in the region that is consistent with the growth projections in the 2020 RTP/SCS. SCAG forecasts the City’s population will grow to approximately 17,800

Table 6: Project Consistency with Applicable CARB Scoping Plan Measures

Scoping Plan Sector	Scoping Plan Measure	Implementing Regulations	Project Consistency
			<p>persons by 2045.¹⁹ The Project proposes 80 dwelling units, which is estimated to generate a population growth of approximately 270 persons.²⁰ The Project is estimated to generate approximately 30 jobs.²¹ SCAG forecasts the City’s employees will grow to approximately 6,600 employees by 2045.²²</p> <p>The proposed Project would result in additional residents and employees. However, the Project is an infill project with a mix of uses, which would include retail uses as well as higher density housing that is near major freeways and other services. By facilitating a mixed-use development with housing and neighborhood-serving retail proximate to employment, which would also reduce mobile-source GHG emissions. Single-occupancy vehicle trips would be discouraged and alternative modes of transportation such as carpooling, taking transit, walking, and biking would be encouraged.</p>
	Goods Movement	Goods Movement Action Plan January 2007	Not Applicable. The Project does not propose any changes to maritime, rail, or intermodal facilities or forms of transportation.
	Medium/Heavy-Duty Vehicle	2010 Amendments to the Truck and Bus Regulation, the Drayage Truck Regulation and the Tractor-Trailer GHG Regulation	Consistent. This measure applies to medium- and heavy-duty vehicles that operate in the State. The Project would not conflict with implementation of this measure. Medium- and heavy-duty vehicles associated with Project construction would be required to comply with this regulation.
	High Speed Rail	Funded under SB 862	Not Applicable. This is a Statewide measure that cannot be implemented by a project applicant or Lead Agency.
Electricity and Natural Gas	Energy Efficiency	Title 20 Appliance Efficiency Regulation	Consistent. The Project would not conflict with implementation of this measure, as it would be subject to compliance with the latest energy efficiency standards.
		Title 24 Part 6 Energy Efficiency Standards for Residential and Non-Residential Building	
		Title 24 Part 11 California Green Building Code Standards	
	Renewable Portfolio Standard/Renewable Electricity Standard.	2010 Regulation to Implement the Renewable Electricity Standard (33% 2020)	Consistent. The Project would obtain electricity from the electric utility, Southern California Edison (SCE). SCE obtained 30.9 percent of its power supply from renewable sources in 2020 and include 50 percent and

¹⁹ SCAG, Connect SoCal, *Demographics and Growth Forecast Technical Report*, September 2020, page 33.

²⁰ State of California, Department of Finance, E-5 Population and Housing Estimates for Cities, Counties and the State — January 1, 2021-2022. Sacramento, California, May 2022, Based on the residential generation rate for multi-family housing units (3.38 persons/1 DU).

²¹ City of Artesia, *Artesia Boulevard Corridor Specific Plan IS/MND*, November 2011, which is based on the SCAG Employment Density Report Table II-B. Based on the employment generation rate for restaurant (1 employee / 424 square feet), retail (1 employee / 424 square feet), and office (1 employee / 319 square feet).

²² SCAG, Connect SoCal, *Demographics and Growth Forecast Technical Report*, September 2020, page 37.

Table 6: Project Consistency with Applicable CARB Scoping Plan Measures

Scoping Plan Sector	Scoping Plan Measure	Implementing Regulations	Project Consistency
	Million Solar Roofs Program	SB 350 Clean Energy and Pollution Reduction Act of 2015 (50% 2030)	100 percent renewable Green Rate options. Therefore, the utility would provide power to the Project that would be comprised of a greater percentage of renewable sources.
	Million Solar Roofs Program	Tax Incentive Program	Consistent. This measure is to increase solar use throughout California, which is being done by various electricity providers and existing solar programs. The program provides incentives that are in place at the time of construction.
Water	Water	Title 24 Part 11 California Green Building Code Standards	Consistent. The Project would comply with the CALGreen Code, which require a 20 percent reduction in indoor water use.
		SBX 7-7—The Water Conservation Act of 2009	
		Model Water Efficient Landscape Ordinance	
Green Buildings	Green Building Strategy	Title 24 Part 11 California Green Building Code Standards	Consistent. The State is required to increase use of green building practices. The Project would implement required green building strategies through existing regulations that require the Project to comply with various CALGreen Code standards.
Industry	Industrial Emissions	2010 CARB Mandatory Reporting Regulation	Not Applicable. The Mandatory Reporting Regulation requires facilities and entities with more than 10,000 MTCO ₂ e of combustion and process emissions, all facilities belonging to certain industries, and all electric power entities to submit an annual GHG emissions data report directly to CARB. As shown above, although total Project GHG emissions would exceed 3,000 MTCO ₂ e, the Project is not considered a “facility” and the majority of these emissions are from mobile sources. Therefore, this regulation would not apply.
Recycling and Waste Management	Recycling and Waste	Title 24 Part 11 California Green Building Code Standards	Consistent. The Project would not conflict with implementation of these measures. The Project is required to achieve the recycling mandates via compliance with the CALGreen Code.
		AB 341 Statewide 75 Percent Diversion Goal	
Forests	Sustainable Forests	Cap and Trade Offset Projects	Not Applicable. The Project is in an area designated for urban uses. No forested lands exist on the site.
High Global Warming Potential	High Global Warming Potential Gases	CARB Refrigerant Management Program CCR 95380	Consistent. The regulations are applicable to refrigerants used by large air conditioning systems and large commercial and industrial refrigerators and cold storage system. The Project would not conflict with the refrigerant management regulations adopted by CARB.
Agriculture	Agriculture	Cap and Trade Offset Projects for Livestock and Rice Cultivation	Not Applicable. No grazing, feedlot, or other agricultural activities that generate manure occur currently on site or are proposed by the Project.

Source: California Air Resources Board, *California’s 2017 Climate Change Scoping Plan*, November 2017 and CARB, *Climate Change Scoping Plan*, December 2008.

2022 California Air Resource Board Scoping Plan Consistency

CARB's 2022 Scoping Plan sets a path to achieve targets for carbon neutrality and reduce anthropogenic GHG emissions by 85 percent below 1990 levels by 2045 in accordance with AB 1279. The 2022 Scoping Plan focuses on zero-emission transportation; phasing out use of fossil gas use for heating homes and buildings; reducing chemical and refrigerants with high GWP; providing communities with sustainable options for walking, biking, and public transit; displacement of fossil-fuel fired electrical generation through use of renewable energy alternatives (e.g., solar arrays and wind turbines); and scaling up new options such as green hydrogen. 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 (i.e., Climate Action Plan) consistent with CEQA Guidelines Section 15183.5.

Statewide strategies to reduce GHG emissions in the latest 2022 Scoping Plan include implementing SB 100, which would achieve 100 percent clean electricity by 2045; achieving 100 percent zero emission vehicle sales in 2035 through Advanced Clean Cars II; and implementing the Advanced Clean Fleets regulation to deploy ZEV buses and trucks. Additional transportation policies include the Off-Road Zero-Emission Targeted Manufacturer rule, Clean Off-Road Fleet Recognition Program, In-use Off-Road Diesel-Fueled Fleets Regulation, Clean Off-Road Fleet Recognition Program, and Amendments to the In-use Off-Road Diesel-Fueled Fleets Regulation. The 2022 Scoping Plan would continue to implement SB 375. GHGs would be further reduced through the Cap-and-Trade Program carbon pricing and SB 905. SB 905 requires CARB to create the Carbon Capture, Removal, Utilization, and Storage Program to evaluate, demonstrate, and regulate carbon dioxide removal projects and technology.

As indicated above, GHG reductions are also achieved as a result of State of California energy and water efficiency requirements for new residential developments. These efficiency improvements correspond to reductions in secondary GHG emissions. For example, in California, most of the electricity that powers homes is derived from natural gas combustion. Therefore, energy saving measures, such as Title 24, reduces GHG emissions from the power generation facilities by reducing load demand.

The 2022 Scoping Plan Appendix D provides local jurisdictions with tools to reduce GHGs and assist the state in meeting the ambitious targets set forth in the 2022 Scoping Plan. The 2022 Scoping Plan Appendix D focuses on Residential and Mixed-Use Projects.

The 2022 Scoping Plan Appendix D lists potential actions that support the State's climate goals. However, the 2022 Scoping Plan notes that the applicability and performance of the actions may vary across the regions. The document is organized into two categories (A) examples of plan-level GHG reduction actions that could be implemented by local governments and (B) examples of on-site project design features, mitigation measures, that could be required of individual projects under CEQA, if feasible, when the local jurisdiction is the lead agency.

The Project would include a number of the Standard Conditions and mitigation measures for construction and operation. For example, the 2022 Scoping Plan's construction actions include enforcing idling time restrictions on construction vehicles and requiring construction vehicles to operate highest tier engines commercially available. These actions are consistent with the requirements in **MM HRA-1**, which requires the minimization of idling and the use of clean off-road engines.

The Project would include a majority of the feasible operational mitigation measures listed in the 2022 Scoping Plan Appendix D as design features. Some of the recommended operational measures would include providing bicycle parking, creating on- and off-site safety improvements for bike, pedestrian, and transit connections, requiring solar panels, drought-tolerant landscaping, and energy conserving appliances

As discussed above and identified in Table 5 and Table 6, the Project would be consistent with all applicable plan goals and applicable regulatory programs designed to reduce GHG emissions generated by land use projects. The Project would be subject to compliance with all building codes in effect at the time of construction, which include energy conservation measures mandated by California Building Standards Code Title 24 – Energy Efficiency Standards. Because Title 24 standards require energy conservation features in new construction (e.g., high-efficiency lighting, high-efficiency heating, ventilating, and air-conditioning (HVAC) systems, thermal insulation, double-glazed windows, water conserving plumbing fixtures), they indirectly regulate and reduce GHG emissions. California's Building Energy Efficiency Standards are updated on an approximately three-year cycle.

As shown in Table 4, approximately 96 percent of the Project's emissions are from energy and mobile sources, which would be further reduced by the 2022 Scoping Plan actions described above. The City has no control over vehicle emissions (approximately 83 percent of the Project's total emissions). However, these emissions would decline in the future due to Statewide measures, as well as cleaner technology and fleet turnover. Several of the State's plans and policies would contribute to a reduction in the Project's mobile source emissions, including the following:

- **CARB's Advanced Clean Truck Regulation:** Adopted in June 2020, CARB's Advanced Clean Truck Regulation requires truck manufacturers to transition from diesel trucks and vans to electric zero-emission trucks beginning in 2024. By 2045, every new truck sold in California is required to be zero-emission. The Advanced Clean Truck Regulation accelerates the transition of zero-emission medium-and heavy-duty vehicles from Class 2b to Class 8.
- **Executive Order N-79-20:** Executive Order N-79-20 establishes the goal for all new passenger cars and trucks, as well as all drayage/cargo trucks and off-road vehicles and equipment, sold in California, to be zero-emission by 2035 and all medium and heavy-duty vehicles to be zero-emission by 2045. It also directs CARB to develop and propose rulemaking for passenger vehicles and trucks, medium-and heavy-duty fleets where feasible, drayage trucks, and off-road vehicles and equipment "requiring increasing volumes" of new ZEVs "towards the target of 100 percent."
- **CARB's Mobile Source Strategy:** CARB's Mobile Source Strategy takes an integrated planning approach to identify the level of transition to cleaner mobile source technologies needed to achieve all of California's targets by increasing the adoption of ZEV buses and trucks.
- **CARB's Sustainable Freight Action Plan:** The Sustainable Freight Action Plan which improves freight system efficiency, utilizes near-zero emissions technology, and deployment of ZEV trucks. This Plan applies to all trucks accessing the Project site and may include existing trucks or new trucks that are part of the State-wide goods movement sector.
- **CARB's Emissions Reduction Plan for Ports and Goods Movement:** CARB's Emissions Reduction Plan for Ports and Goods Movement identifies measures to improve goods movement efficiencies such as advanced combustion strategies, friction reduction, waste heat recovery, and electrification of accessories.

While these measures are not directly applicable to the Project, any commercial activity associated with goods movement would be required to comply with these measures as adopted. The Project would not obstruct or interfere with efforts to increase ZEVs or State efforts to improve system efficiency. Compliance with applicable State standards (e.g., continuation of the Cap-and-Trade regulation; CARB's Mobile Source Strategy, Sustainable Freight Action Plan, and Advanced Clean Truck Regulation; Executive Order N-79-20; SB 100/renewable electricity portfolio improvements that require 60 percent renewable electricity by 2030 and 100 percent renewable by 2045, etc.) would ensure consistency with State and regional GHG reduction planning efforts, including the 2022 Scoping Plan. It is also noted that the Project

would not convert any Natural and Working Lands (NWL) and/or decrease the State's urban forest carbon stock, which are areas of emphasis in the 2022 Scoping Plan. Further, the Project includes a mix of residential and commercial land uses that would potentially reducing the need to travel long distances for some residents and reducing associated GHG emissions.²³

Regarding goals for 2050 under Executive Order S-3-05, at this time it is not possible to quantify the emissions savings from future regulatory measures, as they have not yet been developed; nevertheless, it can be anticipated that Project operations would benefit from applicable measures enacted to meet State GHG reduction goals. 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. As such, impacts related to consistency with the 2022 Scoping Plan would be less than significant, and no mitigation is required.

In conclusion, the Project does not conflict with the applicable plans and regulatory programs that are discussed above and therefore with respect to this particular threshold, the Project does not have a significant impact.

Mitigation Measures: No mitigation is required.

Level of Significance: Less Than Significant Impact.

5.3 Cumulative Setting, Impacts, and Mitigation Measures

Cumulative Setting

Climate change is a global problem. GHGs are global pollutants, unlike criteria air pollutants and TACs, which are pollutants of regional and local concern. Whereas pollutants with localized air quality effects have relatively short atmospheric lifetimes (about one day), GHGs have much longer atmospheric lifetimes of one year to several thousand years that allow them to be dispersed around the globe.

Cumulative Impacts

It is generally the case that an individual project of the proposed Project's size and nature is of insufficient magnitude by itself to influence climate change or result in a substantial contribution to the global GHG inventory. GHG impacts are recognized as exclusively cumulative impacts; there are no non-cumulative GHG emission impacts from a climate change perspective. The additive effect of Project-related GHGs would not result in a reasonably foreseeable cumulatively considerable contribution to global climate change. As discussed above, Project GHG emissions would not exceed the 3,000 MTCO₂e per year threshold and would not impede the achievement of statewide 2030 and 2050 GHG emission reduction targets. Therefore, the Project would not be cumulatively considerable, and impacts would be less than significant.

Mitigation Measures: No mitigation is required.

Level of Significance: Less Than Significant Impact.

²³ California Air Pollution Control Officers Association (2010). *Quantifying Greenhouse Gas Mitigation Measures*. The California Air Pollution Control Officers Association identifies that infill developments, such as the proposed Project reduce vehicle miles traveled (VMT) which reduces fuel consumption. Infill projects such as the proposed Project would have an improved location efficiency.

6 REFERENCES

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Appendix A

Greenhouse Gas Emissions Data

ABCSPA - Los Angeles-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

ABCSPA

Los Angeles-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	2.44	1000sqft	0.06	2,443.00	0
Enclosed Parking Structure	160.00	Space	1.44	64,000.00	0
Parking Lot	56.00	Space	0.50	22,400.00	0
Fast Food Restaurant w/o Drive Thru	4.41	1000sqft	0.10	4,407.00	0
Apartments Low Rise	80.00	Dwelling Unit	5.00	80,000.00	229
Strip Mall	4.41	1000sqft	0.10	4,407.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	33
Climate Zone	9			Operational Year	2025
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	390.98	CH4 Intensity (lb/MWhr)	0.033	N2O Intensity (lb/MWhr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Enclosed Parking Structure is for the 160 spaces in the apartment garages, and the parking lot is for the 56 open guest and commercial use spaces. The reduction of lot acreage for Residential to accommodate for multi-story buildings

Construction Phase - Based on client given construction schedule

Trips and VMT - Based on closest disposal site at California Waste Services. 621 W 152nd street

Grading - Based on site preparation at start and hardscape removal

Vehicle Trips - Daily trips based on Trip Generation values from Kimley-Horn traffic group. Low rise: $(539 - 12)/(80) = 6.59$ Fast food: $(1985 - 62 - 140)/(4.407) = 404.580$

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstructionPhase	NumDays	10.00	43.00
tblConstructionPhase	NumDays	20.00	87.00
tblConstructionPhase	NumDays	230.00	415.00
tblConstructionPhase	NumDays	20.00	24.00
tblConstructionPhase	NumDays	20.00	67.00
tblGrading	AcresOfGrading	87.00	20.00
tblGrading	AcresOfGrading	64.50	15.00
tblGrading	MaterialExported	0.00	2,442.60
tblLandUse	LandUseSquareFeet	2,440.00	2,443.00
tblLandUse	LandUseSquareFeet	4,410.00	4,407.00
tblLandUse	LandUseSquareFeet	4,410.00	4,407.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblTripsAndVMT	WorkerTripNumber	20.00	15.00
tblVehicleTrips	ST_TR	8.14	6.59
tblVehicleTrips	ST_TR	696.00	404.58
tblVehicleTrips	ST_TR	2.21	14.39
tblVehicleTrips	ST_TR	42.04	54.45
tblVehicleTrips	SU_TR	6.28	6.59
tblVehicleTrips	SU_TR	500.00	404.58
tblVehicleTrips	SU_TR	0.70	14.39
tblVehicleTrips	SU_TR	20.43	54.45
tblVehicleTrips	WD_TR	7.32	6.59
tblVehicleTrips	WD_TR	346.23	404.58
tblVehicleTrips	WD_TR	9.74	14.39

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tblVehicleTrips	WD_TR	44.32	54.45
tblWoodstoves	NumberCatalytic	4.00	0.00
tblWoodstoves	NumberNoncatalytic	4.00	0.00

2.0 Emissions Summary

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	0.1343	1.3823	1.0659	2.2600e-003	0.6793	0.0607	0.7400	0.3614	0.0559	0.4173	0.0000	200.0388	200.0388	0.0601	1.3600e-003	201.9458
2024	0.2470	2.0305	2.7329	5.5800e-003	0.1770	0.0870	0.2640	0.0467	0.0817	0.1284	0.0000	493.7370	493.7370	0.0832	0.0112	499.1529
2025	0.4495	1.0856	1.5596	3.2400e-003	0.1016	0.0430	0.1445	0.0273	0.0405	0.0678	0.0000	286.4771	286.4771	0.0449	6.4600e-003	289.5239
Maximum	0.4495	2.0305	2.7329	5.5800e-003	0.6793	0.0870	0.7400	0.3614	0.0817	0.4173	0.0000	493.7370	493.7370	0.0832	0.0112	499.1529

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	0.0292	0.1303	1.2515	2.2600e-003	0.2731	3.5900e-003	0.2767	0.1431	3.5800e-003	0.1467	0.0000	200.0385	200.0385	0.0601	1.3600e-003	201.9456
2024	0.0886	0.4665	2.9196	5.5800e-003	0.1687	7.1900e-003	0.1759	0.0450	7.1000e-003	0.0521	0.0000	493.7366	493.7366	0.0832	0.0112	499.1525
2025	0.3652	0.2686	1.6656	3.2400e-003	0.1016	4.1300e-003	0.1057	0.0273	4.0700e-003	0.0313	0.0000	286.4769	286.4769	0.0449	6.4600e-003	289.5236
Maximum	0.3652	0.4665	2.9196	5.5800e-003	0.2731	7.1900e-003	0.2767	0.1431	7.1000e-003	0.1467	0.0000	493.7366	493.7366	0.0832	0.0112	499.1525

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	41.87	80.76	-8.92	0.00	43.28	92.18	51.39	50.53	91.72	62.49	0.00	0.00	0.00	0.00	0.00	0.00

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	9-1-2023	11-30-2023	1.3177	0.1387
2	12-1-2023	2-29-2024	0.6845	0.1265
3	3-1-2024	5-31-2024	0.5396	0.1337
4	6-1-2024	8-31-2024	0.5386	0.1327
5	9-1-2024	11-30-2024	0.5346	0.1332
6	12-1-2024	2-28-2025	0.5060	0.1316
7	3-1-2025	5-31-2025	0.6222	0.2389
8	6-1-2025	8-31-2025	0.5772	0.3019
		Highest	1.3177	0.3019

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.6269	0.0263	1.0906	5.4000e-004		0.0410	0.0410		0.0410	0.0410	3.1437	17.6826	20.8263	1.6200e-003	5.8000e-004	21.0386
Energy	0.0125	0.1099	0.0680	6.8000e-004		8.6300e-003	8.6300e-003		8.6300e-003	8.6300e-003	0.0000	291.3697	291.3697	0.0165	3.9800e-003	292.9697
Mobile	1.0534	1.0551	9.5663	0.0195	2.1052	0.0147	2.1198	0.5617	0.0136	0.5753	0.0000	1,803.0468	1,803.0468	0.1393	0.0856	1,832.0243
Waste						0.0000	0.0000		0.0000	0.0000	19.1827	0.0000	19.1827	1.1337	0.0000	47.5242
Water						0.0000	0.0000		0.0000	0.0000	2.3195	24.4443	26.7638	0.2403	5.8800e-003	34.5221
Total	1.6928	1.1912	10.7249	0.0207	2.1052	0.0643	2.1694	0.5617	0.0633	0.6249	24.6458	2,136.5433	2,161.1891	1.5314	0.0960	2,228.0789

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.3918	9.5200e-003	0.8271	4.0000e-005		4.5800e-003	4.5800e-003		4.5800e-003	4.5800e-003	0.0000	1.3533	1.3533	1.3100e-003	0.0000	1.3859
Energy	0.0125	0.1099	0.0680	6.8000e-004		8.6300e-003	8.6300e-003		8.6300e-003	8.6300e-003	0.0000	291.3697	291.3697	0.0165	3.9800e-003	292.9697
Mobile	1.0534	1.0551	9.5663	0.0195	2.1052	0.0147	2.1198	0.5617	0.0136	0.5753	0.0000	1,803.0468	1,803.0468	0.1393	0.0856	1,832.0243
Waste						0.0000	0.0000		0.0000	0.0000	19.1827	0.0000	19.1827	1.1337	0.0000	47.5242
Water						0.0000	0.0000		0.0000	0.0000	2.3195	24.4443	26.7638	0.2403	5.8800e-003	34.5221
Total	1.4577	1.1744	10.4614	0.0202	2.1052	0.0279	2.1330	0.5617	0.0268	0.5885	21.5022	2,120.2140	2,141.7162	1.5311	0.0954	2,208.4262

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	13.89	1.41	2.46	2.42	0.00	56.63	1.68	0.00	57.57	5.83	12.76	0.76	0.90	0.02	0.60	0.88

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	9/1/2023	10/31/2023	5	43	
2	Grading	Grading	9/1/2023	1/1/2024	5	87	
3	Building Construction	Building Construction	1/1/2024	8/1/2025	5	415	

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4	Paving	Paving	1/1/2024	2/1/2024	5	24
5	Architectural Coating	Architectural Coating	5/1/2025	8/1/2025	5	67

Acres of Grading (Site Preparation Phase): 15

Acres of Grading (Grading Phase): 20

Acres of Paving: 1.94

Residential Indoor: 162,000; Residential Outdoor: 54,000; Non-Residential Indoor: 16,886; Non-Residential Outdoor: 5,629; Striped Parking Area: 5,184 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	2	6.00	132	0.36
Paving	Rollers	2	6.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

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Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	242.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	98.00	25.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

- Use Cleaner Engines for Construction Equipment
- Water Exposed Area
- Reduce Vehicle Speed on Unpaved Roads

3.2 Site Preparation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.3964	0.0000	0.3964	0.2144	0.0000	0.2144	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0572	0.5918	0.3923	8.2000e-004		0.0272	0.0272		0.0250	0.0250	0.0000	71.9190	71.9190	0.0233	0.0000	72.5005
Total	0.0572	0.5918	0.3923	8.2000e-004	0.3964	0.0272	0.4236	0.2144	0.0250	0.2394	0.0000	71.9190	71.9190	0.0233	0.0000	72.5005

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Site Preparation - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.6000e-004	0.0166	4.2400e-003	7.0000e-005	2.0800e-003	1.0000e-004	2.1800e-003	5.7000e-004	1.0000e-004	6.7000e-004	0.0000	7.0576	7.0576	3.9000e-004	1.1200e-003	7.4013
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2300e-003	9.7000e-004	0.0132	4.0000e-005	4.2400e-003	3.0000e-005	4.2700e-003	1.1300e-003	2.0000e-005	1.1500e-003	0.0000	3.3756	3.3756	9.0000e-005	9.0000e-005	3.4040
Total	1.4900e-003	0.0176	0.0174	1.1000e-004	6.3200e-003	1.3000e-004	6.4500e-003	1.7000e-003	1.2000e-004	1.8200e-003	0.0000	10.4331	10.4331	4.8000e-004	1.2100e-003	10.8053

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1546	0.0000	0.1546	0.0836	0.0000	0.0836	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0100	0.0434	0.4487	8.2000e-004		1.3300e-003	1.3300e-003		1.3300e-003	1.3300e-003	0.0000	71.9189	71.9189	0.0233	0.0000	72.5004
Total	0.0100	0.0434	0.4487	8.2000e-004	0.1546	1.3300e-003	0.1559	0.0836	1.3300e-003	0.0849	0.0000	71.9189	71.9189	0.0233	0.0000	72.5004

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Site Preparation - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.6000e-004	0.0166	4.2400e-003	7.0000e-005	2.0800e-003	1.0000e-004	2.1800e-003	5.7000e-004	1.0000e-004	6.7000e-004	0.0000	7.0576	7.0576	3.9000e-004	1.1200e-003	7.4013
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2300e-003	9.7000e-004	0.0132	4.0000e-005	4.2400e-003	3.0000e-005	4.2700e-003	1.1300e-003	2.0000e-005	1.1500e-003	0.0000	3.3756	3.3756	9.0000e-005	9.0000e-005	3.4040
Total	1.4900e-003	0.0176	0.0174	1.1000e-004	6.3200e-003	1.3000e-004	6.4500e-003	1.7000e-003	1.2000e-004	1.8200e-003	0.0000	10.4331	10.4331	4.8000e-004	1.2100e-003	10.8053

3.3 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.2696	0.0000	0.2696	0.1435	0.0000	0.1435	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0736	0.7712	0.6343	1.2800e-003		0.0333	0.0333		0.0307	0.0307	0.0000	112.0606	112.0606	0.0362	0.0000	112.9667
Total	0.0736	0.7712	0.6343	1.2800e-003	0.2696	0.0333	0.3029	0.1435	0.0307	0.1741	0.0000	112.0606	112.0606	0.0362	0.0000	112.9667

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Grading - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0500e-003	1.6200e-003	0.0220	6.0000e-005	7.0700e-003	4.0000e-005	7.1100e-003	1.8800e-003	4.0000e-005	1.9200e-003	0.0000	5.6260	5.6260	1.5000e-004	1.5000e-004	5.6734
Total	2.0500e-003	1.6200e-003	0.0220	6.0000e-005	7.0700e-003	4.0000e-005	7.1100e-003	1.8800e-003	4.0000e-005	1.9200e-003	0.0000	5.6260	5.6260	1.5000e-004	1.5000e-004	5.6734

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1051	0.0000	0.1051	0.0560	0.0000	0.0560	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0156	0.0677	0.7634	1.2800e-003		2.0800e-003	2.0800e-003		2.0800e-003	2.0800e-003	0.0000	112.0605	112.0605	0.0362	0.0000	112.9666
Total	0.0156	0.0677	0.7634	1.2800e-003	0.1051	2.0800e-003	0.1072	0.0560	2.0800e-003	0.0580	0.0000	112.0605	112.0605	0.0362	0.0000	112.9666

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Grading - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0500e-003	1.6200e-003	0.0220	6.0000e-005	7.0700e-003	4.0000e-005	7.1100e-003	1.8800e-003	4.0000e-005	1.9200e-003	0.0000	5.6260	5.6260	1.5000e-004	1.5000e-004	5.6734
Total	2.0500e-003	1.6200e-003	0.0220	6.0000e-005	7.0700e-003	4.0000e-005	7.1100e-003	1.8800e-003	4.0000e-005	1.9200e-003	0.0000	5.6260	5.6260	1.5000e-004	1.5000e-004	5.6734

3.3 Grading - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0136	0.0000	0.0136	2.8000e-003	0.0000	2.8000e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.3000e-004	8.5200e-003	7.3800e-003	1.0000e-005		3.6000e-004	3.6000e-004		3.3000e-004	3.3000e-004	0.0000	1.3032	1.3032	4.2000e-004	0.0000	1.3137
Total	8.3000e-004	8.5200e-003	7.3800e-003	1.0000e-005	0.0136	3.6000e-004	0.0140	2.8000e-003	3.3000e-004	3.1300e-003	0.0000	1.3032	1.3032	4.2000e-004	0.0000	1.3137

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3.3 Grading - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-005	2.0000e-005	2.4000e-004	0.0000	8.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0636	0.0636	0.0000	0.0000	0.0641
Total	2.0000e-005	2.0000e-005	2.4000e-004	0.0000	8.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0636	0.0636	0.0000	0.0000	0.0641

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.3100e-003	0.0000	5.3100e-003	1.0900e-003	0.0000	1.0900e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.8000e-004	7.9000e-004	8.8800e-003	1.0000e-005		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	1.3032	1.3032	4.2000e-004	0.0000	1.3137
Total	1.8000e-004	7.9000e-004	8.8800e-003	1.0000e-005	5.3100e-003	2.0000e-005	5.3300e-003	1.0900e-003	2.0000e-005	1.1100e-003	0.0000	1.3032	1.3032	4.2000e-004	0.0000	1.3137

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3.3 Grading - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-005	2.0000e-005	2.4000e-004	0.0000	8.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0636	0.0636	0.0000	0.0000	0.0641
Total	2.0000e-005	2.0000e-005	2.4000e-004	0.0000	8.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0636	0.0636	0.0000	0.0000	0.0641

3.4 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1928	1.7611	2.1179	3.5300e-003		0.0803	0.0803		0.0756	0.0756	0.0000	303.7223	303.7223	0.0718	0.0000	305.5179
Total	0.1928	1.7611	2.1179	3.5300e-003		0.0803	0.0803		0.0756	0.0756	0.0000	303.7223	303.7223	0.0718	0.0000	305.5179

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3.4 Building Construction - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.5800e-003	0.1323	0.0484	6.0000e-004	0.0206	6.4000e-004	0.0213	5.9600e-003	6.1000e-004	6.5700e-003	0.0000	58.6534	58.6534	2.0000e-003	8.4500e-003	61.2212
Worker	0.0380	0.0289	0.4067	1.1900e-003	0.1407	8.3000e-004	0.1415	0.0374	7.6000e-004	0.0381	0.0000	108.8125	108.8125	2.7000e-003	2.7100e-003	109.6873
Total	0.0416	0.1611	0.4551	1.7900e-003	0.1613	1.4700e-003	0.1628	0.0433	1.3700e-003	0.0447	0.0000	167.4659	167.4659	4.7000e-003	0.0112	170.9085

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0429	0.2928	2.2873	3.5300e-003		5.3400e-003	5.3400e-003		5.3400e-003	5.3400e-003	0.0000	303.7220	303.7220	0.0718	0.0000	305.5175
Total	0.0429	0.2928	2.2873	3.5300e-003		5.3400e-003	5.3400e-003		5.3400e-003	5.3400e-003	0.0000	303.7220	303.7220	0.0718	0.0000	305.5175

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3.4 Building Construction - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.5800e-003	0.1323	0.0484	6.0000e-004	0.0206	6.4000e-004	0.0213	5.9600e-003	6.1000e-004	6.5700e-003	0.0000	58.6534	58.6534	2.0000e-003	8.4500e-003	61.2212
Worker	0.0380	0.0289	0.4067	1.1900e-003	0.1407	8.3000e-004	0.1415	0.0374	7.6000e-004	0.0381	0.0000	108.8125	108.8125	2.7000e-003	2.7100e-003	109.6873
Total	0.0416	0.1611	0.4551	1.7900e-003	0.1613	1.4700e-003	0.1628	0.0433	1.3700e-003	0.0447	0.0000	167.4659	167.4659	4.7000e-003	0.0112	170.9085

3.4 Building Construction - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1046	0.9539	1.2305	2.0600e-003		0.0404	0.0404		0.0380	0.0380	0.0000	177.4184	177.4184	0.0417	0.0000	178.4610
Total	0.1046	0.9539	1.2305	2.0600e-003		0.0404	0.0404		0.0380	0.0380	0.0000	177.4184	177.4184	0.0417	0.0000	178.4610

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Building Construction - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.0300e-003	0.0769	0.0277	3.4000e-004	0.0121	3.7000e-004	0.0124	3.4800e-003	3.6000e-004	3.8400e-003	0.0000	33.6356	33.6356	1.1800e-003	4.8500e-003	35.1098
Worker	0.0208	0.0151	0.2210	6.7000e-004	0.0822	4.6000e-004	0.0826	0.0218	4.2000e-004	0.0222	0.0000	61.3839	61.3839	1.4200e-003	1.4800e-003	61.8597
Total	0.0228	0.0920	0.2488	1.0100e-003	0.0942	8.3000e-004	0.0950	0.0253	7.8000e-004	0.0261	0.0000	95.0195	95.0195	2.6000e-003	6.3300e-003	96.9694

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0251	0.1710	1.3357	2.0600e-003		3.1200e-003	3.1200e-003		3.1200e-003	3.1200e-003	0.0000	177.4182	177.4182	0.0417	0.0000	178.4608
Total	0.0251	0.1710	1.3357	2.0600e-003		3.1200e-003	3.1200e-003		3.1200e-003	3.1200e-003	0.0000	177.4182	177.4182	0.0417	0.0000	178.4608

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Building Construction - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.0300e-003	0.0769	0.0277	3.4000e-004	0.0121	3.7000e-004	0.0124	3.4800e-003	3.6000e-004	3.8400e-003	0.0000	33.6356	33.6356	1.1800e-003	4.8500e-003	35.1098
Worker	0.0208	0.0151	0.2210	6.7000e-004	0.0822	4.6000e-004	0.0826	0.0218	4.2000e-004	0.0222	0.0000	61.3839	61.3839	1.4200e-003	1.4800e-003	61.8597
Total	0.0228	0.0920	0.2488	1.0100e-003	0.0942	8.3000e-004	0.0950	0.0253	7.8000e-004	0.0261	0.0000	95.0195	95.0195	2.6000e-003	6.3300e-003	96.9694

3.5 Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0106	0.0993	0.1467	2.3000e-004		4.7800e-003	4.7800e-003		4.4200e-003	4.4200e-003	0.0000	19.6564	19.6564	6.1800e-003	0.0000	19.8108
Paving	6.6000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0112	0.0993	0.1467	2.3000e-004		4.7800e-003	4.7800e-003		4.4200e-003	4.4200e-003	0.0000	19.6564	19.6564	6.1800e-003	0.0000	19.8108

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3.5 Paving - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.3000e-004	4.0000e-004	5.7000e-003	2.0000e-005	1.9700e-003	1.0000e-005	1.9800e-003	5.2000e-004	1.0000e-005	5.3000e-004	0.0000	1.5257	1.5257	4.0000e-005	4.0000e-005	1.5379
Total	5.3000e-004	4.0000e-004	5.7000e-003	2.0000e-005	1.9700e-003	1.0000e-005	1.9800e-003	5.2000e-004	1.0000e-005	5.3000e-004	0.0000	1.5257	1.5257	4.0000e-005	4.0000e-005	1.5379

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.6300e-003	0.0114	0.1624	2.3000e-004		3.5000e-004	3.5000e-004		3.5000e-004	3.5000e-004	0.0000	19.6564	19.6564	6.1800e-003	0.0000	19.8108
Paving	6.6000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	3.2900e-003	0.0114	0.1624	2.3000e-004		3.5000e-004	3.5000e-004		3.5000e-004	3.5000e-004	0.0000	19.6564	19.6564	6.1800e-003	0.0000	19.8108

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3.5 Paving - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.3000e-004	4.0000e-004	5.7000e-003	2.0000e-005	1.9700e-003	1.0000e-005	1.9800e-003	5.2000e-004	1.0000e-005	5.3000e-004	0.0000	1.5257	1.5257	4.0000e-005	4.0000e-005	1.5379
Total	5.3000e-004	4.0000e-004	5.7000e-003	2.0000e-005	1.9700e-003	1.0000e-005	1.9800e-003	5.2000e-004	1.0000e-005	5.3000e-004	0.0000	1.5257	1.5257	4.0000e-005	4.0000e-005	1.5379

3.6 Architectural Coating - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.3145					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.7200e-003	0.0384	0.0606	1.0000e-004		1.7300e-003	1.7300e-003		1.7300e-003	1.7300e-003	0.0000	8.5534	8.5534	4.7000e-004	0.0000	8.5651
Total	0.3202	0.0384	0.0606	1.0000e-004		1.7300e-003	1.7300e-003		1.7300e-003	1.7300e-003	0.0000	8.5534	8.5534	4.7000e-004	0.0000	8.5651

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3.6 Architectural Coating - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.8600e-003	1.3500e-003	0.0198	6.0000e-005	7.3400e-003	4.0000e-005	7.3800e-003	1.9500e-003	4.0000e-005	1.9900e-003	0.0000	5.4858	5.4858	1.3000e-004	1.3000e-004	5.5283
Total	1.8600e-003	1.3500e-003	0.0198	6.0000e-005	7.3400e-003	4.0000e-005	7.3800e-003	1.9500e-003	4.0000e-005	1.9900e-003	0.0000	5.4858	5.4858	1.3000e-004	1.3000e-004	5.5283

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.3145					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.0000e-003	4.3100e-003	0.0614	1.0000e-004		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004	0.0000	8.5534	8.5534	4.7000e-004	0.0000	8.5651
Total	0.3155	4.3100e-003	0.0614	1.0000e-004		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004	0.0000	8.5534	8.5534	4.7000e-004	0.0000	8.5651

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3.6 Architectural Coating - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.8600e-003	1.3500e-003	0.0198	6.0000e-005	7.3400e-003	4.0000e-005	7.3800e-003	1.9500e-003	4.0000e-005	1.9900e-003	0.0000	5.4858	5.4858	1.3000e-004	1.3000e-004	5.5283
Total	1.8600e-003	1.3500e-003	0.0198	6.0000e-005	7.3400e-003	4.0000e-005	7.3800e-003	1.9500e-003	4.0000e-005	1.9900e-003	0.0000	5.4858	5.4858	1.3000e-004	1.3000e-004	5.5283

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.0534	1.0551	9.5663	0.0195	2.1052	0.0147	2.1198	0.5617	0.0136	0.5753	0.0000	1,803.0468	1,803.0468	0.1393	0.0856	1,832.0243
Unmitigated	1.0534	1.0551	9.5663	0.0195	2.1052	0.0147	2.1198	0.5617	0.0136	0.5753	0.0000	1,803.0468	1,803.0468	0.1393	0.0856	1,832.0243

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	527.20	527.20	527.20	1,801,522	1,801,522
Enclosed Parking Structure	0.00	0.00	0.00		
Fast Food Restaurant w/o Drive Thru	1,784.20	1,784.20	1,784.20	3,231,260	3,231,260
General Office Building	35.11	35.11	35.11	113,111	113,111
Parking Lot	0.00	0.00	0.00		
Strip Mall	240.12	240.12	240.12	456,860	456,860
Total	2,586.63	2,586.63	2,586.63	5,602,753	5,602,753

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Enclosed Parking Structure	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Fast Food Restaurant w/o Drive	16.60	8.40	6.90	1.50	79.50	19.00	51	37	12
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Strip Mall	16.60	8.40	6.90	16.60	64.40	19.00	45	40	15

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4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.540171	0.064547	0.189075	0.126673	0.023412	0.006384	0.010926	0.008089	0.000929	0.000597	0.025155	0.000706	0.003335
Enclosed Parking Structure	0.540171	0.064547	0.189075	0.126673	0.023412	0.006384	0.010926	0.008089	0.000929	0.000597	0.025155	0.000706	0.003335
Fast Food Restaurant w/o Drive Thru	0.540171	0.064547	0.189075	0.126673	0.023412	0.006384	0.010926	0.008089	0.000929	0.000597	0.025155	0.000706	0.003335
General Office Building	0.540171	0.064547	0.189075	0.126673	0.023412	0.006384	0.010926	0.008089	0.000929	0.000597	0.025155	0.000706	0.003335
Parking Lot	0.540171	0.064547	0.189075	0.126673	0.023412	0.006384	0.010926	0.008089	0.000929	0.000597	0.025155	0.000706	0.003335
Strip Mall	0.540171	0.064547	0.189075	0.126673	0.023412	0.006384	0.010926	0.008089	0.000929	0.000597	0.025155	0.000706	0.003335

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	167.7159	167.7159	0.0142	1.7200e-003	168.5812
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	167.7159	167.7159	0.0142	1.7200e-003	168.5812
NaturalGas Mitigated	0.0125	0.1099	0.0680	6.8000e-004		8.6300e-003	8.6300e-003		8.6300e-003	8.6300e-003	0.0000	123.6537	123.6537	2.3700e-003	2.2700e-003	124.3885
NaturalGas Unmitigated	0.0125	0.1099	0.0680	6.8000e-004		8.6300e-003	8.6300e-003		8.6300e-003	8.6300e-003	0.0000	123.6537	123.6537	2.3700e-003	2.2700e-003	124.3885

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5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Low Rise	1.26975e+006	6.8500e-003	0.0585	0.0249	3.7000e-004		4.7300e-003	4.7300e-003		4.7300e-003	4.7300e-003	0.0000	67.7586	67.7586	1.3000e-003	1.2400e-003	68.1612
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Fast Food Restaurant w/o Drive Thru	1.01506e+006	5.4700e-003	0.0498	0.0418	3.0000e-004		3.7800e-003	3.7800e-003		3.7800e-003	3.7800e-003	0.0000	54.1677	54.1677	1.0400e-003	9.9000e-004	54.4896
General Office Building	25187.3	1.4000e-004	1.2300e-003	1.0400e-003	1.0000e-005		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005	0.0000	1.3441	1.3441	3.0000e-005	2.0000e-005	1.3521
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	7183.41	4.0000e-005	3.5000e-004	3.0000e-004	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.3833	0.3833	1.0000e-005	1.0000e-005	0.3856
Total		0.0125	0.1099	0.0680	6.8000e-004		8.6300e-003	8.6300e-003		8.6300e-003	8.6300e-003	0.0000	123.6537	123.6537	2.3800e-003	2.2600e-003	124.3885

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5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Low Rise	1.26975e+006	6.8500e-003	0.0585	0.0249	3.7000e-004		4.7300e-003	4.7300e-003		4.7300e-003	4.7300e-003	0.0000	67.7586	67.7586	1.3000e-003	1.2400e-003	68.1612
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Fast Food Restaurant w/o Drive Thru	1.01506e+006	5.4700e-003	0.0498	0.0418	3.0000e-004		3.7800e-003	3.7800e-003		3.7800e-003	3.7800e-003	0.0000	54.1677	54.1677	1.0400e-003	9.9000e-004	54.4896
General Office Building	25187.3	1.4000e-004	1.2300e-003	1.0400e-003	1.0000e-005		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005	0.0000	1.3441	1.3441	3.0000e-005	2.0000e-005	1.3521
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	7183.41	4.0000e-005	3.5000e-004	3.0000e-004	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.3833	0.3833	1.0000e-005	1.0000e-005	0.3856
Total		0.0125	0.1099	0.0680	6.8000e-004		8.6300e-003	8.6300e-003		8.6300e-003	8.6300e-003	0.0000	123.6537	123.6537	2.3800e-003	2.2600e-003	124.3885

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5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	323034	57.2886	4.8400e-003	5.9000e-004	57.5841
Enclosed Parking Structure	336000	59.5881	5.0300e-003	6.1000e-004	59.8955
Fast Food Restaurant w/o Drive Thru	190691	33.8182	2.8500e-003	3.5000e-004	33.9926
General Office Building	30537.5	5.4157	4.6000e-004	6.0000e-005	5.4436
Parking Lot	7840	1.3904	1.2000e-004	1.0000e-005	1.3976
Strip Mall	57599.5	10.2150	8.6000e-004	1.0000e-004	10.2677
Total		167.7159	0.0142	1.7200e-003	168.5812

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5.3 Energy by Land Use - Electricity

Mitigated

Land Use	Electricity Use kWh/yr	Total CO2 MT/yr	CH4 MT/yr	N2O MT/yr	CO2e MT/yr
Apartments Low Rise	323034	57.2886	4.8400e-003	5.9000e-004	57.5841
Enclosed Parking Structure	336000	59.5881	5.0300e-003	6.1000e-004	59.8955
Fast Food Restaurant w/o Drive Thru	190691	33.8182	2.8500e-003	3.5000e-004	33.9926
General Office Building	30537.5	5.4157	4.6000e-004	6.0000e-005	5.4436
Parking Lot	7840	1.3904	1.2000e-004	1.0000e-005	1.3976
Strip Mall	57599.5	10.2150	8.6000e-004	1.0000e-004	10.2677
Total		167.7159	0.0142	1.7200e-003	168.5812

6.0 Area Detail

6.1 Mitigation Measures Area

- Use Low VOC Paint - Residential Interior
- Use Low VOC Paint - Residential Exterior
- Use Low VOC Paint - Non-Residential Interior
- Use Low VOC Paint - Non-Residential Exterior
- No Hearths Installed

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.3918	9.5200e-003	0.8271	4.0000e-005		4.5800e-003	4.5800e-003		4.5800e-003	4.5800e-003	0.0000	1.3533	1.3533	1.3100e-003	0.0000	1.3859
Unmitigated	0.6269	0.0263	1.0906	5.4000e-004		0.0410	0.0410		0.0410	0.0410	3.1437	17.6826	20.8263	1.6200e-003	5.8000e-004	21.0386

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0315					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.3353					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.2351	0.0168	0.2635	5.0000e-004		0.0364	0.0364		0.0364	0.0364	3.1437	16.3293	19.4730	3.1000e-004	5.8000e-004	19.6527
Landscaping	0.0250	9.5200e-003	0.8271	4.0000e-005		4.5800e-003	4.5800e-003		4.5800e-003	4.5800e-003	0.0000	1.3533	1.3533	1.3100e-003	0.0000	1.3859
Total	0.6269	0.0263	1.0906	5.4000e-004		0.0410	0.0410		0.0410	0.0410	3.1437	17.6826	20.8263	1.6200e-003	5.8000e-004	21.0386

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6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0315					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.3353					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0250	9.5200e-003	0.8271	4.0000e-005		4.5800e-003	4.5800e-003		4.5800e-003	4.5800e-003	0.0000	1.3533	1.3533	1.3100e-003	0.0000	1.3859
Total	0.3918	9.5200e-003	0.8271	4.0000e-005		4.5800e-003	4.5800e-003		4.5800e-003	4.5800e-003	0.0000	1.3533	1.3533	1.3100e-003	0.0000	1.3859

7.0 Water Detail

7.1 Mitigation Measures Water

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	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	26.7638	0.2403	5.8800e-003	34.5221
Unmitigated	26.7638	0.2403	5.8800e-003	34.5221

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7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	5.21232 / 3.28603	20.1645	0.1714	4.2000e-003	25.7012
Enclosed Parking Structure	0 / 0	0.0000	0.0000	0.0000	0.0000
Fast Food Restaurant w/o Drive Thru	1.33858 / 0.0854415	3.6841	0.0439	1.0600e-003	5.0983
General Office Building	0.43367 / 0.265798	1.6627	0.0143	3.5000e-004	2.1233
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Strip Mall	0.32666 / 0.200211	1.2524	0.0107	2.6000e-004	1.5994
Total		26.7638	0.2403	5.8700e-003	34.5221

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7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	5.21232 / 3.28603	20.1645	0.1714	4.2000e-003	25.7012
Enclosed Parking Structure	0 / 0	0.0000	0.0000	0.0000	0.0000
Fast Food Restaurant w/o Drive Thru	1.33858 / 0.0854415	3.6841	0.0439	1.0600e-003	5.0983
General Office Building	0.43367 / 0.265798	1.6627	0.0143	3.5000e-004	2.1233
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Strip Mall	0.32666 / 0.200211	1.2524	0.0107	2.6000e-004	1.5994
Total		26.7638	0.2403	5.8700e-003	34.5221

8.0 Waste Detail

8.1 Mitigation Measures Waste

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	19.1827	1.1337	0.0000	47.5242
Unmitigated	19.1827	1.1337	0.0000	47.5242

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8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	36.8	7.4701	0.4415	0.0000	18.5068
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000
Fast Food Restaurant w/o Drive Thru	50.8	10.3119	0.6094	0.0000	25.5474
General Office Building	2.27	0.4608	0.0272	0.0000	1.1416
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	4.63	0.9399	0.0555	0.0000	2.3284
Total		19.1827	1.1337	0.0000	47.5242

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8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	36.8	7.4701	0.4415	0.0000	18.5068
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000
Fast Food Restaurant w/o Drive Thru	50.8	10.3119	0.6094	0.0000	25.5474
General Office Building	2.27	0.4608	0.0272	0.0000	1.1416
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	4.63	0.9399	0.0555	0.0000	2.3284
Total		19.1827	1.1337	0.0000	47.5242

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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Boilers

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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User Defined Equipment

Equipment Type	Number
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11.0 Vegetation
