Appendix D Greenhouse Gas Assessment

Draft Technical Report for the South Glendale Community Plan Greenhouse Gas Assessment

City of Glendale, California
Planning Division
633 E. Broadway, Room 103
Glendale, CA 91206

August 2017

Draft Greenhouse Gas Assessment

South Glendale Community Plan

PREPARED BY:

Ascent Environmental, Inc.
455 Capitol Mall, Suite 300
Sacramento, California 95814
916/444-7301 ~ FAX 916/444-3927

PREPARED FOR:

City of Glendale, California
Planning Division
Erik Krause, Interim Deputy Director of Planning
633 E. Broadway, Room 103
Glendale, CA 91206

Contact:

Dimitri Antoniou, Project Manager
(dimitri.antoniou@ascentenvironmental.com)
916-930-3195

Or

Honey Walters, Principal
(honey.walters@ascentenvironmental.com)
916-930-3184

August 18, 2017

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ACRONYMS AND ABBREVIATIONS

°C	degrees Celsius
°F	degrees Fahrenheit
2017 Scoping Plan Update	2017 Climate Change Scoping Plan Update
AB	Assembly Bill
CalEEMod	California Emissions Estimator Model
CalRecycle	California Department of Resources Recycling and Recovery
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CEC	California Energy Commission
CEQA	California Environmental Quality Act
City	City of Glendale
CNRA	California Natural Resources Agency
CO_2	carbon dioxide
CO_2e	carbon dioxide-equivalent
DWR	California Department of Water Resources
EO	Executive Order
EPA	U.S. Environmental Protection Agency
GHG	greenhouse gas
I-	Interstate
IPCC	Intergovernmental Panel on Climate Change
Ksf	thousand square feet
MMT	million metric tons
MPO	metropolitan planning organization
MT	metric tons
$MTCO_2e$/capita/year	$MTCO_2e$ per capita per year
NHTSA	National Highway Traffic Safety Administration
RTP/SCS	Regional Transportation Plan/Sustainable Communities Strategy
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCS	Sustainable Communities Strategy
SR	State Route

1 INTRODUCTION

The Greenhouse Gas (GHG) Analysis identifies and analyzes the potential environmental impacts associated with adoption of the South Glendale Community Plan (SGCP or plan) related to GHG emissions. The information and analysis in this document is organized in accordance with the checklist in Appendix G of the California Environmental Quality Act (CEQA) Guidelines and in accordance with current State and local guidance.

2 PROJECT DESCRIPTION

The City of Glendale (City) is located at the eastern end of the San Fernando Valley in Los Angeles County, at the southern base of the Verdugo Mountains. It was first incorporated in 1906 and today includes over 30.5 square miles and 34 unique neighborhoods.

Adoption of the SGCP includes four components: the SGCP policy document, amendments to the General Plan to reflect the Community Plan, an amendment to the boundaries of the Downtown Specific Plan (DSP), and amendments to the Municipal Code (Zoning Ordinance and Zoning Map) to apply zoning consistent with the SGCP. For purposes of this Greenhouse Gas Assessment, potential impacts are associated with physical planned development included within the SGCP, herein referred to as the project. The proposed land use changes include mixed-use high density, mixed-use low density, urban centers, town centers, village centers, high density residential, medium-high density residential, medium density residential, moderate density residential, low density residential, industrial, recreation and open space, and campuses.

The City is bordered to the northwest by the Tujunga neighborhood of Los Angeles, to the northeast by La Cañada Flintridge and the unincorporated areas of La Crescenta and Montrose, to the east by Pasadena, to the south and southeast by the City of Los Angeles, and to the west by Burbank. Glendale is surrounded by Interstate 210 (I-210), State Route (SR-) 2, SR-134, and I-5 freeways. Development associated with the project is anticipated to begin as early as 2018, and project buildout is anticipated to be in 2040. See Exhibit 1 for regional location and Exhibit 2 for plan boundaries.

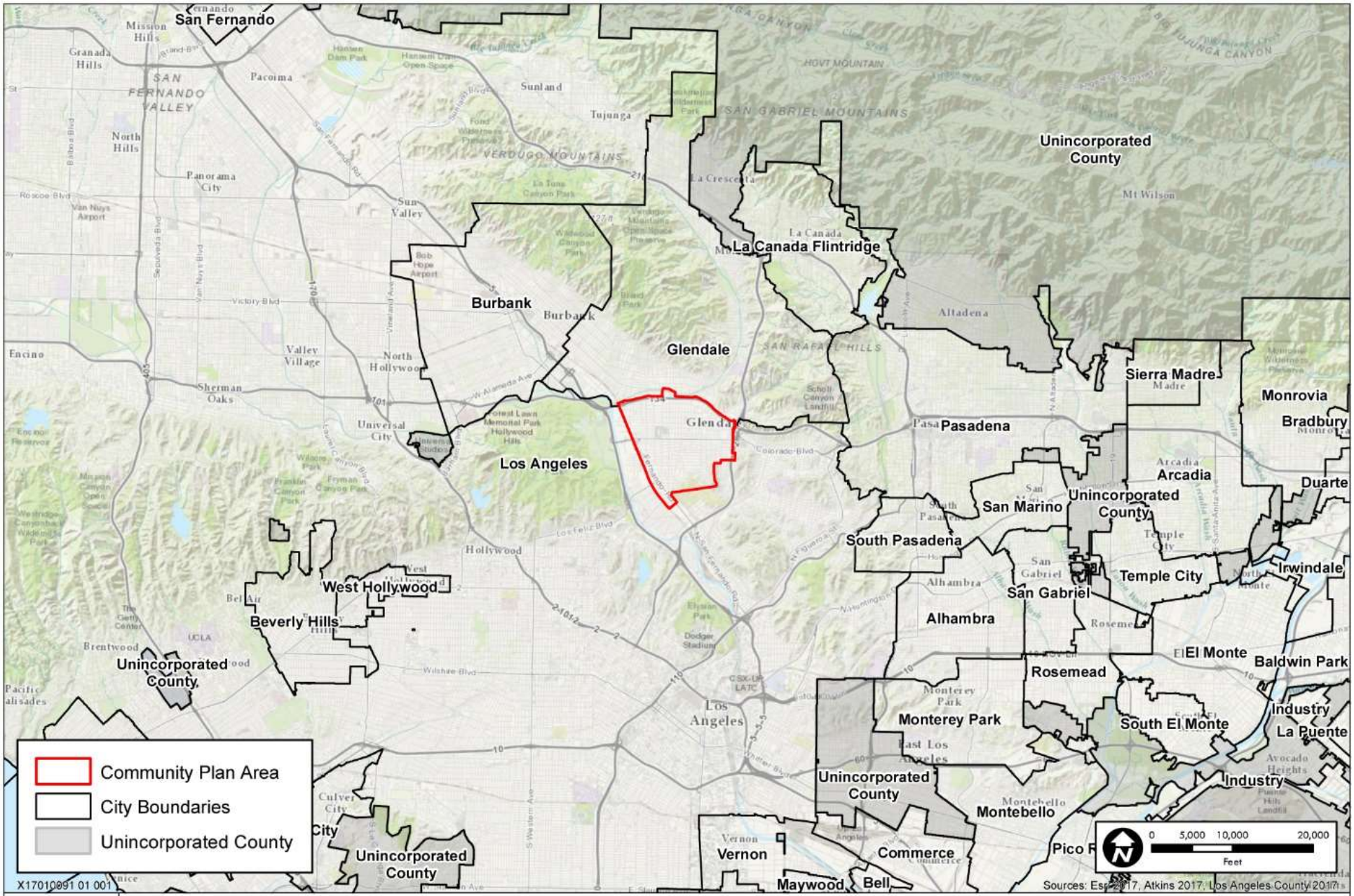
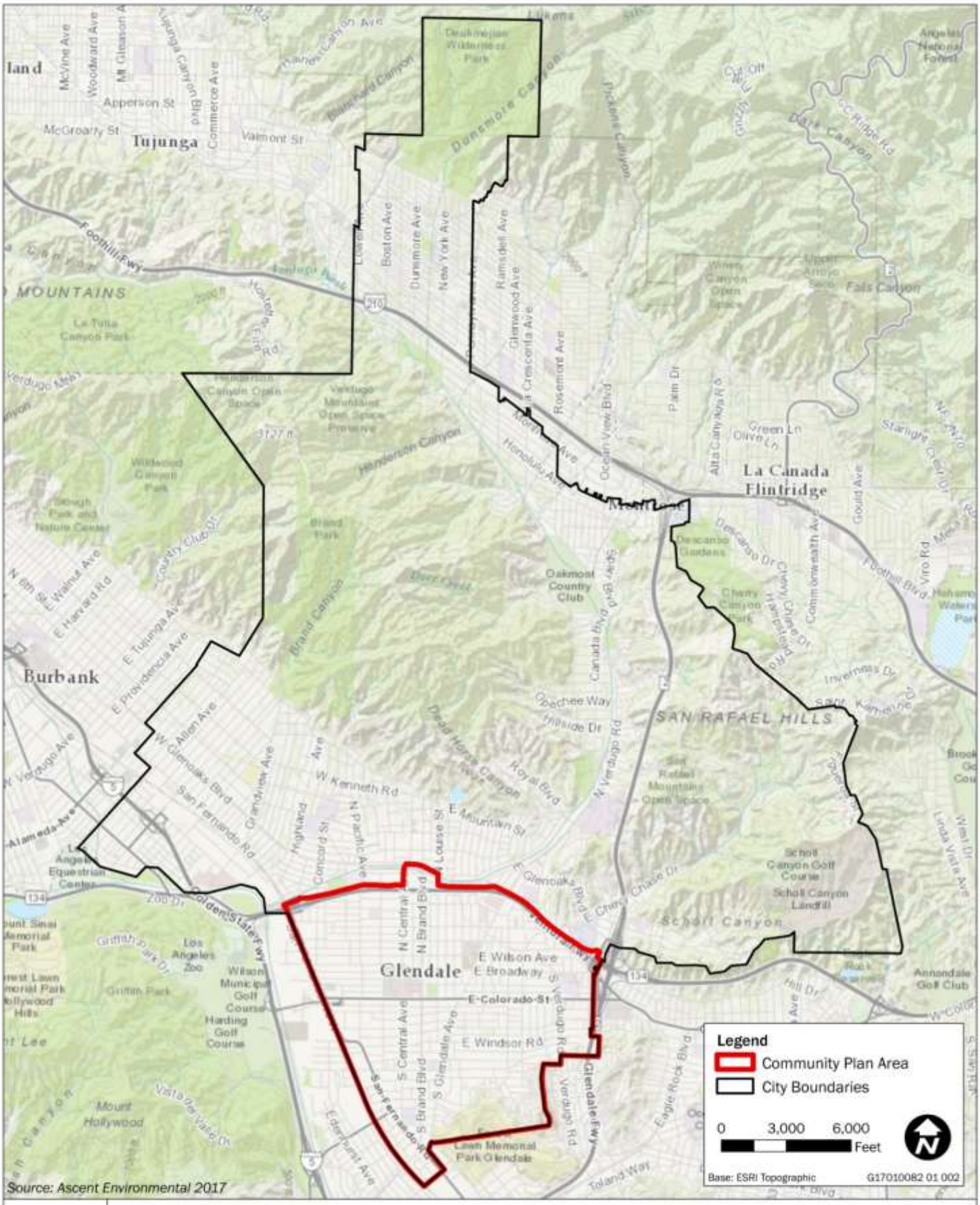


Exhibit 1 **Regional Location**



Source: Ascent Environmental 2017

Exhibit 2 **South Glendale Community Plan Location**

3 REGULATORY BACKGROUND

This section includes a discussion of GHGs and climate change, a summary of applicable regulations, and an analysis of the GHG emissions associated with construction- and operational-related activities that would result from buildout of the project. In California GHG emissions are primarily regulated through the California Air Resources Board (CARB), air districts, and local jurisdictions, as discussed below. The method of analysis is consistent with the recommendations of the South Coast Air Quality Management District (SCAQMD).

3.1 FEDERAL PLANS, POLICIES, REGULATIONS, AND LAWS

National Program to Cut Greenhouse Gas Emissions and Improve Fuel Economy for Cars and Trucks

On August 28, 2014, the U.S. Environmental Protection Agency (EPA) and the U.S. Department of Transportation's National Highway Traffic Safety Administration (NHTSA) finalized a new national program that would reduce GHG emissions and improve fuel economy for all new cars and trucks sold in the U.S. (NHTSA 2012). EPA proposed the first-ever national GHG emissions standards under the federal Clean Air Act, and NHTSA proposed Corporate Average Fuel Economy standards under the Energy Policy and Conservation Act. This national program requires automobile manufacturers to build a single light-duty national fleet that meets all requirements under both federal programs and the standards of California and other states. This program will increase fuel economy to the equivalent of 54.5 miles per gallon for the fleet of cars and light-duty trucks by model year 2025, and, as of 2016, NHTSA and EPA are developing additional phases to address GHG emission standards for new medium- and heavy-duty trucks (NHTSA 2016).

3.2 STATE PLANS, POLICIES, REGULATIONS, AND LAWS

Executive Order S-3-05

Executive Order (EO) S-3-05, signed by Governor Arnold Schwarzenegger in 2005, proclaims that California is vulnerable to the impacts of climate change. It declares that increased temperatures could reduce the Sierra Nevada snowpack, further exacerbate California's air quality problems, and potentially cause a rise in sea levels. To combat those concerns, the EO established total GHG emission targets for the state. Specifically, emissions are to be reduced to the 2000 level by 2010, the 1990 level by 2020, and to 80 percent below the 1990 level by 2050.

On July 13, 2017, the California Supreme Court addressed the use of California's long-range GHG reductions goal included in EO S-3-05 as a threshold of significance in its decision, *Cleveland National Forest Foundation v. San Diego Association of Governments* (November 24, 2014) 231 Cal.App.4th 1056. The Court ruled that the San Diego Association of Governments did not abuse its discretion by declining "to adopt the 2050 goal as a measure of significance in light of the fact that the Executive Order does not specify any plan or implementation measures to achieve its goal." The Court emphasized the narrowness of its ruling in deciding on the sole question of use of the EO goal as a measure of significance for 2050 emissions. The Court also recognized the goal of a 40 percent reduction in 1990 GHG levels by 2030 is a "widely acknowledged" as a "necessary interim target to ensure that California meets its longer-range goal of reducing greenhouse gas emissions 80 percent below 1990 levels by the year 2050."

Assembly Bill 32, the California Global Warming Solutions Act of 2006

In September 2006, Governor Schwarzenegger signed the California Global Warming Solutions Act of 2006, Assembly Bill (AB) 32. AB 32 establishes regulatory, reporting, and market mechanisms to achieve quantifiable reductions in GHG emissions and a cap on statewide GHG emissions. AB 32 requires that statewide GHG emissions be reduced to 1990 levels by 2020. AB 32 also requires that these reductions "…shall remain in effect unless otherwise amended or repealed. (b) It is the intent of the Legislature that the statewide greenhouse gas emissions limit continue in existence and be used to maintain and continue

reductions in emissions of greenhouse gases beyond 2020. (c) The [California Air Resources Board] shall make recommendations to the Governor and the Legislature on how to continue reductions of greenhouse gas emissions beyond 2020." [California Health and Safety Code, Division 25.5, Part 3, Section 38551]

Assembly Bill 32 Climate Change Scoping Plan and Updates

In December 2008, CARB adopted its Climate Change Scoping Plan, which contains the main strategies California will implement to achieve reduction of approximately 118 million metric tons (MMT) of carbon dioxide-equivalent (CO_2e) emissions, or approximately 21.7 percent from the State's projected 2020 emission level of 545 MMT CO_2e under a business-as-usual scenario (this is a reduction of 47 MMT CO_2e, or almost 10 percent, from 2008 emissions). In May 2014, CARB released and subsequently adopted the *First Update to the Climate Change Scoping Plan* to identify the next steps in reaching AB 32 goals and evaluate progress that has been made between 2000 and 2012 (CARB 2014a:4 and 5). According to the update, California is on track to meet the near-term 2020 GHG limit and is well positioned to maintain and continue reductions beyond 2020 (CARB 2014a: ES-2). The update also reports the trends in GHG emissions from various emissions sectors (e.g., transportation, building energy, agriculture).

On January 20, 2017, CARB released its proposed 2017 Climate Change Scoping Plan Update (2017 Scoping Plan Update), which lays out the framework for achieving the 2030 reductions as established in more recent legislation (discussed below). The proposed 2017 Scoping Plan Update identifies the GHG reductions needed by each emissions sector to achieve a statewide emissions level that is 40 percent below 1990 levels before 2030.

The proposed update also identifies how GHGs associated with local plan-level projects could be evaluated under CEQA. Specifically, CARB recommends that local-plan level projects results in no more than 6 metric tons (MT) CO_2e per capita by 2030 and no more than 2 $MTCO_2e$ per capita by 2050 would not result in substantial increase in GHGs or conflict with local or State plans adopted for the purpose of reducing GHG emissions.

Senate Bill 375

Senate Bill (SB) 375, signed by Governor Schwarzenegger in September 2008, aligns regional transportation planning efforts, regional GHG emission reduction targets, and land use and housing allocation. SB 375 requires metropolitan planning organizations (MPOs) to adopt a sustainable communities strategy (SCS) or Alternative Planning Strategy, showing prescribed land use allocation in each MPO's Regional Transportation Plan. CARB, in consultation with the MPOs, is to provide each affected region with reduction targets for GHGs emitted by passenger cars and light trucks in their respective regions for 2020 and 2035.

On April 4, 2012, the Southern California Association of Governments (SCAG) adopted the 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). Building off of the 2012-2035 RTP/SCS, SCAG adopted the 2016-2040 RTP/SCS on April 7, 2016. The 2016-2040 RTP/SCS is expected to reduce per capita transportation emissions by 8 percent by 2020 and 18 percent by 2035. The level of reduction is expected to meet and exceed the region's GHG targets set by CARB of 8 percent per capita by 2020 and 13 percent per capita by 2035 (SCAG 2016:8). Furthermore, although there are no per capita GHG emission reduction targets for passenger vehicles set by CARB for 2040, the 2016-2040 RTP/SCS's GHG emission reduction trajectory shows that even more GHG emission reductions are projected for 2040. The 2016-2040 RTP/SCS would result in an estimated 21 percent decrease in per capita GHG emissions by 2040 (SCAG 2015: Figure 3.8.4-1).

Executive Order B-30-15

On April 20, 2015 Governor Brown signed EO B-30-15 to establish a California GHG reduction target of 40 percent below 1990 levels by 2030. The Governor's EO aligns California's GHG reduction targets with those of leading international governments such as the 28-nation European Union, which adopted the same target in October 2014. California is on track to meet or exceed the target of reducing GHG emissions to 1990 levels by 2020, as established in the California Global Warming Solutions Act of 2006 (AB 32, discussed

above). California's new emission reduction target of 40 percent below 1990 levels by 2030 will make it possible to reach the ultimate goal of reducing emissions 80 percent below 1990 levels by 2050. This is in line with the scientifically established levels needed in the U.S. to limit global warming below 2 degrees Celsius (°C), the warming threshold at which major climate disruptions are projected, such as super droughts and rising sea levels.

Senate Bill 32 and Assembly Bill 197 of 2016

In August 2016, Governor Brown signed SB 32 and AB 197, which serve to extend California's GHG reduction programs beyond 2020. SB 32 amended the Health and Safety Code to include Section 38566, which contains language to authorize CARB to achieve a statewide GHG emission reduction of at least 40 percent below 1990 levels by no later than December 31, 2030. SB 32 codified the targets established by EO B-30-15 for 2030, which set the next interim step in the State's continuing efforts to pursue the long-term target expressed in EOs S-3-05 and B-30-15 of 80 percent below 1990 emissions levels by 2050.

Advanced Clean Cars Program

In January 2012, CARB approved the Advanced Clean Cars program which combines the control of GHG emissions and criteria air pollutants, as well as requirements for greater numbers of zero-emission vehicles, into a single package of standards for vehicle model years 2017 through 2025. The new rules strengthen the GHG standard for 2017 models and beyond. This will be achieved through existing technologies, the use of stronger and lighter materials, and more efficient drivetrains and engines. The program's zero-emission vehicle regulation requires battery, fuel cell, and/or plug-in hybrid electric vehicles to account for up to 15 percent of California's new vehicle sales by 2025. The program also includes a clean fuels outlet regulation designed to support the commercialization of zero-emission hydrogen fuel cell vehicles planned by vehicle manufacturers by 2015 by requiring increased numbers of hydrogen fueling stations throughout the state. The number of stations will grow as vehicle manufacturers sell more fuel cell vehicles. By 2025, when the rules will be fully implemented, the statewide fleet of new cars and light trucks will emit 34 percent fewer GHGs and 75 percent fewer smog-forming emissions than the Statewide fleet in 2016 (CARB [no date]).

Senate Bill X1-2, the California Renewable Energy Resources Act of 2011

SB X1-2 of 2011 requires all California utilities to generate 33 percent of their electricity from renewables by 2020. SB X1-2 sets a three-stage compliance period requiring all California utilities, including independently-owned utilities, energy service providers, and community choice aggregators, to generate 20 percent of their electricity from renewables by December 31, 2013; 25 percent by December 31, 2016; and 33 percent by December 31, 2020. SB X1-2 also requires the renewable electricity standard to be met increasingly with renewable energy that is supplied to the California grid from sources within, or directly proximate to, California. SB X1-2 mandates that renewables from these sources make up at least 50 percent of the total renewable energy for the 2011-2013 compliance period, at least 65 percent for the 2014-2016 compliance period, and at least 75 percent for 2016 and beyond. In October 2015, SB 350 was signed by Governor Brown, which requires retail sellers and publicly-owned utilities to procure 50 percent of their electricity from renewable resources by 2030.

California Building Efficiency Standards of 2016 (Title 24, Part 6)

Buildings in California are required to comply with California's Energy Efficiency Standards for Residential and Nonresidential Buildings established by California Energy Commission (CEC) regarding energy conservation standards and found in Title 24, Part 6 of the California Code of Regulations. These standards were first adopted in 1978 in response to a legislative mandate to reduce California's energy consumption and are updated on an approximately 3-year cycle to allow consideration and possible incorporation of new energy efficient technologies and methods. All buildings for which an application for a building permit is submitted on or after January 1, 2017 must follow the 2016 standards (CEC 2015a). Energy efficient buildings require less electricity; therefore, increased energy efficiency reduces fossil fuel consumption and decreases GHG emissions.

California Integrated Waste Management Act

To minimize the amount of solid waste that must be disposed of in landfills, the State Legislature passed the California Integrated Waste Management Act of 1989 (AB 939), effective January 1990. According to AB 939, all cities and counties were required to divert 25 percent of all solid waste from landfill facilities by January 1, 1995, and 50 percent by January 1, 2000. Through other statutes and regulations, this 50 percent diversion rate also applies to State agencies. In order of priority, waste reduction efforts must promote source reduction, recycling and composting, and environmentally-safe transformation and land disposal. Per capita disposal rates for Los Angeles County are below the target disposal rates established by AB 939 (1989; California Department of Resources Recycling and Recovery [CalRecycle] 2017).

In 2011, AB 341 modified the California Integrated Waste Management Act and directed CalRecycle to develop and adopt regulations for mandatory commercial recycling. The resulting Mandatory Commercial Recycling Regulation (2012) requires that on and after July 1, 2012, certain businesses that generate four cubic yards or more of commercial solid waste per week shall arrange recycling services. To comply with this requirement, businesses may either separate recyclables and self-haul them or subscribe to a recycling service that includes mixed waste processing. AB 341 also established a Statewide recycling goal of 75 percent; the 50 percent disposal reduction mandate still applies for cities and counties under AB 939.

3.3 LOCAL PLANS, POLICIES, REGULATIONS, AND LAWS

Southern California Association of Governments

On April 7, 2016, SCAG's Regional Council adopted the 2016-2040 RTP/SCS, a long-range visioning plan that balances future mobility and housing needs and economic, environmental, and public health goals. The 2016-2040 RTP/SCS would result in an 8 percent reduction in GHG emissions per capita by 2020, an 18 percent reduction by 2035, and a 21 percent reduction by 2040. Combination of efficient land use patterns and improved transit service would reduce vehicle miles traveled (VMT) per capita by more than 7 percent and increase daily travel by transit by nearly one third (SCAG 2013).

South Coast Air Quality Management District

SCAQMD has not formally adopted any threshold or methodology for any local plan-level projects. SCAQMD has developed a significance threshold of 10,000 $MTCO_2e$ for industrial stationary sources (SCAQMD 2015). SCAQMD also released an interim GHG significance threshold of 3,000 $MTCO_2e$ for residential and commercial sources (SCAQMD 2008). However, the proposed SGCP is a community plan and, as discussed in further detail below, in accordance with recommendations from CARB, plan-level analyses should be measured on a per capita basis, in line with methods used to calculate Statewide GHG emissions reduction targets. See discussion below for applicable thresholds of significance.

Greener Glendale Plan

The City of Glendale has had a long-standing commitment to the environment through eco-friendly programs and projects. In March 2012, the City completed the Greener Glendale Plan, consisting of the *Greener Glendale 2010 Report* (City of Glendale 2010), the *Greener Glendale Plan for Municipal Operations* (City of Glendale 2011), and the *Greener Glendale Plan for Community Activities* (City of Glendale 2012). The Greener Glendale Plan promotes sustainable living and conservation programs within the community and government operations.

City of Glendale General Plan

The City of Glendale General Plan was adopted in 1977 and comprehensively updated in 1986. The City's General Plan does not include policies to directly reduce GHG emissions; however, the General Plan includes policies that contribute to the City's efforts to reduce community-wide air quality emissions, increase awareness between behavior and air pollution, reduce automobile transportation, promote sustainable neighborhoods, minimize natural or man-made hazards, and prepare for disasters. An Air Quality Element

was added in 1994. Adoption of the SGCP would amend the currently adopted General Plan and revise existing zoning and land use ordinances to be consistent with the goals and vision of the SGCP. Thus, policies included within the City's General Plan would also apply to all actions occurring within the SGCP. Relevant policies included in the adopted City's General Plan are described below.

Air Quality Element

Goal 1 Policy Objectives:

a. Reduce Glendale's contribution to regional emissions in a manner both efficient and equitable to residents and businesses, since emissions generated within Glendale affect regional air quality.

c. Comply with the Air Quality Management Plan prepared by the SCAQMD and SCAG.

Goal 3 Policy Objectives:

a. Continue the aggressive programs of recycling, energy conservation, and hazardous waste collection in order to minimize emissions from the Grayson power plant and Scholl Canyon landfill.

e. Provide leadership as a City by utilizing and advancing innovative technology to reduce air emissions.

Goal 4 Policy Objectives:

b. Promote the use of public transportation and non-polluting transportation in standards for new construction.

c. Expand existing public transportation and non-polluting transportation systems and develop new systems in order to reach a greater number of potential users. Continue to seek federal, State, and regional funding sources.

d. Coordinate various transportation modes with transfer facilities to increase convenience.

e. Coordinate non-automobile transportation systems with surrounding jurisdictions.

f. Increase carpooling opportunities in Glendale.

g. Develop incentives for businesses with fewer than 100 employees to reduce vehicle trips. These businesses are not regulated by SCAQMD Rule 1501, but account for the majority of Glendale's work force.

Goal 5 Policy Objectives:

a. Inform the businesses of Glendale on ways to reduce air pollution, both directly, as well as by reducing waste, minimizing energy usage, reducing vehicle trips, and managing truck delivery schedules and routes.

b. Provide incentives for existing and new businesses in Glendale to reduce both stationary and mobile emissions.

c. Assist businesses, schools, and colleges in reducing vehicle trips by using City-operated services and facilities.

d. Continue and expand public/private partnerships which reduce air pollution.

e. Support the use of new air pollution control technologies by Glendale's business community.

f. Assist the business community with environmental regulations through improved communication and technical assistance.

Housing Element

- **Policy 1.3.** Provide higher density residential development in close proximity to public transportation, services, and recreation.
- **Policy 1.4.** Continue to promote residential/mixed used development, including live-work units in appropriate locations.
- **Policy 6.8.** Continue providing brochures and technical assistance that promotes the use of energy conservation features in new and existing dwellings.
- **Policy 6.9.** Continue promoting energy and resource efficiency by implementing the City's residential recycling, bulk item collection, household hazardous waste, horse accounts, backyard composting, chopper rebates, Christmas Tree Recycling, electronics recycling, recycling drop-off and worn composting services/programs.
- **Policy 6.10.** Encourage the use of sustainable building practices in residential developments.
- **Policy 6.11.** Provide opportunities for residential locations and design that encourage transit, pedestrian, bicycle, and other mobility options.

Open Space and Conservation Element

- **Policy 1.** Natural resources, including open spaces, biological habitats and native plant communities should be maintained and, where necessary restored.
- **Policy 5.** Proper management of environmental resources, especially natural resources, can assist in reducing hazards to the life and property of the City's residents and should be considered in project planning.
- **Policy 8.** Important open space and conservation resources should be protected and preserved through acquisition, development agreements, easements, development exactions, and other regulatory strategies.

Safety Element

- **Policy 2-1.** The City shall avoid development in areas of known slope instability or high landslide risk when possible, and will encourage that developments on sloping ground use design and construction techniques appropriate for those areas.
- **Policy 3-1.** The City shall investigate the potential for future flooding in the area and will encourage the adoption of flood-control measures in low-lying areas of alluvial fans, along major channels, and down-gradient of large reservoirs and water tanks.
- **Policy 4-1.** The City shall ensure to the extent possible that fire services, such as fire equipment, infrastructure, and response times, are adequate for all sections of the City.
- **Policy 4-2.** The City shall require that all new development in areas with a high fire hazard incorporate fire resistant landscaping and other fire hazard reduction techniques into the project design in order to reduce the fire hazard.
- **Policy 8-1**. The City shall prepare for emergency response and recovery from natural and urban disasters, especially earthquake hazards.

4 EXISTING ENVIRONMENTAL SETTING

4.1 GREENHOUSE GAS EMISSIONS AND CLIMATE CHANGE

The Physical Scientific Basis

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. The absorbed radiation is emitted from the earth as low-frequency infrared radiation. The frequencies at which objects emit radiation are proportional to temperature. The earth has a much lower temperature than the sun; therefore, the earth 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.

GHGs contributing to the greenhouse effect are CO_2, methane, nitrous oxide (N_2O), hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. Human-caused emissions of these GHGs in excess of natural ambient concentrations are found to be responsible for intensifying the greenhouse effect and lead to a trend of unnatural warming of the earth's climate. This phenomenon is known as global climate change or global warming. It is "extremely likely" that more than half of the observed increase in global average surface temperature from 1951 to 2010 was caused by the anthropogenic increase in GHG concentrations and other anthropogenic forcing (Intergovernmental Panel on Climate Change [IPCC] 2014:3, 4).

Climate change is a global problem. GHGs are global pollutants, unlike criteria air pollutants and toxic air contaminants, which are pollutants of regional and local concern. Whereas most 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 lifetime of any particular GHG molecule is dependent on multiple variables and cannot be determined with any certainty, it is understood that more CO_2 is emitted into the atmosphere than is sequestered by ocean uptake, vegetation, and other forms of sequestration. Of the total annual human-caused CO_2 emissions, approximately 55 percent is estimated to be sequestered through ocean and land uptake every year, averaged over the last 50 years. The remaining 45 percent of human-caused CO_2 emissions remains stored in the atmosphere (IPCC 2013:467).

The quantity of GHGs in the atmosphere that ultimately result in climate change is not precisely known, but is enormous; no single project alone would measurably contribute to an incremental change in the global average temperature, or to global, local, or micro climates. Thus, from the standpoint of CEQA, GHG impacts relative to global climate change are inherently cumulative.

Greenhouse Gas Emission Sources

GHG emissions are attributable in large part to human activities associated with the transportation, industrial/manufacturing, utility, residential, commercial, and agricultural emissions sectors (CARB 2014a). In California, the transportation sector is the largest emitter of GHGs, followed by electricity generation (CARB 2014b). Emissions of CO_2 are byproducts of fossil fuel combustion. Methane, GHG with high warming potential, 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. Nitrous oxide is also largely attributable to agricultural practices and soil management. CO_2 sinks, or reservoirs, include vegetation and the ocean, which absorb CO_2 through sequestration and dissolution (CO_2 dissolving into the water), respectively. Sequestration and dissolution are two of the most common processes for removing CO_2 from the atmosphere.

Effects of Climate Change on the Environment

The IPCC was established in 1988 by the World Meteorological Organization and the United Nations Environment Programme to provide the world with a scientific view on climate change and its potential effects. According to the IPCC, the global average temperature is expected to increase 0.3–4.8°C (0.5–8.6 degrees Fahrenheit [°F]) relative to the period of 1986-2005, by the end of the 21st century (2081-2100) (IPCC 2014:SPM-8). According to the California Natural Resources Agency, temperatures in California are projected to increase 2.7°F above 2000 averages by 2050 and, depending on emission levels, 4.1–8.6°F by 2100 (California Natural Resources Agency [CNRA] 2012:2).

Other environmental resources could be indirectly affected by the accumulation of GHG emissions and resulting rise in global average temperature. In the recent years, California has been marked by extreme weather. According to CNRA's *Safeguarding California Plan: 2017 Update* (CNRA 2017), California experienced the driest four-year Statewide precipitation on record from 2012 through 2015; the warmest years on average in 2014, 2015, and 2016; and the smallest and second smallest Sierra snowpack on record in 2015 and 2014. In contrast, the northern Sierra Nevada mountains experienced its wettest year on record in 2016 (CNRA 2017:20). The changes in precipitation exacerbate wildfires throughout California with increasing frequency, size, and devastation. As temperatures increase, the increase in precipitation falling as rain rather than snow also could lead to increased potential for floods because water that would normally be held in the snowpack of the Sierra Nevada and Cascade mountains until spring would flow into the Central Valley concurrently with winter rainstorm events. This scenario would place more pressure on California's levee/flood control system (CNRA 2017:21). Furthermore, in the extreme scenario involving the rapid loss of the Antarctic ice sheet, sea level along the California's coastline could rise up to 10 feet by 2100, which is approximately 30 to 40 times faster than sea-level rise experienced over the last century (CNRA 2017:102).

Changes in temperature, precipitation patterns, extreme weather events, and sea-level rise have the potential to effect and decrease the efficiency of thermal power plants and substations, decrease the capacity of transmission lines, disrupt electrical demand, and threaten energy infrastructure with the increased risk of flooding (CNRA 2017:26).

Extreme heat and other severe weather events, frequent wildfires, droughts, decline in air quality, and increases in allergens and other diseases threaten the health and well-being of nearly 40 million people in California and poses challenges for advancing health equity. The individuals most vulnerable to health impacts from climate change live in communities that experience health inequities, which include low-income families, people with existing health conditions, and children and seniors (CNRA 2017:45).

The State Department of Transportation owns and operates more than 51,000 miles of roadways along 265 highways, as well as three of the busiest passenger rail lines in the nation. Sea-level rise, storm surge, and coastal erosion are imminent threats to highways, roads, bridge supports, airports, transit systems and rail lines near sea level and seaports. Shifting precipitation patterns, increased temperatures, increased risk of wildfires, and increased frequency in extreme weather events also threaten transportation systems across the State. Temperature extremes and increased precipitation can increase the risk of road and railroad track failure, decreased transportation safety, and increased maintenance costs (CNRA 2017:59).

Water availability and changing temperatures, which effects prevalence of pests, disease, and species, directly impact crop development and livestock production. Other environmental concerns include decline in water quality, groundwater security, and soil health (CNRA 2017:69). Vulnerabilities of water resources also include risks to degradation of watersheds, alteration of ecosystems and loss of habitat, impacts to coastal areas, and ocean acidification (CNRA 2017:115). The ocean absorbs approximately a third of the CO_2 released into the atmosphere every year from industrial and agricultural activities, changing the chemistry of the ocean by decreasing the pH of the seawater. Ocean acidification is harmful to marine organisms especially calcifying species including oysters, clams, sea urchins, and corals (CNRA 2017:101).

Cal-Adapt is a climate change scenario planning tool developed by CEC that downscales global climate model data to local and regional resolution under two emissions scenarios: the high-emissions scenario represents the business-as-usual future GHG emissions scenario, and the low-emissions scenario represents the lower future GHG emissions scenario. According to Cal-Adapt, annual average temperatures in Los Angeles County are projected to rise by 3.5–6.0°F by 2100, with the range based on low-and high-emissions scenarios (Cal-Adapt 2017a).

5 ENVIRONMENTAL IMPACTS

5.1 SIGNIFICANCE CRITERIA

The issue of global climate change is inherently a cumulative issue, as the GHG emissions of individual projects cannot be shown to have any material effect on global climate. Thus, the project's impact to climate change is addressed only as a cumulative impact.

CEQA Guidelines Section 15064 and relevant portions of Appendix G recommend that a lead agency consider a project's consistency relevant, adopted plans, and discuss any inconsistencies with applicable regional plans, including plans to reduce GHG emissions. In Appendix G of the State CEQA Guidelines, two questions are provided to help assess if the project would result in a potentially significant impact on climate change. These questions ask whether the project would:

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

In California, some counties, cities, and air districts have developed guidance and thresholds of significance for determining significance of GHG emissions that occur within their jurisdiction. The City of Glendale is the CEQA Lead Agency for the project and is; therefore, responsible for determining whether an impact would be considered significant.

To set the stage for how California would meet targets set forth by SB 32, CARB's proposed 2017 Scoping Plan Update recommends an approach for local plan-level projects to show consistency with State targets. The following is related to local plan-level CEQA analyses (CARB 2017:133):

> CARB recommends that local governments aim to achieve community-wide goal to achieve emissions of no more than 6 $MTCO_2e$ per capita by 2030 and no more than 2 $MTCO_2e$ per capita by 2050. Per capita and mass emissions goals are consistent with the statewide emissions limits established in AB 32, SB 32, SB 391, and Executive Order S-3-05 and B-30-15. Service population goals allow for linkages with metropolitan planning organization reductions required under SB 375.

A project that results in no more than 6 $MTCO_2e$ per capita by 2030 and no more than 2 $MTCO_2e$ per capita by 2050 would not result in a substantial increase in GHGs or conflict with local or State plans adopted for the purpose of reducing GHG emissions.

The project is anticipated to be built out in 2040 as compared to the State's long-term 2050 target year. The 2050 per capita efficiency metric extends beyond the plan horizon year; furthermore, the technological advances and legislative environment in 2050 are too speculative for evaluation. Therefore, the CARB-recommended per capita and mass emissions goals for 2030 and 2050 were interpolated to obtain the 2040 annual per capita efficiency metric of 4 $MTCO_2e$. Thus, If the project's estimated GHG emissions per capita in 2030 is less than 6 $MTCO_2e$ per capita or the adjusted 2040 level of 4 $MTCO_2e$, the impact would

be considered less than significant for the State's target year. Therefore, if the project's emissions are determined to be on this trajectory based on compliance with the 2040 GHG emissions per capita goal, the project would not interfere the State's long-term GHG reduction goals. For purposes of this analysis, GHG emissions would be considered significant if they would:

- Result in GHG emissions that exceed 4 MT CO2e/capita/year.

5.2 METHODS

The proposed land uses of the SGCP were assumed for the purposes of modeling GHG emissions. GHG emissions associated with the project would be generated during project construction and by operation of the various land uses after construction is complete. Operational emissions of GHG were estimated for the following sources: area sources (e.g., the use of landscape maintenance equipment), energy use associated with residential and nonresidential buildings, water and wastewater treatment and distribution, solid waste, and mobile sources.

GHGs are global pollutants and climate change is a global problem. Any project that emits GHG emissions has the potential to contribute cumulatively to global climate change. Under CEQA, GHG impacts relative to global climate change are inherently cumulative. Specific methods for construction and operational emissions modeling are discussed separately below.

Construction Emissions

Construction-related emissions of GHGs were calculated using the California Emissions Estimator Model (CalEEMod) Version 2016.3.1 computer program (California Air Pollution Control Officers Association [CAPCOA] 2016), as recommended by SCAQMD. Modeling was based on available information (e.g., land uses, acreage, number of units); reasonable assumptions based on typical construction activities; and default values in CalEEMod that are based on the project's location and land use type.

The construction emissions modeling included complete buildout of the SGCP (residential and nonresidential land uses) through 2040. Construction emissions modeling was also adjusted to account for future emissions standards in California for construction equipment and passenger vehicles, based on default emission factors in CalEEMod for each year of potential construction until 2040. Construction-related GHG emissions were amortized over 30-years and combined with annual operational emissions consistent with SCAQMD guidance (SCAQMD 2008). For further details regarding modeling inputs and assumptions refer to Attachments A and B.

Operation Emissions

Operation-related emissions of GHG were also estimated using CalEEMod Version 2016.3.1. Operational emissions of GHGs were estimated for the following sources: area sources (e.g., landscaping-related fuel combustion sources), energy use (i.e., electricity and natural gas consumption), water use, solid waste, and mobile sources. Mobile-source emissions were estimated using CalEEMod Version 2016.3.1 with default VMT rates and annual trip generation rates adjusted based on information in the project-specific traffic study (Fehr & Peers 2017). Indirect emissions associated with electricity and natural gas consumption were estimated using GHG emissions factors for Glendale Water & Power based on the 2015 Power Content Label and adjusting for SB 350 efforts to achieve at least 50 percent renewable energy by 2030 (Glendale Water & Power 2017). The project's level of electricity and natural gas usage were based on 2016 Title 24-adjusted consumption provided by CalEEMod for each land use type. Adjustments were based on the CEC estimate that single-family houses are 28 percent more energy efficient than 2013 Title 24 standards and non-residential buildings are 5 percent more efficient than 2013 Title 24 standards (CEC 2015b). Land use assumptions, based on anticipated plan buildout, are summarized in Table 1.

Table 1 Project Buildout Land Use Assumptions

Residential Land Uses	du	10,337
Nonresidential Land Uses	Ksf	3,765

Notes: du = dwelling units; Ksf = thousand square feet
Source: City of Glendale 2017a

To evaluate per capita emissions, the expected population supported by the project (i.e., 27,910 persons) was estimated based on the 2016 household size for the City of Glendale (i.e., 2.7 people per household). Household size was obtained from SCAG's *Profile of the City of Glendale* (SCAG 2017). Household size was applied to total proposed residential dwelling units (i.e., 10,337 dwelling units) to obtain the SGCP population.

5.3 ENVIRONMENTAL IMPACTS

Impact GHG-1: Project-generated GHG emissions

The level of annual GHG emissions per capita associated with the project, including amortized construction-related emissions, would be approximately 4.8 $MTCO_2e$ per capita per year ($MTCO_2e$/capita/year) at project buildout in 2040. These emission levels would exceed the 2040 efficiency metric of 4 $MTCO_2e$/capita/year and, therefore, would also likely exceed 2030 targets of 6 MTCO2e/capita/year. Adoption of the SGCP may conflict with adopted statewide GHG reduction targets and the 2017 Draft Scoping Plan. This impact would be **potentially significant.**

GHG emissions associated with the project would be generated during project construction and as a result of operations within the plan area during and after the plan is built out. Estimated levels of construction- and operation-related GHG emissions are presented below, followed by a discussion of the project's consistency with applicable regulations and policies established to enable the achievement of mandated Statewide GHG reduction goals.

Project construction activities would result in the generation of GHG emissions from the use of heavy-duty, off-road construction equipment, materials transport, and worker commute. Total construction and amortized construction emissions are presented below in Table 2.

Table 2 Construction Greenhouse Gas Emissions Summary

Category	$MTCO_2e$ /year
Total Construction GHG Emissions	20,265
Amortized Emissions (30 years)	676

[1]2018 modeled with slightly accelerated growth rate to account for a worst-case scenario year.
Notes: Totals may not add due to rounding.
$MTCO_2e$/year= metric tons carbon dioxide equivalent per year
See Attachments A and B for detailed input parameters and modeling results.
Source: Modeling performed by Ascent Environmental 2017

Operation of the project would result in mobile-source GHG emissions associated with project-generated vehicle trips (i.e., project-generated vehicle miles traveled); area-source emissions from the combustion of natural gas for space and water heating and operation of landscape maintenance equipment; energy-source emissions from the consumption of electricity; water-source emissions from water use and the conveyance and treatment of wastewater; and waste-source emissions from the transport and disposal of solid waste. Mobile-source emissions would result from new vehicle trips generated by anticipated land use development (i.e., 10,337 new dwelling units and associated non-residential development). It should be noted that mobile

source emissions would be expected to decrease over time due to fleet turnover and State regulations requiring reductions in carbon emissions from vehicles. Project buildout is 2040 and operational emissions would be highest during the first year and would decline due to fleet turnover and implementation of additional regulations at the State level. Construction and operational emissions are summarized below in Table 3.

Table 3 Operational Greenhouse Gas Emissions at Plan Buildout (2040)

Category	$MTCO_2e$ /year
Area	3,491
Energy Use	38,559
Mobile-Source	67,825
Waste Generation	17,957
Water-Related	4,988
Total Annual Operational Emissions	132,819
Amortized Construction Emissions	676
Total Annual Project Emissions	**133,495**
2040 Project Population	27,910
2040 Project GHG Efficiency ($MTCO_2e$/capita/year)	**4.8**
2040 GHG Efficiency Target ($MTCO_2e$/capita/year)	4
Exceeds Efficiency Target?	Yes

Notes: Totals may not add due to rounding.
/capita = per capita; /year = per year; CO_2e = carbon dioxide equivalent; MT = metric tons; SCAG = Southern California Association of Governments
See Attachments A and B for detailed input parameters and modeling results.
Source: SCAG 2017; modeling performed by Ascent Environmental 2017

Based on the emissions modeling conducted, project-generated GHG emissions would result in 4.8 $MTCO_2e$/capita/year at project buildout in 2040, thus exceeding recommended levels needed to meet overall State GHG emissions targets. Although the 2017 Scoping Plan Update has not been approved by CARB at the time of this writing, it is the most up-to-date material available supporting the Statewide compliance with emissions levels identified in SB 32 and AB 197 of 2016. CARB recommends that local plan-level to achieve GHG emissions of no more than 6 $MTCO_2e$/capita/year by 2030 and no more than 2 $MTCO_2e$ per capita by 2050. Per capita and mass emissions goals would not be met and, therefore, the SGCP would not be consistent with Statewide emissions limits established by AB 32, SB 32, SB 391, and EOs S-3-05 and B-30-15. This impact would be **significant.**

Mitigation Measures

Mitigation Measure GHG-1

The following goals and policies are recommended to reduce GHG emissions.

Goal GHG-1: Reduce GHG emissions.

- **Policy GHG-1:** The City shall update the Greener Glendale Plan for community and municipal operations and establish GHG reduction goals that are consistent with California's established goals of 40 percent below baseline emissions by 2030 and 80 percent below baseline emissions by 2050; this update shall be evaluated against potential environmental impacts and qualified under CEQA. The updated plan shall include quantifiable and feasible measures that the City can implement to achieve established GHG reduction targets.

Policy GHG-2: The City shall require new development proposals within the SGCP to demonstrate consistency with an applicable adopted Climate Action Plan (CAP), or other applicable thresholds that demonstrate how the development would not conflict with the City of Glendale's GHG reduction targets. Development shall incorporate all feasible on- and off-site GHG reduction measures, to reduce individual project-related emissions to levels that would not interfere with the City's or State's ability to meet GHG reduction targets. Specific GHG reduction requirements for individual development applications shall be determined at the time of discretionary approval and in accordance with all applicable local (e.g., City of Glendale, SCAMQD) and State GHG emissions targets.

- **Policy GHG-3:** The City shall reduce GHG emissions from new development by discouraging auto-dependent sprawl and dependence on the private automobile; promoting water conservation and recycling; promoting development that is compact, mixed use, pedestrian friendly, and transit oriented; promoting energy-efficient building design and site planning; improving the jobs/housing ratio in each community; and other methods of reducing emissions.

- **Policy GHG-4:** The City shall continue to evaluate the feasibility and effectiveness of new policies, programs, and regulations that contribute to achieving the City's long-term GHG emissions reduction goals.

Significance after Mitigation

Adoption of the recommended goals and policies will help the City of Glendale establish GHG reduction goals and a plan for meeting these long-term goals. Further, any new development subject to CEQA proposed within the SGCP would be required to show consistency with City and State GHG reduction targets by incorporating GHG reduction measures identified in the CAP. However, currently no future GHG reduction targets have been established by the City. Upon adoption of an updated Climate Action Plan, the City's progress toward achieving future GHG reduction targets will be evaluated and any additional GHG reduction measures needed to meet future targets will be identified. Once the CAP is adopted, subsequent development within the SGCP can show consistency with recommendations included in the CAP, thus also not interfering with the City or State's ability to meet GHG reduction targets. Nonetheless, at this time, individual development (e.g., size, type, location) that may occur within the SGCP is unknown. Therefore, GHG emissions and the level of GHG reduction that may be achieved by on- and off-site mitigation measures for future individual development projects is also unknown. Provided that the City currently does not have an adopted CAP outlining a clear path towards achieving GHG reduction targets, it cannot be determined whether or not all future development would be consistent with City or State plans adopted for the purpose of reducing GHG emissions. This impact remains **significant and unavoidable.**

Impact GHG-2: Impacts of climate change on the project

Climate change is expected to result in a variety of effects that would influence conditions in the SCAB. However, the project would include various features that would increase resiliency to the effects of climate change. These features would reduce the extent and severity of climate change-related impacts to the project. For these reasons, this impact would be **less than significant.**

Human-induced increases in GHG concentrations in the atmosphere have led to increased global average temperatures (climate change) through the intensification of the greenhouse effect, and associated changes in local, regional, and global average climatic conditions. Although there is strong scientific consensus that global climate change is occurring and is influenced by human activity, there is less certainty as to the timing, severity, and potential consequences of the climate phenomena. Scientists have identified several ways in which global climate change could alter the physical environment in California (CNRA 2012, California Department of Water Resources [DWR] 2006, IPCC 2007). These include:

- increased average temperatures;
- modifications to the timing, amount, and form (rain vs. snow) of precipitation;
- changes in the timing and amount of runoff;
- reduced water supply;

- deterioration of water quality; and
- elevated sea level.

Many of these phenomena would translate into a variety of issues and concerns that may affect the project area, including but not limited to:

- increased frequency and intensity of extreme heat days; and
- more intense variability in water supply, including more frequent or intense periods of drought.

Annual average temperatures in the City are projected to increase steadily. According to Cal-Adapt, the City is projected to experience a temperature increase of 3.5°F by 2090 under the low-emissions scenario, and an increase of 6.0°F by 2090 under the high-emissions scenario, as compared to the 1961 to 1990 baseline period (Cal-Adapt 2017b).

Increased temperature is expected to lead to secondary climate change impacts, including increases in the frequency, intensity, and duration of extreme heat days and multi-day heat waves/events in California. Cal-Adapt defines the extreme heat day threshold for the City as 96°F or higher. An extreme heat day is defined as a day between April through October where the maximum temperature exceeds the 98th historical percentile of maximum temperature based on daily temperature data from 1961 to 1990 (i.e., 96°F). From the data collected from 1961 to 1990, the City has a historical average of four extreme heat days a year. The City is already experiencing an increase in the frequency of extreme heat days per year with a current average of eight to 11 extreme heat days per year from 2010 to 2016, with 19 extreme heat days in 2015 (Cal-Adapt 2017c).

Cal-Adapt data show a range of projected increases in the number of extreme heat days by 2099, all of which are at least three times the historical (1961-1990) average in both emissions scenarios. The projected annual average number of extreme heat days under the low-emissions scenario is approximately 11 days per year in 2050 and between 12 to 55 days per year at the end of the century. Under the high-emissions scenario, Cal-Adapt predicts that the City will experience 26 extreme heat days per year in 2050 and 81 to 108 days per year by 2099 (Cal-Adapt 2017c).

Any future development within the project area would be required to meet the 2016 Title 24 building energy standards (or current Title 24 building energy standards), which require well-insulated buildings and high-efficiency heating, ventilation, and air conditioning units.

The City is part of a larger regional water supply system. The main sources of imported water to the region are the State Water Project via the California Aqueduct and the Colorado River Aqueduct. The State Water Project receives water from Northern California and Sierra Nevada. Therefore, Statewide drought and record high temperatures have a significant impact on water resources to the region. Severe drought conditions and record high temperatures in California could lead to increased precipitation falling as rain instead of snow, diminished snowpack in the Sierra Nevada, and earlier snowmelt. Based on historical data and modeling, the DWR projects that the Sierra Nevada spring snowpack will decrease by 25 to 40 percent from its historic average by 2050 and 48 to 65 percent by 2100 (DWR 2008:4, 2013:3-64). If GHG emissions continue unabated (i.e., high-emissions scenario), the Sierra Nevada spring snowpack could decline by as much as 70 percent by 2090 (Cal-Adapt 2017f). Increased temperatures in the Sierra Nevada region, which supports the State Water Project, will cause earlier snowmelt, leaving the City vulnerable to water resource fluctuations during the historically dry months (July-September). Additionally, as temperatures rise and snowpack decreases, the dry season is extended to earlier and later in the year, leading to longer periods and higher risk for water vulnerabilities. Furthermore, as temperatures increase, precipitation will fall more as rain instead of snow at high elevations which will reduce the Sierra Nevada snowpack and accelerate snowmelt that the City and surrounding regions need for surface water supply.

The Glendale City Council implemented Phase I of the City's Water Conservation Ordinance, saving 3.6 billion gallons of water through various watering restrictions (City of Glendale 2017b). Furthermore, the City offers outreach and water saving programs to residents and businesses, including offering water smart toilet and appliance rebates, Water Wise Gardening, smart businesses upgrades, Public Agency Landscape Program, and fitness center program incentives. The City has reduced potable water use by converting many large water users to recycled water (City of Glendale 2015). The water conservation efforts made by the City prepare the City for challenges and water shortages caused by drought and record high temperatures.

Cal-Adapt fire risk data for the State have been projected for the years 2020, 2050, and 2085. The data model the areas that are projected to experience increases in areas burned compared to the expected burn rate without climate change. Based on these maps, the City is not located within an area projected to experience greater than expected wildland fire risks (Cal-Adapt 2017d). Furthermore, the City's General Plan includes the following policies in the Safety Element that strive to mitigate risks related to fire hazards:

- **Policy 4-1.** The City shall ensure to the extent possible that fire services, such as fire equipment, infrastructure, and response times, are adequate for all sections of the City.

- **Policy 4-2.** The City shall require that all new development in areas with a high fire hazard incorporate fire resistant landscaping and other fire hazard reduction techniques into the project design in order to reduce the fire hazard.

The City of Glendale Fire Department and the policies listed in the City's General Plan provide community prevention related to fire, life occupational hazards, property damage, and environmental safety; although, the project is not considered to be located in an area with a substantial risk to wildland fires or hazards as services and policies are in place to address such risks.

With regards to increases in flood risk, the project area is not located in a coastal zone where an increased threat of flooding may occur because of sea level rise (Cal-Adapt 2017e). However, the City's General Plan includes the following policies in the Safety Element that strive to mitigate risks related to flooding hazards:

- **Policy 2-1.** The City shall avoid development in areas of known slope instability or high landslide risk when possible, and will encourage that development on sloping ground uses design and construction techniques appropriate for those areas.

- **Policy 3-1.** The City shall investigate the potential for future flooding in the area and will encourage the adoption of flood-control measures in low-lying areas of alluvial fans, along major channels, and down-gradient of large reservoirs and water tanks.

In addition, the City has Policy 8-1 in place that requires the development of an emergency response plan. As emergency plans are updated and revised, the current knowledge and science of potential disasters that could affect Glendale would be considered, including any potential disasters related to climate change.

The City's programs and policies listed in the City's General Plan would ensure that the City would reduce the extent and severity of climate change-related impacts to the project. For these reasons, this impact would be **less than significant**.

Mitigation Measures

No mitigation is required.

6 REFERENCES

Cal-Adapt. 2017a. Local Climate Snapshots. Available: http://cal-adapt.org/tools/factsheet/. Accessed June 29, 2017.

_____. 2017b. Temperature. Available: http://cal-adapt.org/tools/factsheet/#. Accessed July 26, 2017.

_____. 2017c. Temperature: Extreme Heat Tool. Available: http://cal-adapt.org/temperature/heat/#. Accessed July 26, 2017.

_____. 2017d. Wildfire: Fire Risk Map. Available: http://cal-adapt.org/fire/. Accessed July 26, 2017.

_____. 2017e. Sea Level Rise. Available: http://cal-adapt.org/tools/factsheet/. Accessed July 26, 2017.

_____. 2017f. Snow Pack. Available: http://cal-adapt.org/tools/factsheet/. Accessed July 26, 2017.

California Air Pollution Control Officers Association. 2016. *California Emissions Estimator Model (CalEEMod) Version 2016.3.1. Available*: http://caleemod.com/. Accessed June 27, 2017.

California Air Resources Board. [no date]. *California's Advanced Clean Cars Program.* Available at http://www.arb.ca.gov/msprog/consumer_info/advanced_clean_cars/consumer_acc.htm and http://www.arb.ca.gov/newsrel/newsrelease.php?id=282. Accessed December 4, 2014.

_____. 2014a. California Greenhouse Gas Inventory for 2000-2012—by Category as Defined in the 2008 Scoping Plan. Last Updated March 24, 2014. Available at https://www.arb.ca.gov/cc/inventory/pubs/reports/2000_2012/ghg_inventory_scopingplan_00-12_2014-03-24.pdf. Accessed June 27, 2017.

_____. 2014b (May). First Update to the Climate Change Scoping Plan. Available: https://www.arb.ca.gov/cc/scopingplan/2013_update/first_update_climate_change_scoping_plan.pdf. Accessed June 27, 2017.

_____. 2017 (January). *The 2017 Climate Change Scoping Plan Update*. Available: https://www.arb.ca.gov/cc/scopingplan/2030sp_pp_final.pdf. Accessed June 27, 2017.

California Department of Resources Recycling and Recovery. 2017. Countywide, Regionwide, and Statewide Jurisdiction Diversion/Disposal Progress Report. Available: http://www.calrecycle.ca.gov/LGCentral/Reports/Jurisdiction/DiversionDisposal.aspx. Accessed June 27, 2017.

California Department of Water Resources. 2006 (July). *Progress on Incorporating Climate Change into Management of California's Water Resources.* Available: http://www.water.ca.gov/climatechange/docs/DWRClimateChangeJuly06.pdf. Accessed July 20, 2017.

_____. 2008. Managing an Uncertain Future: Climate Change Adaption Strategies for California's Water. Available: http://www.water.ca.gov/climatechange/docs/ClimateChangeWhitePaper.pdf. Accessed July 26, 2017.

_____. 2013. California Water Plan Update 2013: Investing in Innovation and Infrastructure. Available: http://www.water.ca.gov/waterplan/docs/cwpu2013/Final/0a-Vol1-full2.pdf. Accessed: April 26, 2017.

California Energy Commission. 2015a (June). *Building Energy Efficiency Standards for Residential and Nonresidential Buildings*. Available http://www.energy.ca.gov/2015publications/CEC-400-2015-037/CEC-400-2015-037-CMF.pdf. Accessed June 27, 2017.

_____. 2015b (June). *2016 Building Energy Efficiency Standards*. Adoption Hearing. Accessed June 27, 2017.

California Natural Resources Agency. 2012. *Our Changing Climate 2012.* Available: http://www.energy.ca.gov/2012publications/CEC-500-2012-007/CEC-500-2012-007.pdf. Accessed June 27, 2017.

_____. 2017. *Safeguarding California Plan: 2017 Update.* Available: http://resources.ca.gov/wp-content/uploads/2017/05/DRAFT-Safeguarding-California-Plan-2017-Update.pdf. Accessed June 27, 2017.

CalRecycle. *See* California Department of Resources Recycling and Recovery.

CAPCOA. *See* California Air Pollution Control Officers Association.

CARB. *See.* California Air Resources Board.

CEC. *See* California Energy Commission.

City of Glendale. 2010. *Greener Glendale 2010 Report.* Available: http://www.glendaleca.gov/home/showdocument?id=7164. Accessed July 31, 2017.

_____. 2011. *Greener Glendale Plan for Municipal Operations.* Available: http://www.glendaleca.gov/home/showdocument?id=6928. Accessed July 31, 2017.

_____. 2012. *Greener Glendale Plan for Community Activities.* Available: http://www.glendaleca.gov/home/showdocument?id=6934. Accessed July 31, 2017.

_____. 2015. *Report to the City Council: Water Conservation and Drought Update.* Available: http://www.ci.glendale.ca.us/government/council_packets/Reports_042815/CC_8a_042815.pdf. Accessed July 26, 2017.

_____. 2017a. 2040 Employment Forecast for the Proposed SGCP Area. City of Planning Division. June 12, 2017.

_____. 2017b. Water Conservation & Water Supply Information. Available: http://www.glendaleca.gov/government/departments/glendale-water-and-power/residential-customers/water-conservation-information. Accessed July 26, 2017.

CNRA. *See* California Natural Resources Agency.

Fehr & Peers. 2017. *South Glendale Community Plan Draft Transportation Analysis Report.*

Glendale Water & Power. 2017. *Power Content Label Annual 2015.* Available: http://www.glendaleca.gov/government/city-departments/glendale-water-and-power/the-environment/power-content-label. Accessed July 10, 2017.

Intergovernmental Panel on Climate Change. 2007. *Climate Change 2007: Synthesis Report*. Available: https://www.ipcc.ch/publications_and_data/publications_ipcc_fourth_assessment_report_synthesis_report.htm. Accessed June 27, 2017.

_____. 2013. 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. Available: https://www.ipcc.ch/pdf/assessment-report/ar5/wg1/WGIAR5_SPM_brochure_en.pdf. Accessed June 27, 2017.

_____. 2014. Climate Change 2014 Synthesis Report Summary for Policymakers. Geneva, Switzerland. Available: https://www.ipcc.ch/pdf/assessment-report/ar5/syr/AR5_SYR_FINAL_SPM.pdf. Accessed June 27, 2017.

IPCC. *See* Intergovernmental Panel on Climate Change.

National Highway Traffic Safety Administration. 2012 (August 28). *Obama Administration Finalizes Historic 54.5 mpg Fuel Efficiency Standards*. Available at https://www.nhtsa.gov/press-releases/obama-administration-finalizes-historic-545-mpg-fuel-efficiency-standards. Accessed June 27, 2017.

_____. 2016. CAFE-Fuel Economy web page. Available: http://www.nhtsa.gov/fuel-economy. Accessed June 27, 2017.

NHTSA. *See* National Highway Traffic Safety Administration.

SCAG. *See* Southern California Association of Governments.

SCAQMD. *See* South Coast Air Quality Management District.

South Coast Air Quality Management District. 2008. *Interim CEQA GHG Significance Threshold for Stationary Sources, Rules and Plan.* Available: http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-(ghg)-ceqa-significance-thresholds/ghgboardsynopsis.pdf?sfvrsn=2. Accessed July 26, 2017.

_____. 2015. *Air Quality Significance Thresholds.* Available: http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf?sfvrsn=2. Accessed on July 11, 2017.

Southern California Association of Governments. 2013. *2016-2040 RTP/SCS Final Growth Forecast by Jurisdiction.* Available: http://www.scag.ca.gov/Documents/2016_2040RTPSCS_FinalGrowthForecastbyJurisdiction.pdf. Accessed July 20, 2017.

_____. 2015 (December). *Draft Program Environmental Impact Report.* Available: http://scagrtpscs.net/Documents/2016/peir/draft/2016dPEIR_Complete.pdf. Accessed June 27, 2017.

_____. 2016 (April). *The 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy: A Plan for Mobility, Accessibility, Sustainability, and a High Quality of Life.* Available: http://scagrtpscs.net/Documents/2016/final/f2016RTPSCS.pdf. Accessed June 27, 2017.

_____. 2017. *Profile of the City of Glendale.* Available: https://www.scag.ca.gov/Documents/Glendale.pdf. Accessed July 31, 2017.

Attachment A

GHG Emission Assumptions

Category	Value	Notes	Source
Energy Emission Factors			**Source/Method**
GW&P 2015	**34%**	<-Percent Renewable (including eligible hydro, excluding large hydro/nuclear)	2015 Power Content Label: http://www.glendaleca.gov/government/city-departments/glendale-water-and-power/the-environment/power-content-label
Large Hydro	5%	(including large hydro)	
Natural Gas	37%		
Coal	4%		
Nuclear	7%		
Unspecified	13%		
eGRID2014 Average California Natural Gas Electricity Plant EFs			https://www.epa.gov/energy/emissions-generation-resource-integrated-database-egrid
lb CO2/MWh	864.99		Weighted average based on annual plant net generation
lb CH4/GWh	17.29		Weighted average based on annual plant net generation
lb N2O/GWh	1.75		Weighted average based on annual plant net generation
eGRID2014 Average California Coal Electricity Plant EFs			https://www.epa.gov/sites/production/files/2017-02/egrid2014_data_v2.xlsx
lb CO2/MWh	2147.45		Weighted average based on annual plant net generation
lb CH4/GWh	242.60		Weighted average based on annual plant net generation
lb N2O/GWh	35.94		Weighted average based on annual plant net generation
eGRID2014 CAMX Emission Factors			Assumed to represent unspecified power sources
lb CO2/MWh	568.60		Calculated based on PG&E 2014 Non-Renewable Emission Factor
lb CH4/GWh	33.10		Calculated based on PG&E 2014 Non-Renewable Emission Factor
lb N2O/GWh	4.00		Calculated based on PG&E 2014 Non-Renewable Emission Factor
GW&P 2015 Calculated EF's			
lb CO2/MWh	479.86	Overall Electricity Emission Factor	
lb CH4/GWh	20.41	Overall Electricity Emission Factor	
lb N2O/GWh	2.61	Overall Electricity Emission Factor	
lb CO2/MWh	727.06	Calculated "Non-Renewable" Emission Factor	
lb CH4/GWh	30.92	Calculated "Non-Renewable" Emission Factor	
lb N2O/GWh	3.95	Calculated "Non-Renewable" Emission Factor	
GW&P 2040	**50%**	<-Percent Renewable	Assume 2040 RPS goal is same as Senate Bill 350 50% RPS 2030 goal
lb CO2/MWh	**363.531**	For CalEEMod input	Calculated based on MCE 2015 Non-Renewable Emission Factor
lb CH4/MWh	**0.015**	For CalEEMod input	Calculated based on MCE 2015 Non-Renewable Emission Factor
lb N2O/MWh	**0.002**	For CalEEMod input	Calculated based on MCE 2015 Non-Renewable Emission Factor
GWP		Notes	Source
CO2	1		
CH4	34	100 year horizon. With climate carbon feedbacks.	IPCC Fifth Assessment Report - Chapter 8. Table 8.7
N2O	298	100 year horizon. With climate carbon feedbacks.	IPCC Fifth Assessment Report - Chapter 8. Table 8.7

SGCP - Los Angeles-South Coast County, Annual

SGCP

Los Angeles-South Coast County, Annual

Construction Emissions Only (Excluding Demolition)

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Government Office Building	4.00	1000sqft	0.09	4,000.00	0
Hospital	55.00	1000sqft	1.26	55,000.00	0
Medical Office Building	22.00	1000sqft	0.51	22,000.00	0
Elementary School	102.00	Student	0.20	8,527.54	0
High School	20.00	Student	0.06	2,653.22	0
Place of Worship	1.00	1000sqft	0.02	1,000.00	0
University/College (4Yr)	281.00	Student	1.19	51,647.09	0
Hotel	47.00	Room	1.57	68,244.00	0
Movie Theater (No Matinee)	1.00	1000sqft	0.02	1,000.00	0
Apartments High Rise	673.00	Dwelling Unit	10.85	673,000.00	1925
Automobile Care Center	38.00	1000sqft	0.87	38,000.00	0
Free-Standing Discount Store	15.00	1000sqft	0.34	15,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	12			**Operational Year**	2019
Utility Company	Glendale Water & Power				
CO2 Intensity (lb/MWhr)	363.53	**CH4 Intensity (lb/MWhr)**	0.015	**N2O Intensity (lb/MWhr)**	0.002

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Electricity Generation Emissions Factor calculated independently using eGrid emissions factors and CPUC energy mix data for Califronia utilities

Land Use - Annula Growth Rates for each Land USe calcualted independently for inputs ins CalEEMOd

Construction Phase - Construction schedule adjusted to fit in one calendar year for each land use

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Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	196.00
tblConstructionPhase	NumDays	300.00	196.00
tblConstructionPhase	NumDays	20.00	13.00
tblConstructionPhase	NumDays	30.00	20.00
tblConstructionPhase	NumDays	20.00	13.00
tblConstructionPhase	NumDays	10.00	7.00
tblConstructionPhase	PhaseEndDate	1/1/2019	11/26/2018
tblConstructionPhase	PhaseStartDate	12/14/2018	2/24/2018
tblFleetMix	FleetMixLandUseSubType	Government Office Building	Apartments High Rise
tblFleetMix	FleetMixLandUseSubType	Hospital	Automobile Care Center
tblFleetMix	FleetMixLandUseSubType	Medical Office Building	Elementary School
tblFleetMix	FleetMixLandUseSubType	Elementary School	Free-Standing Discount Store
tblFleetMix	FleetMixLandUseSubType	High School	Government Office Building
tblFleetMix	FleetMixLandUseSubType	Place of Worship	High School
tblFleetMix	FleetMixLandUseSubType	University/College (4Yr)	Hospital
tblFleetMix	FleetMixLandUseSubType	Movie Theater (No Matinee)	Medical Office Building
tblFleetMix	FleetMixLandUseSubType	Apartments High Rise	Movie Theater (No Matinee)
tblFleetMix	FleetMixLandUseSubType	Automobile Care Center	Place of Worship
tblFleetMix	FleetMixLandUseSubType	Free-Standing Discount Store	University/College (4Yr)
tblGrading	AcresOfGrading	50.00	75.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.015
tblProjectCharacteristics	CO2IntensityFactor	1115.33	363.53
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.002
tblProjectCharacteristics	OperationalYear	2018	2019

2.0 Emissions Summary

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					
2018	4.1729	5.3667	6.4963	0.0154	0.9916	0.2327	1.2242	0.2938	0.2187	0.5125	0.0000	1,402.3375	1,402.3375	0.1394	0.0000	1,405.8216
Maximum	**4.1729**	**5.3667**	**6.4963**	**0.0154**	**0.9916**	**0.2327**	**1.2242**	**0.2938**	**0.2187**	**0.5125**	**0.0000**	**1,402.3375**	**1,402.3375**	**0.1394**	**0.0000**	**1,405.8216**

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					
2018	4.1729	5.3667	6.4963	0.0154	0.9916	0.2327	1.2242	0.2938	0.2187	0.5125	0.0000	1,402.3371	1,402.3371	0.1394	0.0000	1,405.8212
Maximum	**4.1729**	**5.3667**	**6.4963**	**0.0154**	**0.9916**	**0.2327**	**1.2242**	**0.2938**	**0.2187**	**0.5125**	**0.0000**	**1,402.3371**	**1,402.3371**	**0.1394**	**0.0000**	**1,405.8212**

	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	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

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Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-1-2018	3-31-2018	2.1651	2.1651
2	4-1-2018	6-30-2018	2.7309	2.7309
3	7-1-2018	9-30-2018	2.7609	2.7609
		Highest	2.7609	2.7609

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	6.1499	0.2554	11.2605	0.0113		0.6809	0.6809		0.6809	0.6809	71.4854	148.7221	220.2075	0.2244	4.8500e-003	227.2621
Energy	0.0893	0.7857	0.4921	4.8700e-003		0.0617	0.0617		0.0617	0.0617	0.0000	1,927.5784	1,927.5784	0.0600	0.0219	1,935.6172
Mobile	2.5635	12.6583	33.3918	0.0993	7.5327	0.1165	7.6492	2.0196	0.1095	2.1290	0.0000	9,148.9034	9,148.9034	0.5482	0.0000	9,162.6081
Waste						0.0000	0.0000		0.0000	0.0000	297.4305	0.0000	297.4305	17.5776	0.0000	736.8714
Water						0.0000	0.0000		0.0000	0.0000	19.5281	196.0125	215.5406	2.0138	0.0484	280.3205
Total	**8.8027**	**13.6994**	**45.1444**	**0.1155**	**7.5327**	**0.8590**	**8.3917**	**2.0196**	**0.8520**	**2.8715**	**388.4440**	**11,421.2164**	**11,809.6604**	**20.4240**	**0.0752**	**12,342.6794**

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	6.1499	0.2554	11.2605	0.0113		0.6809	0.6809		0.6809	0.6809	71.4854	148.7221	220.2075	0.2244	4.8500e-003	227.2621
Energy	0.0893	0.7857	0.4921	4.8700e-003		0.0617	0.0617		0.0617	0.0617	0.0000	1,927.5784	1,927.5784	0.0600	0.0219	1,935.6172
Mobile	2.5635	12.6583	33.3918	0.0993	7.5327	0.1165	7.6492	2.0196	0.1095	2.1290	0.0000	9,148.9034	9,148.9034	0.5482	0.0000	9,162.6081
Waste						0.0000	0.0000		0.0000	0.0000	297.4305	0.0000	297.4305	17.5776	0.0000	736.8714
Water						0.0000	0.0000		0.0000	0.0000	19.5281	196.0125	215.5406	2.0138	0.0484	280.3205
Total	**8.8027**	**13.6994**	**45.1444**	**0.1155**	**7.5327**	**0.8590**	**8.3917**	**2.0196**	**0.8520**	**2.8715**	**388.4440**	**11,421.2164**	**11,809.6604**	**20.4240**	**0.0752**	**12,342.6794**

	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	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

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Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2018	1/17/2018	5	13	
2	Site Preparation	Site Preparation	1/18/2018	1/26/2018	5	7	
3	Grading	Grading	1/27/2018	2/23/2018	5	20	
4	Building Construction	Building Construction	2/24/2018	11/26/2018	5	196	
5	Paving	Paving	11/27/2018	12/13/2018	5	13	
6	Architectural Coating	Architectural Coating	2/24/2018	11/26/2018	5	196	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 75

Acres of Paving: 0

Residential Indoor: 1,362,825; Residential Outdoor: 454,275; Non-Residential Indoor: 400,608; Non-Residential Outdoor: 133,536; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

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Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	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	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

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
Demolition	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	583.00	116.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	117.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2018

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	0.0242	0.2491	0.1450	2.5000e-004		0.0126	0.0126		0.0117	0.0117	0.0000	22.8307	22.8307	6.2900e-003	0.0000	22.9879
Total	**0.0242**	**0.2491**	**0.1450**	**2.5000e-004**		**0.0126**	**0.0126**		**0.0117**	**0.0117**	**0.0000**	**22.8307**	**22.8307**	**6.2900e-003**	**0.0000**	**22.9879**

3.2 Demolition - 2018

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	5.4000e-004	4.6000e-004	4.9700e-003	1.0000e-005	1.0700e-003	1.0000e-005	1.0800e-003	2.8000e-004	1.0000e-005	2.9000e-004	0.0000	1.0616	1.0616	4.0000e-005	0.0000	1.0626
Total	**5.4000e-004**	**4.6000e-004**	**4.9700e-003**	**1.0000e-005**	**1.0700e-003**	**1.0000e-005**	**1.0800e-003**	**2.8000e-004**	**1.0000e-005**	**2.9000e-004**	**0.0000**	**1.0616**	**1.0616**	**4.0000e-005**	**0.0000**	**1.0626**

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	0.0242	0.2491	0.1450	2.5000e-004		0.0126	0.0126		0.0117	0.0117	0.0000	22.8306	22.8306	6.2900e-003	0.0000	22.9879
Total	**0.0242**	**0.2491**	**0.1450**	**2.5000e-004**		**0.0126**	**0.0126**		**0.0117**	**0.0117**	**0.0000**	**22.8306**	**22.8306**	**6.2900e-003**	**0.0000**	**22.9879**

3.2 Demolition - 2018

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	5.4000e-004	4.6000e-004	4.9700e-003	1.0000e-005	1.0700e-003	1.0000e-005	1.0800e-003	2.8000e-004	1.0000e-005	2.9000e-004	0.0000	1.0616	1.0616	4.0000e-005	0.0000	1.0626
Total	**5.4000e-004**	**4.6000e-004**	**4.9700e-003**	**1.0000e-005**	**1.0700e-003**	**1.0000e-005**	**1.0800e-003**	**2.8000e-004**	**1.0000e-005**	**2.9000e-004**	**0.0000**	**1.0616**	**1.0616**	**4.0000e-005**	**0.0000**	**1.0626**

3.3 Site Preparation - 2018

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					0.0632	0.0000	0.0632	0.0348	0.0000	0.0348	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0160	0.1687	0.0787	1.3000e-004		9.0200e-003	9.0200e-003		8.3000e-003	8.3000e-003	0.0000	12.1660	12.1660	3.7900e-003	0.0000	12.2607
Total	**0.0160**	**0.1687**	**0.0787**	**1.3000e-004**	**0.0632**	**9.0200e-003**	**0.0723**	**0.0348**	**8.3000e-003**	**0.0431**	**0.0000**	**12.1660**	**12.1660**	**3.7900e-003**	**0.0000**	**12.2607**

3.3 Site Preparation - 2018

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	3.5000e-004	3.0000e-004	3.2100e-003	1.0000e-005	6.9000e-004	1.0000e-005	7.0000e-004	1.8000e-004	1.0000e-005	1.9000e-004	0.0000	0.6859	0.6859	3.0000e-005	0.0000	0.6866
Total	**3.5000e-004**	**3.0000e-004**	**3.2100e-003**	**1.0000e-005**	**6.9000e-004**	**1.0000e-005**	**7.0000e-004**	**1.8000e-004**	**1.0000e-005**	**1.9000e-004**	**0.0000**	**0.6859**	**0.6859**	**3.0000e-005**	**0.0000**	**0.6866**

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					0.0632	0.0000	0.0632	0.0348	0.0000	0.0348	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0160	0.1687	0.0787	1.3000e-004		9.0200e-003	9.0200e-003		8.3000e-003	8.3000e-003	0.0000	12.1660	12.1660	3.7900e-003	0.0000	12.2606
Total	**0.0160**	**0.1687**	**0.0787**	**1.3000e-004**	**0.0632**	**9.0200e-003**	**0.0723**	**0.0348**	**8.3000e-003**	**0.0431**	**0.0000**	**12.1660**	**12.1660**	**3.7900e-003**	**0.0000**	**12.2606**

3.3 Site Preparation - 2018

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	3.5000e-004	3.0000e-004	3.2100e-003	1.0000e-005	6.9000e-004	1.0000e-005	7.0000e-004	1.8000e-004	1.0000e-005	1.9000e-004	0.0000	0.6859	0.6859	3.0000e-005	0.0000	0.6866
Total	**3.5000e-004**	**3.0000e-004**	**3.2100e-003**	**1.0000e-005**	**6.9000e-004**	**1.0000e-005**	**7.0000e-004**	**1.8000e-004**	**1.0000e-005**	**1.9000e-004**	**0.0000**	**0.6859**	**0.6859**	**3.0000e-005**	**0.0000**	**0.6866**

3.4 Grading - 2018

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					0.1000	0.0000	0.1000	0.0374	0.0000	0.0374	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0509	0.5952	0.3509	6.2000e-004		0.0263	0.0263		0.0242	0.0242	0.0000	56.6485	56.6485	0.0176	0.0000	57.0894
Total	**0.0509**	**0.5952**	**0.3509**	**6.2000e-004**	**0.1000**	**0.0263**	**0.1263**	**0.0374**	**0.0242**	**0.0616**	**0.0000**	**56.6485**	**56.6485**	**0.0176**	**0.0000**	**57.0894**

3.4 Grading - 2018

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	1.1100e-003	9.5000e-004	0.0102	2.0000e-005	2.1900e-003	2.0000e-005	2.2100e-003	5.8000e-004	2.0000e-005	6.0000e-004	0.0000	2.1776	2.1776	8.0000e-005	0.0000	2.1796
Total	**1.1100e-003**	**9.5000e-004**	**0.0102**	**2.0000e-005**	**2.1900e-003**	**2.0000e-005**	**2.2100e-003**	**5.8000e-004**	**2.0000e-005**	**6.0000e-004**	**0.0000**	**2.1776**	**2.1776**	**8.0000e-005**	**0.0000**	**2.1796**

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					0.1000	0.0000	0.1000	0.0374	0.0000	0.0374	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0509	0.5952	0.3509	6.2000e-004		0.0263	0.0263		0.0242	0.0242	0.0000	56.6484	56.6484	0.0176	0.0000	57.0893
Total	**0.0509**	**0.5952**	**0.3509**	**6.2000e-004**	**0.1000**	**0.0263**	**0.1263**	**0.0374**	**0.0242**	**0.0616**	**0.0000**	**56.6484**	**56.6484**	**0.0176**	**0.0000**	**57.0893**

3.4 Grading - 2018

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	1.1100e-003	9.5000e-004	0.0102	2.0000e-005	2.1900e-003	2.0000e-005	2.2100e-003	5.8000e-004	2.0000e-005	6.0000e-004	0.0000	2.1776	2.1776	8.0000e-005	0.0000	2.1796
Total	**1.1100e-003**	**9.5000e-004**	**0.0102**	**2.0000e-005**	**2.1900e-003**	**2.0000e-005**	**2.2100e-003**	**5.8000e-004**	**2.0000e-005**	**6.0000e-004**	**0.0000**	**2.1776**	**2.1776**	**8.0000e-005**	**0.0000**	**2.1796**

3.5 Building Construction - 2018

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	0.2626	2.2922	1.7229	2.6400e-003		0.1470	0.1470		0.1382	0.1382	0.0000	233.0119	233.0119	0.0571	0.0000	234.4391
Total	**0.2626**	**2.2922**	**1.7229**	**2.6400e-003**		**0.1470**	**0.1470**		**0.1382**	**0.1382**	**0.0000**	**233.0119**	**233.0119**	**0.0571**	**0.0000**	**234.4391**

3.5 Building Construction - 2018

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	0.0533	1.4237	0.4002	2.9700e-003	0.0716	9.8800e-003	0.0815	0.0207	9.4600e-003	0.0301	0.0000	287.2312	287.2312	0.0197	0.0000	287.7237
Worker	0.3166	0.2708	2.9129	6.8900e-003	0.6261	5.6900e-003	0.6318	0.1663	5.2500e-003	0.1715	0.0000	622.0720	622.0720	0.0234	0.0000	622.6567
Total	**0.3698**	**1.6945**	**3.3131**	**9.8600e-003**	**0.6977**	**0.0156**	**0.7133**	**0.1870**	**0.0147**	**0.2017**	**0.0000**	**909.3032**	**909.3032**	**0.0431**	**0.0000**	**910.3804**

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	0.2626	2.2922	1.7229	2.6400e-003		0.1470	0.1470		0.1382	0.1382	0.0000	233.0116	233.0116	0.0571	0.0000	234.4388
Total	**0.2626**	**2.2922**	**1.7229**	**2.6400e-003**		**0.1470**	**0.1470**		**0.1382**	**0.1382**	**0.0000**	**233.0116**	**233.0116**	**0.0571**	**0.0000**	**234.4388**

3.5 Building Construction - 2018

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	0.0533	1.4237	0.4002	2.9700e-003	0.0716	9.8800e-003	0.0815	0.0207	9.4600e-003	0.0301	0.0000	287.2312	287.2312	0.0197	0.0000	287.7237
Worker	0.3166	0.2708	2.9129	6.8900e-003	0.6261	5.6900e-003	0.6318	0.1663	5.2500e-003	0.1715	0.0000	622.0720	622.0720	0.0234	0.0000	622.6567
Total	**0.3698**	**1.6945**	**3.3131**	**9.8600e-003**	**0.6977**	**0.0156**	**0.7133**	**0.1870**	**0.0147**	**0.2017**	**0.0000**	**909.3032**	**909.3032**	**0.0431**	**0.0000**	**910.3804**

3.6 Paving - 2018

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	0.0107	0.1139	0.0962	1.5000e-004		6.2100e-003	6.2100e-003		5.7200e-003	5.7200e-003	0.0000	13.5276	13.5276	4.2100e-003	0.0000	13.6328
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0107**	**0.1139**	**0.0962**	**1.5000e-004**		**6.2100e-003**	**6.2100e-003**		**5.7200e-003**	**5.7200e-003**	**0.0000**	**13.5276**	**13.5276**	**4.2100e-003**	**0.0000**	**13.6328**

3.6 Paving - 2018

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	5.4000e-004	4.6000e-004	4.9700e-003	1.0000e-005	1.0700e-003	1.0000e-005	1.0800e-003	2.8000e-004	1.0000e-005	2.9000e-004	0.0000	1.0616	1.0616	4.0000e-005	0.0000	1.0626
Total	**5.4000e-004**	**4.6000e-004**	**4.9700e-003**	**1.0000e-005**	**1.0700e-003**	**1.0000e-005**	**1.0800e-003**	**2.8000e-004**	**1.0000e-005**	**2.9000e-004**	**0.0000**	**1.0616**	**1.0616**	**4.0000e-005**	**0.0000**	**1.0626**

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	0.0107	0.1139	0.0962	1.5000e-004		6.2100e-003	6.2100e-003		5.7200e-003	5.7200e-003	0.0000	13.5275	13.5275	4.2100e-003	0.0000	13.6328
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0107**	**0.1139**	**0.0962**	**1.5000e-004**		**6.2100e-003**	**6.2100e-003**		**5.7200e-003**	**5.7200e-003**	**0.0000**	**13.5275**	**13.5275**	**4.2100e-003**	**0.0000**	**13.6328**

3.6 Paving - 2018

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	5.4000e-004	4.6000e-004	4.9700e-003	1.0000e-005	1.0700e-003	1.0000e-005	1.0800e-003	2.8000e-004	1.0000e-005	2.9000e-004	0.0000	1.0616	1.0616	4.0000e-005	0.0000	1.0626
Total	**5.4000e-004**	**4.6000e-004**	**4.9700e-003**	**1.0000e-005**	**1.0700e-003**	**1.0000e-005**	**1.0800e-003**	**2.8000e-004**	**1.0000e-005**	**2.9000e-004**	**0.0000**	**1.0616**	**1.0616**	**4.0000e-005**	**0.0000**	**1.0626**

3.7 Architectural Coating - 2018

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	3.3434					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0293	0.1966	0.1817	2.9000e-004		0.0148	0.0148		0.0148	0.0148	0.0000	25.0219	25.0219	2.3800e-003	0.0000	25.0814
Total	**3.3727**	**0.1966**	**0.1817**	**2.9000e-004**		**0.0148**	**0.0148**		**0.0148**	**0.0148**	**0.0000**	**25.0219**	**25.0219**	**2.3800e-003**	**0.0000**	**25.0814**

3.7 Architectural Coating - 2018

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	0.0635	0.0544	0.5846	1.3800e-003	0.1256	1.1400e-003	0.1268	0.0334	1.0500e-003	0.0344	0.0000	124.8412	124.8412	4.6900e-003	0.0000	124.9586
Total	**0.0635**	**0.0544**	**0.5846**	**1.3800e-003**	**0.1256**	**1.1400e-003**	**0.1268**	**0.0334**	**1.0500e-003**	**0.0344**	**0.0000**	**124.8412**	**124.8412**	**4.6900e-003**	**0.0000**	**124.9586**

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	3.3434					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0293	0.1966	0.1817	2.9000e-004		0.0148	0.0148		0.0148	0.0148	0.0000	25.0219	25.0219	2.3800e-003	0.0000	25.0813
Total	**3.3727**	**0.1966**	**0.1817**	**2.9000e-004**		**0.0148**	**0.0148**		**0.0148**	**0.0148**	**0.0000**	**25.0219**	**25.0219**	**2.3800e-003**	**0.0000**	**25.0813**

3.7 Architectural Coating - 2018

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	0.0635	0.0544	0.5846	1.3800e-003	0.1256	1.1400e-003	0.1268	0.0334	1.0500e-003	0.0344	0.0000	124.8412	124.8412	4.6900e-003	0.0000	124.9586
Total	**0.0635**	**0.0544**	**0.5846**	**1.3800e-003**	**0.1256**	**1.1400e-003**	**0.1268**	**0.0334**	**1.0500e-003**	**0.0344**	**0.0000**	**124.8412**	**124.8412**	**4.6900e-003**	**0.0000**	**124.9586**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	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	2.5635	12.6583	33.3918	0.0993	7.5327	0.1165	7.6492	2.0196	0.1095	2.1290	0.0000	9,148.9034	9,148.9034	0.5482	0.0000	9,162.6081
Unmitigated	2.5635	12.6583	33.3918	0.0993	7.5327	0.1165	7.6492	2.0196	0.1095	2.1290	0.0000	9,148.9034	9,148.9034	0.5482	0.0000	9,162.6081

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments High Rise	2,826.60	3,351.54	2456.45	9,734,485	9,734,485
Automobile Care Center	901.36	901.36	451.44	1,121,320	1,121,320
Elementary School	131.58	0.00	0.00	323,911	323,911
Free-Standing Discount Store	858.60	1,066.05	845.40	1,663,425	1,663,425
Government Office Building	275.72	0.00	0.00	463,754	463,754
High School	34.20	12.20	5.00	114,823	114,823
Hospital	727.10	559.90	490.05	2,594,964	2,594,964
Hotel	383.99	384.93	279.65	881,019	881,019
Medical Office Building	794.86	197.12	34.10	1,558,361	1,558,361
Movie Theater (No Matinee)	78.06	99.28	81.90	172,997	172,997
Place of Worship	9.11	10.37	36.63	28,199	28,199
University/College (4Yr)	480.51	365.30	0.00	1,187,759	1,187,759
Total	7,501.69	6,948.05	4,680.62	19,845,014	19,845,014

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	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 High Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Automobile Care Center	16.60	8.40	6.90	33.00	48.00	19.00	21	51	28
Elementary School	16.60	8.40	6.90	65.00	30.00	5.00	63	25	12
Free-Standing Discount Store	16.60	8.40	6.90	12.20	68.80	19.00	47.5	35.5	17
Government Office Building	16.60	8.40	6.90	33.00	62.00	5.00	50	34	16
High School	16.60	8.40	6.90	77.80	17.20	5.00	75	19	6
Hospital	16.60	8.40	6.90	64.90	16.10	19.00	73	25	2
Hotel	16.60	8.40	6.90	19.40	61.60	19.00	58	38	4
Medical Office Building	16.60	8.40	6.90	29.60	51.40	19.00	60	30	10
Movie Theater (No Matinee)	16.60	8.40	6.90	1.80	79.20	19.00	66	17	17
Place of Worship	16.60	8.40	6.90	0.00	95.00	5.00	64	25	11
University/College (4Yr)	16.60	8.40	6.90	6.40	88.60	5.00	91	9	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments High Rise	0.548007	0.045751	0.200309	0.124119	0.017133	0.006025	0.018861	0.028423	0.002391	0.002469	0.004915	0.000672	0.000925
Automobile Care Center	0.548007	0.045751	0.200309	0.124119	0.017133	0.006025	0.018861	0.028423	0.002391	0.002469	0.004915	0.000672	0.000925
Elementary School	0.548007	0.045751	0.200309	0.124119	0.017133	0.006025	0.018861	0.028423	0.002391	0.002469	0.004915	0.000672	0.000925
Free-Standing Discount Store	0.548007	0.045751	0.200309	0.124119	0.017133	0.006025	0.018861	0.028423	0.002391	0.002469	0.004915	0.000672	0.000925
Government Office Building	0.548007	0.045751	0.200309	0.124119	0.017133	0.006025	0.018861	0.028423	0.002391	0.002469	0.004915	0.000672	0.000925
High School	0.548007	0.045751	0.200309	0.124119	0.017133	0.006025	0.018861	0.028423	0.002391	0.002469	0.004915	0.000672	0.000925
Hospital	0.548007	0.045751	0.200309	0.124119	0.017133	0.006025	0.018861	0.028423	0.002391	0.002469	0.004915	0.000672	0.000925
Hotel	0.548007	0.045751	0.200309	0.124119	0.017133	0.006025	0.018861	0.028423	0.002391	0.002469	0.004915	0.000672	0.000925
Medical Office Building	0.548007	0.045751	0.200309	0.124119	0.017133	0.006025	0.018861	0.028423	0.002391	0.002469	0.004915	0.000672	0.000925
Movie Theater (No Matinee)	0.548007	0.045751	0.200309	0.124119	0.017133	0.006025	0.018861	0.028423	0.002391	0.002469	0.004915	0.000672	0.000925
Place of Worship	0.548007	0.045751	0.200309	0.124119	0.017133	0.006025	0.018861	0.028423	0.002391	0.002469	0.004915	0.000672	0.000925
University/College (4Yr)	0.548007	0.045751	0.200309	0.124119	0.017133	0.006025	0.018861	0.028423	0.002391	0.002469	0.004915	0.000672	0.000925

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	1,044.1389	1,044.1389	0.0431	5.7400e-003	1,046.9278
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1,044.1389	1,044.1389	0.0431	5.7400e-003	1,046.9278
NaturalGas Mitigated	0.0893	0.7857	0.4921	4.8700e-003		0.0617	0.0617		0.0617	0.0617	0.0000	883.4396	883.4396	0.0169	0.0162	888.6894
NaturalGas Unmitigated	0.0893	0.7857	0.4921	4.8700e-003		0.0617	0.0617		0.0617	0.0617	0.0000	883.4396	883.4396	0.0169	0.0162	888.6894

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 High Rise	8.78873e+006	0.0474	0.4050	0.1723	2.5800e-003		0.0327	0.0327		0.0327	0.0327	0.0000	469.0003	469.0003	8.9900e-003	8.6000e-003	471.7874
Automobile Care Center	690080	3.7200e-003	0.0338	0.0284	2.0000e-004		2.5700e-003	2.5700e-003		2.5700e-003	2.5700e-003	0.0000	36.8253	36.8253	7.1000e-004	6.8000e-004	37.0441
Elementary School	89112.8	4.8000e-004	4.3700e-003	3.6700e-003	3.0000e-005		3.3000e-004	3.3000e-004		3.3000e-004	3.3000e-004	0.0000	4.7554	4.7554	9.0000e-005	9.0000e-005	4.7837
Free-Standing Discount Store	24750	1.3000e-004	1.2100e-003	1.0200e-003	1.0000e-005		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005	0.0000	1.3208	1.3208	3.0000e-005	2.0000e-005	1.3286
Government Office Building	41840	2.3000e-004	2.0500e-003	1.7200e-003	1.0000e-005		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004	0.0000	2.2327	2.2327	4.0000e-005	4.0000e-005	2.2460
High School	27726.1	1.5000e-004	1.3600e-003	1.1400e-003	1.0000e-005		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004	0.0000	1.4796	1.4796	3.0000e-005	3.0000e-005	1.4884
Hospital	3.5772e+006	0.0193	0.1754	0.1473	1.0500e-003		0.0133	0.0133		0.0133	0.0133	0.0000	190.8930	190.8930	3.6600e-003	3.5000e-003	192.0274
Hotel	1.64332e+006	8.8600e-003	0.0806	0.0677	4.8000e-004		6.1200e-003	6.1200e-003		6.1200e-003	6.1200e-003	0.0000	87.6936	87.6936	1.6800e-003	1.6100e-003	88.2147
Medical Office Building	230120	1.2400e-003	0.0113	9.4800e-003	7.0000e-005		8.6000e-004	8.6000e-004		8.6000e-004	8.6000e-004	0.0000	12.2801	12.2801	2.4000e-004	2.3000e-004	12.3531
Movie Theater (No Matinee)	18160	1.0000e-004	8.9000e-004	7.5000e-004	1.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	0.9691	0.9691	2.0000e-005	2.0000e-005	0.9749
Place of Worship	18160	1.0000e-004	8.9000e-004	7.5000e-004	1.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	0.9691	0.9691	2.0000e-005	2.0000e-005	0.9749
University/College (4Yr)	1.40583e+006	7.5800e-003	0.0689	0.0579	4.1000e-004		5.2400e-003	5.2400e-003		5.2400e-003	5.2400e-003	0.0000	75.0206	75.0206	1.4400e-003	1.3800e-003	75.4665
Total		**0.0893**	**0.7857**	**0.4921**	**4.8700e-003**		**0.0617**	**0.0617**		**0.0617**	**0.0617**	**0.0000**	**883.4396**	**883.4396**	**0.0170**	**0.0162**	**888.6894**

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 High Rise	8.78873e+006	0.0474	0.4050	0.1723	2.5800e-003		0.0327	0.0327		0.0327	0.0327	0.0000	469.0003	469.0003	8.9900e-003	8.6000e-003	471.7874
Automobile Care Center	690080	3.7200e-003	0.0338	0.0284	2.0000e-004		2.5700e-003	2.5700e-003		2.5700e-003	2.5700e-003	0.0000	36.8253	36.8253	7.1000e-004	6.8000e-004	37.0441
Elementary School	89112.8	4.8000e-004	4.3700e-003	3.6700e-003	3.0000e-005		3.3000e-004	3.3000e-004		3.3000e-004	3.3000e-004	0.0000	4.7554	4.7554	9.0000e-005	9.0000e-005	4.7837
Free-Standing Discount Store	24750	1.3000e-004	1.2100e-003	1.0200e-003	1.0000e-005		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005	0.0000	1.3208	1.3208	3.0000e-005	2.0000e-005	1.3286
Government Office Building	41840	2.3000e-004	2.0500e-003	1.7200e-003	1.0000e-005		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004	0.0000	2.2327	2.2327	4.0000e-005	4.0000e-005	2.2460
High School	27726.1	1.5000e-004	1.3600e-003	1.1400e-003	1.0000e-005		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004	0.0000	1.4796	1.4796	3.0000e-005	3.0000e-005	1.4884
Hospital	3.5772e+006	0.0193	0.1754	0.1473	1.0500e-003		0.0133	0.0133		0.0133	0.0133	0.0000	190.8930	190.8930	3.6600e-003	3.5000e-003	192.0274
Hotel	1.64332e+006	8.8600e-003	0.0806	0.0677	4.8000e-004		6.1200e-003	6.1200e-003		6.1200e-003	6.1200e-003	0.0000	87.6936	87.6936	1.6800e-003	1.6100e-003	88.2147
Medical Office Building	230120	1.2400e-003	0.0113	9.4800e-003	7.0000e-005		8.6000e-004	8.6000e-004		8.6000e-004	8.6000e-004	0.0000	12.2801	12.2801	2.4000e-004	2.3000e-004	12.3531
Movie Theater (No Matinee)	18160	1.0000e-004	8.9000e-004	7.5000e-004	1.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	0.9691	0.9691	2.0000e-005	2.0000e-005	0.9749
Place of Worship	18160	1.0000e-004	8.9000e-004	7.5000e-004	1.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	0.9691	0.9691	2.0000e-005	2.0000e-005	0.9749
University/College (4Yr)	1.40583e+006	7.5800e-003	0.0689	0.0579	4.1000e-004		5.2400e-003	5.2400e-003		5.2400e-003	5.2400e-003	0.0000	75.0206	75.0206	1.4400e-003	1.3800e-003	75.4665
Total		**0.0893**	**0.7857**	**0.4921**	**4.8700e-003**		**0.0617**	**0.0617**		**0.0617**	**0.0617**	**0.0000**	**883.4396**	**883.4396**	**0.0170**	**0.0162**	**888.6894**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments High Rise	2.90928e+006	479.7238	0.0198	2.6400e-003	481.0051
Automobile Care Center	429780	70.8683	2.9200e-003	3.9000e-004	71.0576
Elementary School	51847.4	8.5494	3.5000e-004	5.0000e-005	8.5722
Free-Standing Discount Store	207900	34.2816	1.4100e-003	1.9000e-004	34.3731
Government Office Building	53280	8.7856	3.6000e-004	5.0000e-005	8.8090
High School	16131.6	2.6600	1.1000e-004	1.0000e-005	2.6671
Hospital	1.28865e+006	212.4912	8.7700e-003	1.1700e-003	213.0588
Hotel	530256	87.4362	3.6100e-003	4.8000e-004	87.6698
Medical Office Building	293040	48.3207	1.9900e-003	2.7000e-004	48.4497
Movie Theater (No Matinee)	11310	1.8650	8.0000e-005	1.0000e-005	1.8699
Place of Worship	11310	1.8650	8.0000e-005	1.0000e-005	1.8699
University/College (4Yr)	529383	87.2923	3.6000e-003	4.8000e-004	87.5254
Total		**1,044.1389**	**0.0431**	**5.7500e-003**	**1,046.9278**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments High Rise	2.90928e+006	479.7238	0.0198	2.6400e-003	481.0051
Automobile Care Center	429780	70.8683	2.9200e-003	3.9000e-004	71.0576
Elementary School	51847.4	8.5494	3.5000e-004	5.0000e-005	8.5722
Free-Standing Discount Store	207900	34.2816	1.4100e-003	1.9000e-004	34.3731
Government Office Building	53280	8.7856	3.6000e-004	5.0000e-005	8.8090
High School	16131.6	2.6600	1.1000e-004	1.0000e-005	2.6671
Hospital	1.28865e+006	212.4912	8.7700e-003	1.1700e-003	213.0588
Hotel	530256	87.4362	3.6100e-003	4.8000e-004	87.6698
Medical Office Building	293040	48.3207	1.9900e-003	2.7000e-004	48.4497
Movie Theater (No Matinee)	11310	1.8650	8.0000e-005	1.0000e-005	1.8699
Place of Worship	11310	1.8650	8.0000e-005	1.0000e-005	1.8699
University/College (4Yr)	529383	87.2923	3.6000e-003	4.8000e-004	87.5254
Total		**1,044.1389**	**0.0431**	**5.7500e-003**	**1,046.9278**

6.0 Area Detail

6.1 Mitigation Measures Area

	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	6.1499	0.2554	11.2605	0.0113		0.6809	0.6809		0.6809	0.6809	71.4854	148.7221	220.2075	0.2244	4.8500e-003	227.2621
Unmitigated	6.1499	0.2554	11.2605	0.0113		0.6809	0.6809		0.6809	0.6809	71.4854	148.7221	220.2075	0.2244	4.8500e-003	227.2621

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	0.3343					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	3.3970					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	2.2044	0.1746	4.2782	0.0109		0.6426	0.6426		0.6426	0.6426	71.4854	137.3705	208.8559	0.2132	4.8500e-003	215.6313
Landscaping	0.2142	0.0809	6.9823	3.7000e-004		0.0382	0.0382		0.0382	0.0382	0.0000	11.3516	11.3516	0.0112	0.0000	11.6308
Total	**6.1499**	**0.2554**	**11.2605**	**0.0113**		**0.6809**	**0.6809**		**0.6809**	**0.6809**	**71.4854**	**148.7221**	**220.2075**	**0.2244**	**4.8500e-003**	**227.2621**

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	0.3343					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	3.3970					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	2.2044	0.1746	4.2782	0.0109		0.6426	0.6426		0.6426	0.6426	71.4854	137.3705	208.8559	0.2132	4.8500e-003	215.6313
Landscaping	0.2142	0.0809	6.9823	3.7000e-004		0.0382	0.0382		0.0382	0.0382	0.0000	11.3516	11.3516	0.0112	0.0000	11.6308
Total	**6.1499**	**0.2554**	**11.2605**	**0.0113**		**0.6809**	**0.6809**		**0.6809**	**0.6809**	**71.4854**	**148.7221**	**220.2075**	**0.2244**	**4.8500e-003**	**227.2621**

7.0 Water Detail

7.1 Mitigation Measures Water

SGCP - Los Angeles-South Coast County, Annual

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	215.5406	2.0138	0.0484	280.3205
Unmitigated	215.5406	2.0138	0.0484	280.3205

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments High Rise	43.8487 / 27.6437	158.7009	1.4348	0.0345	204.8615
Automobile Care Center	3.57508 / 2.19118	12.8244	0.1170	2.8100e-003	16.5877
Elementary School	0.247272 / 0.635844	1.7742	8.1300e-003	2.0000e-004	2.0369
Free-Standing Discount Store	1.11109 / 0.680989	3.9857	0.0364	8.7000e-004	5.1552
Government Office Building	0.794639 / 0.487037	2.8505	0.0260	6.3000e-004	3.6870
High School	0.0880992 / 0.226541	0.6321	2.9000e-003	7.0000e-005	0.7257
Hospital	6.90143 / 1.31456	19.4157	0.2256	5.4000e-003	26.6662
Hotel	1.19224 / 0.132471	3.1808	0.0390	9.3000e-004	4.4328
Medical Office Building	2.76057 / 0.525823	7.7663	0.0902	2.1600e-003	10.6665
Movie Theater (No Matinee)	0.401601 / 0.0256341	1.0367	0.0131	3.1000e-004	1.4583
Place of Worship	0.0312889 / 0.0489391	0.1668	1.0300e-003	2.0000e-005	0.1998
University/College (4Yr)	0.601649 / 0.941041	3.2066	0.0197	4.8000e-004	3.8428
Total		**215.5406**	**2.0138**	**0.0484**	**280.3205**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments High Rise	43.8487 / 27.6437	158.7009	1.4348	0.0345	204.8615
Automobile Care Center	3.57508 / 2.19118	12.8244	0.1170	2.8100e-003	16.5877
Elementary School	0.247272 / 0.635844	1.7742	8.1300e-003	2.0000e-004	2.0369
Free-Standing Discount Store	1.11109 / 0.680989	3.9857	0.0364	8.7000e-004	5.1552
Government Office Building	0.794639 / 0.487037	2.8505	0.0260	6.3000e-004	3.6870
High School	0.0880992 / 0.226541	0.6321	2.9000e-003	7.0000e-005	0.7257
Hospital	6.90143 / 1.31456	19.4157	0.2256	5.4000e-003	26.6662
Hotel	1.19224 / 0.132471	3.1808	0.0390	9.3000e-004	4.4328
Medical Office Building	2.76057 / 0.525823	7.7663	0.0902	2.1600e-003	10.6665
Movie Theater (No Matinee)	0.401601 / 0.0256341	1.0367	0.0131	3.1000e-004	1.4583
Place of Worship	0.0312889 / 0.0489391	0.1668	1.0300e-003	2.0000e-005	0.1998
University/College (4Yr)	0.601649 / 0.941041	3.2066	0.0197	4.8000e-004	3.8428
Total		**215.5406**	**2.0138**	**0.0484**	**280.3205**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	297.4305	17.5776	0.0000	736.8714
Unmitigated	297.4305	17.5776	0.0000	736.8714

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments High Rise	309.58	62.8419	3.7139	0.0000	155.6883
Automobile Care Center	145.16	29.4662	1.7414	0.0000	73.0012
Elementary School	18.61	3.7777	0.2233	0.0000	9.3590
Free-Standing Discount Store	64.51	13.0950	0.7739	0.0000	32.4422
Government Office Building	3.72	0.7551	0.0446	0.0000	1.8708
High School	3.65	0.7409	0.0438	0.0000	1.8356
Hospital	594	120.5766	7.1259	0.0000	298.7235
Hotel	25.73	5.2230	0.3087	0.0000	12.9397
Medical Office Building	237.6	48.2307	2.8504	0.0000	119.4894
Movie Theater (No Matinee)	5.7	1.1571	0.0684	0.0000	2.8665
Place of Worship	5.7	1.1571	0.0684	0.0000	2.8665
University/College (4Yr)	51.28	10.4094	0.6152	0.0000	25.7888
Total		**297.4305**	**17.5776**	**0.0000**	**736.8714**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments High Rise	309.58	62.8419	3.7139	0.0000	155.6883
Automobile Care Center	145.16	29.4662	1.7414	0.0000	73.0012
Elementary School	18.61	3.7777	0.2233	0.0000	9.3590
Free-Standing Discount Store	64.51	13.0950	0.7739	0.0000	32.4422
Government Office Building	3.72	0.7551	0.0446	0.0000	1.8708
High School	3.65	0.7409	0.0438	0.0000	1.8356
Hospital	594	120.5766	7.1259	0.0000	298.7235
Hotel	25.73	5.2230	0.3087	0.0000	12.9397
Medical Office Building	237.6	48.2307	2.8504	0.0000	119.4894
Movie Theater (No Matinee)	5.7	1.1571	0.0684	0.0000	2.8665
Place of Worship	5.7	1.1571	0.0684	0.0000	2.8665
University/College (4Yr)	51.28	10.4094	0.6152	0.0000	25.7888
Total		**297.4305**	**17.5776**	**0.0000**	**736.8714**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

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SGCP

Los Angeles-South Coast County, Annual

Construction Demolition Emissions Only

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Quality Restaurant	10.00	1000sqft	0.23	10,000.00	0
Single Family Housing	3.00	Dwelling Unit	0.97	5,400.00	9
Retirement Community	11.00	Dwelling Unit	2.20	11,000.00	31
General Office Building	18.00	1000sqft	0.41	18,000.00	0
Automobile Care Center	5.00	1000sqft	0.11	5,000.00	0
Movie Theater (No Matinee)	1.00	1000sqft	0.02	1,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	12			**Operational Year**	2018
Utility Company	Glendale Water & Power				
CO2 Intensity (lb/MWhr)	363.53	**CH4 Intensity (lb/MWhr)**	0.015	**N2O Intensity (lb/MWhr)**	0.002

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Electricity Generation Emissions Factor calculated independently using eGrid emissions factors and CPUC energy mix data for Califronia utilities

Land Use - Annual demolition rates for each Land Use calcualted independently for inputs ins CalEEMOd

Construction Phase - Construction schedule adjusted to fit in one calendar year for each land use

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Table Name	Column Name	Default Value	New Value
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.015
tblProjectCharacteristics	CO2IntensityFactor	1115.33	363.53
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.002

2.0 Emissions Summary

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					
2018	0.5229	1.6379	1.2282	2.0400e-003	0.0925	0.0927	0.1852	0.0439	0.0863	0.1302	0.0000	183.6146	183.6146	0.0461	0.0000	184.7671
Maximum	**0.5229**	**1.6379**	**1.2282**	**2.0400e-003**	**0.0925**	**0.0927**	**0.1852**	**0.0439**	**0.0863**	**0.1302**	**0.0000**	**183.6146**	**183.6146**	**0.0461**	**0.0000**	**184.7671**

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					
2018	0.5229	1.6379	1.2282	2.0400e-003	0.0925	0.0927	0.1852	0.0439	0.0863	0.1302	0.0000	183.6144	183.6144	0.0461	0.0000	184.7669
Maximum	**0.5229**	**1.6379**	**1.2282**	**2.0400e-003**	**0.0925**	**0.0927**	**0.1852**	**0.0439**	**0.0863**	**0.1302**	**0.0000**	**183.6144**	**183.6144**	**0.0461**	**0.0000**	**184.7669**

	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	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

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Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-1-2018	3-31-2018	1.1053	1.1053
2	4-1-2018	6-30-2018	0.5638	0.5638
3	7-1-2018	9-30-2018	0.4767	0.4767
		Highest	1.1053	1.1053

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	0.2534	5.3200e-003	0.2348	2.3000e-004		0.0142	0.0142		0.0142	0.0142	1.4871	3.0943	4.5814	4.6700e-003	1.0000e-004	4.7282
Energy	0.0154	0.1393	0.1122	8.4000e-004		0.0106	0.0106		0.0106	0.0106	0.0000	289.8278	289.8278	8.5900e-003	3.5500e-003	291.1005
Mobile	0.4314	1.8501	4.7042	0.0119	0.8513	0.0148	0.8661	0.2282	0.0139	0.2422	0.0000	1,096.9780	1,096.9780	0.0740	0.0000	1,098.8271
Waste						0.0000	0.0000		0.0000	0.0000	12.0617	0.0000	12.0617	0.7128	0.0000	29.8824
Water						0.0000	0.0000		0.0000	0.0000	2.5440	22.7926	25.3366	0.2622	6.3000e-003	33.7682
Total	**0.7002**	**1.9946**	**5.0513**	**0.0130**	**0.8513**	**0.0396**	**0.8909**	**0.2282**	**0.0387**	**0.2670**	**16.0928**	**1,412.6927**	**1,428.7855**	**1.0623**	**9.9500e-003**	**1,458.3065**

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	0.2534	5.3200e-003	0.2348	2.3000e-004		0.0142	0.0142		0.0142	0.0142	1.4871	3.0943	4.5814	4.6700e-003	1.0000e-004	4.7282
Energy	0.0154	0.1393	0.1122	8.4000e-004		0.0106	0.0106		0.0106	0.0106	0.0000	289.8278	289.8278	8.5900e-003	3.5500e-003	291.1005
Mobile	0.4314	1.8501	4.7042	0.0119	0.8513	0.0148	0.8661	0.2282	0.0139	0.2422	0.0000	1,096.9780	1,096.9780	0.0740	0.0000	1,098.8271
Waste						0.0000	0.0000		0.0000	0.0000	12.0617	0.0000	12.0617	0.7128	0.0000	29.8824
Water						0.0000	0.0000		0.0000	0.0000	2.5440	22.7926	25.3366	0.2622	6.3000e-003	33.7682
Total	**0.7002**	**1.9946**	**5.0513**	**0.0130**	**0.8513**	**0.0396**	**0.8909**	**0.2282**	**0.0387**	**0.2670**	**16.0928**	**1,412.6927**	**1,428.7855**	**1.0623**	**9.9500e-003**	**1,458.3065**

	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	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

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Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2018	1/26/2018	5	20	
2	Site Preparation	Site Preparation	1/27/2018	2/2/2018	5	5	
3	Grading	Grading	2/3/2018	2/14/2018	5	8	
4	Building Construction	Building Construction	2/15/2018	4/10/2018	5	230	
5	Paving	Paving	4/11/2018	7/16/2018	5	18	
6	Architectural Coating	Architectural Coating	7/17/2018	8/27/2018	5	18	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 4

Acres of Paving: 0

Residential Indoor: 33,210; Residential Outdoor: 11,070; Non-Residential Indoor: 51,000; Non-Residential Outdoor: 17,000; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

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Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
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
Architectural Coating	Air Compressors	1	6.00	78	0.48
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

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
Demolition	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	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	21.00	7.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	4.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	4.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	4.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2018

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	0.0372	0.3832	0.2230	3.9000e-004		0.0194	0.0194		0.0181	0.0181	0.0000	35.1241	35.1241	9.6800e-003	0.0000	35.3660
Total	**0.0372**	**0.3832**	**0.2230**	**3.9000e-004**		**0.0194**	**0.0194**		**0.0181**	**0.0181**	**0.0000**	**35.1241**	**35.1241**	**9.6800e-003**	**0.0000**	**35.3660**

3.2 Demolition - 2018

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	8.3000e-004	7.1000e-004	7.6500e-003	2.0000e-005	1.6400e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.6332	1.6332	6.0000e-005	0.0000	1.6347
Total	**8.3000e-004**	**7.1000e-004**	**7.6500e-003**	**2.0000e-005**	**1.6400e-003**	**1.0000e-005**	**1.6600e-003**	**4.4000e-004**	**1.0000e-005**	**4.5000e-004**	**0.0000**	**1.6332**	**1.6332**	**6.0000e-005**	**0.0000**	**1.6347**

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	0.0372	0.3832	0.2230	3.9000e-004		0.0194	0.0194		0.0181	0.0181	0.0000	35.1240	35.1240	9.6800e-003	0.0000	35.3660
Total	**0.0372**	**0.3832**	**0.2230**	**3.9000e-004**		**0.0194**	**0.0194**		**0.0181**	**0.0181**	**0.0000**	**35.1240**	**35.1240**	**9.6800e-003**	**0.0000**	**35.3660**

3.2 Demolition - 2018

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	8.3000e-004	7.1000e-004	7.6500e-003	2.0000e-005	1.6400e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.6332	1.6332	6.0000e-005	0.0000	1.6347
Total	**8.3000e-004**	**7.1000e-004**	**7.6500e-003**	**2.0000e-005**	**1.6400e-003**	**1.0000e-005**	**1.6600e-003**	**4.4000e-004**	**1.0000e-005**	**4.5000e-004**	**0.0000**	**1.6332**	**1.6332**	**6.0000e-005**	**0.0000**	**1.6347**

3.3 Site Preparation - 2018

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					0.0452	0.0000	0.0452	0.0248	0.0000	0.0248	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0114	0.1205	0.0562	1.0000e-004		6.4400e-003	6.4400e-003		5.9300e-003	5.9300e-003	0.0000	8.6900	8.6900	2.7100e-003	0.0000	8.7576
Total	**0.0114**	**0.1205**	**0.0562**	**1.0000e-004**	**0.0452**	**6.4400e-003**	**0.0516**	**0.0248**	**5.9300e-003**	**0.0308**	**0.0000**	**8.6900**	**8.6900**	**2.7100e-003**	**0.0000**	**8.7576**

3.3 Site Preparation - 2018

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	2.5000e-004	2.1000e-004	2.2900e-003	1.0000e-005	4.9000e-004	0.0000	5.0000e-004	1.3000e-004	0.0000	1.4000e-004	0.0000	0.4900	0.4900	2.0000e-005	0.0000	0.4904
Total	**2.5000e-004**	**2.1000e-004**	**2.2900e-003**	**1.0000e-005**	**4.9000e-004**	**0.0000**	**5.0000e-004**	**1.3000e-004**	**0.0000**	**1.4000e-004**	**0.0000**	**0.4900**	**0.4900**	**2.0000e-005**	**0.0000**	**0.4904**

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					0.0452	0.0000	0.0452	0.0248	0.0000	0.0248	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0114	0.1205	0.0562	1.0000e-004		6.4400e-003	6.4400e-003		5.9300e-003	5.9300e-003	0.0000	8.6900	8.6900	2.7100e-003	0.0000	8.7576
Total	**0.0114**	**0.1205**	**0.0562**	**1.0000e-004**	**0.0452**	**6.4400e-003**	**0.0516**	**0.0248**	**5.9300e-003**	**0.0308**	**0.0000**	**8.6900**	**8.6900**	**2.7100e-003**	**0.0000**	**8.7576**

3.3 Site Preparation - 2018

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	2.5000e-004	2.1000e-004	2.2900e-003	1.0000e-005	4.9000e-004	0.0000	5.0000e-004	1.3000e-004	0.0000	1.4000e-004	0.0000	0.4900	0.4900	2.0000e-005	0.0000	0.4904
Total	**2.5000e-004**	**2.1000e-004**	**2.2900e-003**	**1.0000e-005**	**4.9000e-004**	**0.0000**	**5.0000e-004**	**1.3000e-004**	**0.0000**	**1.4000e-004**	**0.0000**	**0.4900**	**0.4900**	**2.0000e-005**	**0.0000**	**0.4904**

3.4 Grading - 2018

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					0.0262	0.0000	0.0262	0.0135	0.0000	0.0135	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0111	0.1227	0.0663	1.2000e-004		6.2100e-003	6.2100e-003		5.7100e-003	5.7100e-003	0.0000	10.8428	10.8428	3.3800e-003	0.0000	10.9271
Total	**0.0111**	**0.1227**	**0.0663**	**1.2000e-004**	**0.0262**	**6.2100e-003**	**0.0324**	**0.0135**	**5.7100e-003**	**0.0192**	**0.0000**	**10.8428**	**10.8428**	**3.3800e-003**	**0.0000**	**10.9271**

3.4 Grading - 2018

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	3.3000e-004	2.8000e-004	3.0600e-003	1.0000e-005	6.6000e-004	1.0000e-005	6.6000e-004	1.7000e-004	1.0000e-005	1.8000e-004	0.0000	0.6533	0.6533	2.0000e-005	0.0000	0.6539
Total	**3.3000e-004**	**2.8000e-004**	**3.0600e-003**	**1.0000e-005**	**6.6000e-004**	**1.0000e-005**	**6.6000e-004**	**1.7000e-004**	**1.0000e-005**	**1.8000e-004**	**0.0000**	**0.6533**	**0.6533**	**2.0000e-005**	**0.0000**	**0.6539**

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					0.0262	0.0000	0.0262	0.0135	0.0000	0.0135	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0111	0.1227	0.0663	1.2000e-004		6.2100e-003	6.2100e-003		5.7100e-003	5.7100e-003	0.0000	10.8427	10.8427	3.3800e-003	0.0000	10.9271
Total	**0.0111**	**0.1227**	**0.0663**	**1.2000e-004**	**0.0262**	**6.2100e-003**	**0.0324**	**0.0135**	**5.7100e-003**	**0.0192**	**0.0000**	**10.8427**	**10.8427**	**3.3800e-003**	**0.0000**	**10.9271**

3.4 Grading - 2018

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	3.3000e-004	2.8000e-004	3.0600e-003	1.0000e-005	6.6000e-004	1.0000e-005	6.6000e-004	1.7000e-004	1.0000e-005	1.8000e-004	0.0000	0.6533	0.6533	2.0000e-005	0.0000	0.6539
Total	**3.3000e-004**	**2.8000e-004**	**3.0600e-003**	**1.0000e-005**	**6.6000e-004**	**1.0000e-005**	**6.6000e-004**	**1.7000e-004**	**1.0000e-005**	**1.8000e-004**	**0.0000**	**0.6533**	**0.6533**	**2.0000e-005**	**0.0000**	**0.6539**

3.5 Building Construction - 2018

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	0.0523	0.4561	0.3428	5.2000e-004		0.0293	0.0293		0.0275	0.0275	0.0000	46.3646	46.3646	0.0114	0.0000	46.6486
Total	**0.0523**	**0.4561**	**0.3428**	**5.2000e-004**		**0.0293**	**0.0293**		**0.0275**	**0.0275**	**0.0000**	**46.3646**	**46.3646**	**0.0114**	**0.0000**	**46.6486**

3.5 Building Construction - 2018

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	6.4000e-004	0.0171	4.8100e-003	4.0000e-005	8.6000e-004	1.2000e-004	9.8000e-004	2.5000e-004	1.1000e-004	3.6000e-004	0.0000	3.4489	3.4489	2.4000e-004	0.0000	3.4548
Worker	2.2700e-003	1.9400e-003	0.0209	5.0000e-005	4.4900e-003	4.0000e-005	4.5300e-003	1.1900e-003	4.0000e-005	1.2300e-003	0.0000	4.4586	4.4586	1.7000e-004	0.0000	4.4628
Total	**2.9100e-003**	**0.0190**	**0.0257**	**9.0000e-005**	**5.3500e-003**	**1.6000e-004**	**5.5100e-003**	**1.4400e-003**	**1.5000e-004**	**1.5900e-003**	**0.0000**	**7.9075**	**7.9075**	**4.1000e-004**	**0.0000**	**7.9176**

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	0.0523	0.4561	0.3428	5.2000e-004		0.0293	0.0293		0.0275	0.0275	0.0000	46.3646	46.3646	0.0114	0.0000	46.6485
Total	**0.0523**	**0.4561**	**0.3428**	**5.2000e-004**		**0.0293**	**0.0293**		**0.0275**	**0.0275**	**0.0000**	**46.3646**	**46.3646**	**0.0114**	**0.0000**	**46.6485**

3.5 Building Construction - 2018

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	6.4000e-004	0.0171	4.8100e-003	4.0000e-005	8.6000e-004	1.2000e-004	9.8000e-004	2.5000e-004	1.1000e-004	3.6000e-004	0.0000	3.4489	3.4489	2.4000e-004	0.0000	3.4548
Worker	2.2700e-003	1.9400e-003	0.0209	5.0000e-005	4.4900e-003	4.0000e-005	4.5300e-003	1.1900e-003	4.0000e-005	1.2300e-003	0.0000	4.4586	4.4586	1.7000e-004	0.0000	4.4628
Total	**2.9100e-003**	**0.0190**	**0.0257**	**9.0000e-005**	**5.3500e-003**	**1.6000e-004**	**5.5100e-003**	**1.4400e-003**	**1.5000e-004**	**1.5900e-003**	**0.0000**	**7.9075**	**7.9075**	**4.1000e-004**	**0.0000**	**7.9176**

3.6 Paving - 2018

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	0.0491	0.5009	0.4290	6.5000e-004		0.0289	0.0289		0.0266	0.0266	0.0000	58.6069	58.6069	0.0178	0.0000	59.0507
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0491**	**0.5009**	**0.4290**	**6.5000e-004**		**0.0289**	**0.0289**		**0.0266**	**0.0266**	**0.0000**	**58.6069**	**58.6069**	**0.0178**	**0.0000**	**59.0507**

3.6 Paving - 2018

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	3.8200e-003	3.2700e-003	0.0352	8.0000e-005	7.5600e-003	7.0000e-005	7.6300e-003	2.0100e-003	6.0000e-005	2.0700e-003	0.0000	7.5127	7.5127	2.8000e-004	0.0000	7.5198
Total	**3.8200e-003**	**3.2700e-003**	**0.0352**	**8.0000e-005**	**7.5600e-003**	**7.0000e-005**	**7.6300e-003**	**2.0100e-003**	**6.0000e-005**	**2.0700e-003**	**0.0000**	**7.5127**	**7.5127**	**2.8000e-004**	**0.0000**	**7.5198**

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	0.0491	0.5009	0.4290	6.5000e-004		0.0289	0.0289		0.0266	0.0266	0.0000	58.6068	58.6068	0.0178	0.0000	59.0506
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0491**	**0.5009**	**0.4290**	**6.5000e-004**		**0.0289**	**0.0289**		**0.0266**	**0.0266**	**0.0000**	**58.6068**	**58.6068**	**0.0178**	**0.0000**	**59.0506**

3.6 Paving - 2018

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	3.8200e-003	3.2700e-003	0.0352	8.0000e-005	7.5600e-003	7.0000e-005	7.6300e-003	2.0100e-003	6.0000e-005	2.0700e-003	0.0000	7.5127	7.5127	2.8000e-004	0.0000	7.5198
Total	**3.8200e-003**	**3.2700e-003**	**0.0352**	**8.0000e-005**	**7.5600e-003**	**7.0000e-005**	**7.6300e-003**	**2.0100e-003**	**6.0000e-005**	**2.0700e-003**	**0.0000**	**7.5127**	**7.5127**	**2.8000e-004**	**0.0000**	**7.5198**

3.7 Architectural Coating - 2018

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	0.3482					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.4800e-003	0.0301	0.0278	4.0000e-005		2.2600e-003	2.2600e-003		2.2600e-003	2.2600e-003	0.0000	3.8299	3.8299	3.6000e-004	0.0000	3.8390
Total	**0.3527**	**0.0301**	**0.0278**	**4.0000e-005**		**2.2600e-003**	**2.2600e-003**		**2.2600e-003**	**2.2600e-003**	**0.0000**	**3.8299**	**3.8299**	**3.6000e-004**	**0.0000**	**3.8390**

3.7 Architectural Coating - 2018

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	1.0000e-003	8.5000e-004	9.1800e-003	2.0000e-005	5.3900e-003	2.0000e-005	5.4100e-003	1.3600e-003	2.0000e-005	1.3800e-003	0.0000	1.9598	1.9598	7.0000e-005	0.0000	1.9617
Total	**1.0000e-003**	**8.5000e-004**	**9.1800e-003**	**2.0000e-005**	**5.3900e-003**	**2.0000e-005**	**5.4100e-003**	**1.3600e-003**	**2.0000e-005**	**1.3800e-003**	**0.0000**	**1.9598**	**1.9598**	**7.0000e-005**	**0.0000**	**1.9617**

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	0.3482					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.4800e-003	0.0301	0.0278	4.0000e-005		2.2600e-003	2.2600e-003		2.2600e-003	2.2600e-003	0.0000	3.8299	3.8299	3.6000e-004	0.0000	3.8390
Total	**0.3527**	**0.0301**	**0.0278**	**4.0000e-005**		**2.2600e-003**	**2.2600e-003**		**2.2600e-003**	**2.2600e-003**	**0.0000**	**3.8299**	**3.8299**	**3.6000e-004**	**0.0000**	**3.8390**

3.7 Architectural Coating - 2018

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	1.0000e-003	8.5000e-004	9.1800e-003	2.0000e-005	5.3900e-003	2.0000e-005	5.4100e-003	1.3600e-003	2.0000e-005	1.3800e-003	0.0000	1.9598	1.9598	7.0000e-005	0.0000	1.9617
Total	**1.0000e-003**	**8.5000e-004**	**9.1800e-003**	**2.0000e-005**	**5.3900e-003**	**2.0000e-005**	**5.4100e-003**	**1.3600e-003**	**2.0000e-005**	**1.3800e-003**	**0.0000**	**1.9598**	**1.9598**	**7.0000e-005**	**0.0000**	**1.9617**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	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	0.4314	1.8501	4.7042	0.0119	0.8513	0.0148	0.8661	0.2282	0.0139	0.2422	0.0000	1,096.9780	1,096.9780	0.0740	0.0000	1,098.8271
Unmitigated	0.4314	1.8501	4.7042	0.0119	0.8513	0.0148	0.8661	0.2282	0.0139	0.2422	0.0000	1,096.9780	1,096.9780	0.0740	0.0000	1,098.8271

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Office Building	198.54	44.28	18.90	485,925	485,925
Automobile Care Center	118.60	118.60	59.40	147,542	147,542
Retirement Community	26.40	22.33	21.45	85,810	85,810
Single Family Housing	28.56	29.73	25.86	96,847	96,847
Quality Restaurant	899.50	943.60	721.60	1,253,345	1,253,345
Movie Theater (No Matinee)	78.06	99.28	81.90	172,997	172,997
Total	1,349.66	1,257.82	929.11	2,242,465	2,242,465

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	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
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4
Automobile Care Center	16.60	8.40	6.90	33.00	48.00	19.00	21	51	28
Retirement Community	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Single Family Housing	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Quality Restaurant	16.60	8.40	6.90	12.00	69.00	19.00	38	18	44
Movie Theater (No Matinee)	16.60	8.40	6.90	1.80	79.20	19.00	66	17	17

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Quality Restaurant	0.547972	0.046127	0.199330	0.125604	0.017697	0.005953	0.018360	0.027618	0.002341	0.002583	0.004804	0.000667	0.000944
Single Family Housing	0.547972	0.046127	0.199330	0.125604	0.017697	0.005953	0.018360	0.027618	0.002341	0.002583	0.004804	0.000667	0.000944
Retirement Community	0.547972	0.046127	0.199330	0.125604	0.017697	0.005953	0.018360	0.027618	0.002341	0.002583	0.004804	0.000667	0.000944
General Office Building	0.547972	0.046127	0.199330	0.125604	0.017697	0.005953	0.018360	0.027618	0.002341	0.002583	0.004804	0.000667	0.000944
Automobile Care Center	0.547972	0.046127	0.199330	0.125604	0.017697	0.005953	0.018360	0.027618	0.002341	0.002583	0.004804	0.000667	0.000944
Movie Theater (No Matinee)	0.547972	0.046127	0.199330	0.125604	0.017697	0.005953	0.018360	0.027618	0.002341	0.002583	0.004804	0.000667	0.000944

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

SGCP - Los Angeles-South Coast County, Annual

	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	137.4385	137.4385	5.6700e-003	7.6000e-004	137.8056
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	137.4385	137.4385	5.6700e-003	7.6000e-004	137.8056
NaturalGas Mitigated	0.0154	0.1393	0.1122	8.4000e-004		0.0106	0.0106		0.0106	0.0106	0.0000	152.3893	152.3893	2.9200e-003	2.7900e-003	153.2949
NaturalGas Unmitigated	0.0154	0.1393	0.1122	8.4000e-004		0.0106	0.0106		0.0106	0.0106	0.0000	152.3893	152.3893	2.9200e-003	2.7900e-003	153.2949

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					
Automobile Care Center	90800	4.9000e-004	4.4500e-003	3.7400e-003	3.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004	0.0000	4.8454	4.8454	9.0000e-005	9.0000e-005	4.8742
General Office Building	188280	1.0200e-003	9.2300e-003	7.7500e-003	6.0000e-005		7.0000e-004	7.0000e-004		7.0000e-004	7.0000e-004	0.0000	10.0473	10.0473	1.9000e-004	1.8000e-004	10.1070
Movie Theater (No Matinee)	18160	1.0000e-004	8.9000e-004	7.5000e-004	1.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	0.9691	0.9691	2.0000e-005	2.0000e-005	0.9749
Quality Restaurant	2.3097e+006	0.0125	0.1132	0.0951	6.8000e-004		8.6000e-003	8.6000e-003		8.6000e-003	8.6000e-003	0.0000	123.2544	123.2544	2.3600e-003	2.2600e-003	123.9868
Retirement Community	140468	7.6000e-004	6.4700e-003	2.7500e-003	4.0000e-005		5.2000e-004	5.2000e-004		5.2000e-004	5.2000e-004	0.0000	7.4959	7.4959	1.4000e-004	1.4000e-004	7.5405
Single Family Housing	108260	5.8000e-004	4.9900e-003	2.1200e-003	3.0000e-005		4.0000e-004	4.0000e-004		4.0000e-004	4.0000e-004	0.0000	5.7771	5.7771	1.1000e-004	1.1000e-004	5.8115
Total		**0.0154**	**0.1393**	**0.1122**	**8.5000e-004**		**0.0106**	**0.0106**		**0.0106**	**0.0106**	**0.0000**	**152.3893**	**152.3893**	**2.9100e-003**	**2.8000e-003**	**153.2949**

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					
Automobile Care Center	90800	4.9000e-004	4.4500e-003	3.7400e-003	3.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004	0.0000	4.8454	4.8454	9.0000e-005	9.0000e-005	4.8742
General Office Building	188280	1.0200e-003	9.2300e-003	7.7500e-003	6.0000e-005		7.0000e-004	7.0000e-004		7.0000e-004	7.0000e-004	0.0000	10.0473	10.0473	1.9000e-004	1.8000e-004	10.1070
Movie Theater (No Matinee)	18160	1.0000e-004	8.9000e-004	7.5000e-004	1.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	0.9691	0.9691	2.0000e-005	2.0000e-005	0.9749
Quality Restaurant	2.3097e+006	0.0125	0.1132	0.0951	6.8000e-004		8.6000e-003	8.6000e-003		8.6000e-003	8.6000e-003	0.0000	123.2544	123.2544	2.3600e-003	2.2600e-003	123.9868
Retirement Community	140468	7.6000e-004	6.4700e-003	2.7500e-003	4.0000e-005		5.2000e-004	5.2000e-004		5.2000e-004	5.2000e-004	0.0000	7.4959	7.4959	1.4000e-004	1.4000e-004	7.5405
Single Family Housing	108260	5.8000e-004	4.9900e-003	2.1200e-003	3.0000e-005		4.0000e-004	4.0000e-004		4.0000e-004	4.0000e-004	0.0000	5.7771	5.7771	1.1000e-004	1.1000e-004	5.8115
Total		**0.0154**	**0.1393**	**0.1122**	**8.5000e-004**		**0.0106**	**0.0106**		**0.0106**	**0.0106**	**0.0000**	**152.3893**	**152.3893**	**2.9100e-003**	**2.8000e-003**	**153.2949**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Automobile Care Center	56550	9.3248	3.8000e-004	5.0000e-005	9.3497
General Office Building	239760	39.5351	1.6300e-003	2.2000e-004	39.6407
Movie Theater (No Matinee)	11310	1.8650	8.0000e-005	1.0000e-005	1.8699
Quality Restaurant	447900	73.8562	3.0500e-003	4.1000e-004	74.0535
Retirement Community	51162.8	8.4365	3.5000e-004	5.0000e-005	8.4590
Single Family Housing	26811.2	4.4210	1.8000e-004	2.0000e-005	4.4328
Total		**137.4385**	**5.6700e-003**	**7.6000e-004**	**137.8056**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Automobile Care Center	56550	9.3248	3.8000e-004	5.0000e-005	9.3497
General Office Building	239760	39.5351	1.6300e-003	2.2000e-004	39.6407
Movie Theater (No Matinee)	11310	1.8650	8.0000e-005	1.0000e-005	1.8699
Quality Restaurant	447900	73.8562	3.0500e-003	4.1000e-004	74.0535
Retirement Community	51162.8	8.4365	3.5000e-004	5.0000e-005	8.4590
Single Family Housing	26811.2	4.4210	1.8000e-004	2.0000e-005	4.4328
Total		**137.4385**	**5.6700e-003**	**7.6000e-004**	**137.8056**

6.0 Area Detail

6.1 Mitigation Measures Area

	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	0.2534	5.3200e-003	0.2348	2.3000e-004		0.0142	0.0142		0.0142	0.0142	1.4871	3.0943	4.5814	4.6700e-003	1.0000e-004	4.7282
Unmitigated	0.2534	5.3200e-003	0.2348	2.3000e-004		0.0142	0.0142		0.0142	0.0142	1.4871	3.0943	4.5814	4.6700e-003	1.0000e-004	4.7282

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	0.0209					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1821					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0459	3.6300e-003	0.0890	2.3000e-004		0.0134	0.0134		0.0134	0.0134	1.4871	2.8576	4.3447	4.4300e-003	1.0000e-004	4.4856
Landscaping	4.5200e-003	1.6900e-003	0.1458	1.0000e-005		8.0000e-004	8.0000e-004		8.0000e-004	8.0000e-004	0.0000	0.2367	0.2367	2.4000e-004	0.0000	0.2426
Total	**0.2534**	**5.3200e-003**	**0.2348**	**2.4000e-004**		**0.0142**	**0.0142**		**0.0142**	**0.0142**	**1.4871**	**3.0943**	**4.5814**	**4.6700e-003**	**1.0000e-004**	**4.7282**

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	0.0209					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1821					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0459	3.6300e-003	0.0890	2.3000e-004		0.0134	0.0134		0.0134	0.0134	1.4871	2.8576	4.3447	4.4300e-003	1.0000e-004	4.4856
Landscaping	4.5200e-003	1.6900e-003	0.1458	1.0000e-005		8.0000e-004	8.0000e-004		8.0000e-004	8.0000e-004	0.0000	0.2367	0.2367	2.4000e-004	0.0000	0.2426
Total	**0.2534**	**5.3200e-003**	**0.2348**	**2.4000e-004**		**0.0142**	**0.0142**		**0.0142**	**0.0142**	**1.4871**	**3.0943**	**4.5814**	**4.6700e-003**	**1.0000e-004**	**4.7282**

7.0 Water Detail

7.1 Mitigation Measures Water

SGCP - Los Angeles-South Coast County, Annual

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	25.3366	0.2622	6.3000e-003	33.7682
Unmitigated	25.3366	0.2622	6.3000e-003	33.7682

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Automobile Care Center	0.470406 / 0.288313	1.6874	0.0154	3.7000e-004	2.1826
General Office Building	3.19921 / 1.9608	11.4761	0.1047	2.5200e-003	14.8437
Movie Theater (No Matinee)	0.401601 / 0.0256341	1.0367	0.0131	3.1000e-004	1.4583
Quality Restaurant	3.03534 / 0.193745	7.8351	0.0992	2.3700e-003	11.0220
Retirement Community	0.716694 / 0.451829	2.5939	0.0235	5.6000e-004	3.3484
Single Family Housing	0.195462 / 0.123226	0.7074	6.4000e-003	1.5000e-004	0.9132
Total		**25.3366**	**0.2622**	**6.2800e-003**	**33.7683**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Automobile Care Center	0.470406 / 0.288313	1.6874	0.0154	3.7000e-004	2.1826
General Office Building	3.19921 / 1.9608	11.4761	0.1047	2.5200e-003	14.8437
Movie Theater (No Matinee)	0.401601 / 0.0256341	1.0367	0.0131	3.1000e-004	1.4583
Quality Restaurant	3.03534 / 0.193745	7.8351	0.0992	2.3700e-003	11.0220
Retirement Community	0.716694 / 0.451829	2.5939	0.0235	5.6000e-004	3.3484
Single Family Housing	0.195462 / 0.123226	0.7074	6.4000e-003	1.5000e-004	0.9132
Total		**25.3366**	**0.2622**	**6.2800e-003**	**33.7683**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	12.0617	0.7128	0.0000	29.8824
Unmitigated	12.0617	0.7128	0.0000	29.8824

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Automobile Care Center	19.1	3.8771	0.2291	0.0000	9.6054
General Office Building	16.74	3.3981	0.2008	0.0000	8.4186
Movie Theater (No Matinee)	5.7	1.1571	0.0684	0.0000	2.8665
Quality Restaurant	9.13	1.8533	0.1095	0.0000	4.5915
Retirement Community	5.06	1.0271	0.0607	0.0000	2.5447
Single Family Housing	3.69	0.7490	0.0443	0.0000	1.8557
Total		**12.0617**	**0.7128**	**0.0000**	**29.8824**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Automobile Care Center	19.1	3.8771	0.2291	0.0000	9.6054
General Office Building	16.74	3.3981	0.2008	0.0000	8.4186
Movie Theater (No Matinee)	5.7	1.1571	0.0684	0.0000	2.8665
Quality Restaurant	9.13	1.8533	0.1095	0.0000	4.5915
Retirement Community	5.06	1.0271	0.0607	0.0000	2.5447
Single Family Housing	3.69	0.7490	0.0443	0.0000	1.8557
Total		**12.0617**	**0.7128**	**0.0000**	**29.8824**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

SGCP - Los Angeles-South Coast County, Annual

SGCP

Los Angeles-South Coast County, Annual

Operational Emissions Only

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Government Office Building	60.00	1000sqft	1.38	60,000.00	0
Hospital	1,886.00	1000sqft	43.30	1,886,000.00	0
Medical Office Building	401.00	1000sqft	9.21	401,000.00	0
Elementary School	1,573.00	Student	3.02	131,508.10	0
High School	286.00	Student	0.87	37,941.04	0
Place of Worship	8.00	1000sqft	0.18	8,000.00	0
University/College (4Yr)	6,200.00	Student	26.16	1,139,544.30	0
Hotel	1,072.00	Room	35.73	1,556,544.00	0
Movie Theater (No Matinee)	15.00	1000sqft	0.34	15,000.00	0
Apartments Mid Rise	10,337.00	Dwelling Unit	272.03	10,337,000.00	29564
Automobile Care Center	808.00	1000sqft	18.55	808,000.00	0
Free-Standing Discount Store	214.00	1000sqft	4.91	214,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	12			**Operational Year**	2040
Utility Company	Glendale Water & Power				
CO2 Intensity (lb/MWhr)	363.53	**CH4 Intensity (lb/MWhr)**	0.015	**N2O Intensity (lb/MWhr)**	0.002

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Electricity Generation Emissions Factor calculated independently using eGrid emissions factors and CPUC energy mix data for Califronia utilities

Land Use - Land Use estiimates taken from Project decription and client information

Construction Phase -

Vehicle Trips - Tipr lengths adjusted to match Proj. TS Annual VMT

Energy Use - 5% reduction in non-residential and 28% reduction in Residential energy use to adjust 2016 Title 24 Standards

Table Name	Column Name	Default Value	New Value
tblEnergyUse	T24E	304.35	219.00
tblEnergyUse	T24E	2.36	2.20
tblEnergyUse	T24E	1.83	1.70
tblEnergyUse	T24E	4.20	4.00
tblEnergyUse	T24E	4.82	4.60
tblEnergyUse	T24E	1.83	1.70
tblEnergyUse	T24E	10.44	9.90
tblEnergyUse	T24E	2.68	2.50
tblEnergyUse	T24E	4.82	4.60
tblEnergyUse	T24E	2.36	2.20
tblEnergyUse	T24E	2.36	2.20
tblEnergyUse	T24E	3.18	3.00
tblEnergyUse	T24NG	6,778.04	4,880.00
tblEnergyUse	T24NG	13.71	13.00
tblEnergyUse	T24NG	9.37	8.90
tblEnergyUse	T24NG	1.16	1.10
tblEnergyUse	T24NG	10.07	9.60
tblEnergyUse	T24NG	9.37	8.90

tblEnergyUse	T24NG	55.22	52.50
tblEnergyUse	T24NG	20.02	19.00
tblEnergyUse	T24NG	10.07	9.60
tblEnergyUse	T24NG	13.71	13.00
tblEnergyUse	T24NG	13.71	13.00
tblEnergyUse	T24NG	26.63	25.30
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.015
tblProjectCharacteristics	CO2IntensityFactor	1115.33	363.53
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.002
tblProjectCharacteristics	OperationalYear	2018	2040
tblVehicleTrips	CC_TL	8.40	1.00
tblVehicleTrips	CC_TL	8.40	1.00
tblVehicleTrips	CC_TL	8.40	1.00
tblVehicleTrips	CNW_TL	6.90	1.00
tblVehicleTrips	CNW_TL	6.90	6.86
tblVehicleTrips	CW_TL	16.60	1.00
tblVehicleTrips	CW_TL	16.60	1.00
tblVehicleTrips	CW_TL	16.60	1.00
tblVehicleTrips	HO_TL	8.70	1.00
tblVehicleTrips	HS_TL	5.90	1.00
tblVehicleTrips	HW_TL	14.70	1.00

2.0 Emissions Summary

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					
2018	0.6085	6.3011	3.0529	5.2500e-003	2.7357	0.3365	3.0722	1.4964	0.3096	1.8060	0.0000	479.1926	479.1926	0.1422	0.0000	482.7470
2019	0.0863	0.8901	0.4462	7.8000e-004	2.7138	0.0467	2.7604	1.4906	0.0429	1.5335	0.0000	70.3262	70.3262	0.0212	0.0000	70.8564
Maximum	**0.6085**	**6.3011**	**3.0529**	**5.2500e-003**	**2.7357**	**0.3365**	**3.0722**	**1.4964**	**0.3096**	**1.8060**	**0.0000**	**479.1926**	**479.1926**	**0.1422**	**0.0000**	**482.7470**

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					
2018	0.6085	6.3011	3.0529	5.2500e-003	2.7357	0.3365	3.0722	1.4964	0.3096	1.8060	0.0000	479.1920	479.1920	0.1422	0.0000	482.7465
2019	0.0863	0.8901	0.4462	7.8000e-004	2.7138	0.0467	2.7604	1.4906	0.0429	1.5335	0.0000	70.3261	70.3261	0.0212	0.0000	70.8563
Maximum	**0.6085**	**6.3011**	**3.0529**	**5.2500e-003**	**2.7357**	**0.3365**	**3.0722**	**1.4964**	**0.3096**	**1.8060**	**0.0000**	**479.1920**	**479.1920**	**0.1422**	**0.0000**	**482.7465**

	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	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**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	1-1-2018	3-31-2018	1.7021	1.7021
2	4-1-2018	6-30-2018	1.7204	1.7204
3	7-1-2018	9-30-2018	1.7393	1.7393
4	10-1-2018	12-31-2018	1.7399	1.7399
5	1-1-2019	3-31-2019	0.9480	0.9480
		Highest	1.7399	1.7399

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	103.1460	3.9074	172.0037	0.1733		10.4621	10.4621		10.4621	10.4621	1,097.9865	2,284.3962	3,382.3827	3.4410	0.0745	3,490.6145
Energy	1.7225	15.3196	10.6651	0.0940		1.1901	1.1901		1.1901	1.1901	0.0000	38,400.2906	38,400.2906	1.2078	0.4300	38,558.6264
Mobile	15.1628	118.2085	144.0902	0.7227	69.2490	0.3197	69.5687	18.5580	0.2972	18.8552	0.0000	67,750.3022	67,750.3022	2.9726	0.0000	67,824.6170
Waste						0.0000	0.0000		0.0000	0.0000	7,248.0197	0.0000	7,248.0197	428.3457	0.0000	17,956.6620
Water						0.0000	0.0000		0.0000	0.0000	354.0792	3,459.7334	3,813.8126	36.5101	0.8778	4,988.1329
Total	**120.0313**	**137.4355**	**326.7590**	**0.9899**	**69.2490**	**11.9718**	**81.2208**	**18.5580**	**11.9494**	**30.5074**	**8,700.0854**	**111,894.7223**	**120,594.8077**	**472.4771**	**1.3823**	**132,818.6527**

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	103.1460	3.9074	172.0037	0.1733		10.4621	10.4621		10.4621	10.4621	1,097.9865	2,284.3962	3,382.3827	3.4410	0.0745	3,490.6145
Energy	1.7225	15.3196	10.6651	0.0940		1.1901	1.1901		1.1901	1.1901	0.0000	38,400.2906	38,400.2906	1.2078	0.4300	38,558.6264
Mobile	15.1628	118.2085	144.0902	0.7227	69.2490	0.3197	69.5687	18.5580	0.2972	18.8552	0.0000	67,750.3022	67,750.3022	2.9726	0.0000	67,824.6170
Waste						0.0000	0.0000		0.0000	0.0000	7,248.0197	0.0000	7,248.0197	428.3457	0.0000	17,956.6620
Water						0.0000	0.0000		0.0000	0.0000	354.0792	3,459.7334	3,813.8126	36.5101	0.8778	4,988.1329
Total	**120.0313**	**137.4355**	**326.7590**	**0.9899**	**69.2490**	**11.9718**	**81.2208**	**18.5580**	**11.9494**	**30.5074**	**8,700.0854**	**111,894.7223**	**120,594.8077**	**472.4771**	**1.3823**	**132,818.6527**

	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	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 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	1/1/2018	2/22/2019	5	300	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (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

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	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Site Preparation - 2018

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					2.7099	0.0000	2.7099	1.4896	0.0000	1.4896	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.5954	6.2899	2.9332	4.9600e-003		0.3363	0.3363		0.3094	0.3094	0.0000	453.6168	453.6168	0.1412	0.0000	457.1472
Total	**0.5954**	**6.2899**	**2.9332**	**4.9600e-003**	**2.7099**	**0.3363**	**3.0462**	**1.4896**	**0.3094**	**1.7990**	**0.0000**	**453.6168**	**453.6168**	**0.1412**	**0.0000**	**457.1472**

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	0.0130	0.0111	0.1198	2.8000e-004	0.0257	2.3000e-004	0.0260	6.8400e-003	2.2000e-004	7.0500e-003	0.0000	25.5758	25.5758	9.6000e-004	0.0000	25.5998
Total	**0.0130**	**0.0111**	**0.1198**	**2.8000e-004**	**0.0257**	**2.3000e-004**	**0.0260**	**6.8400e-003**	**2.2000e-004**	**7.0500e-003**	**0.0000**	**25.5758**	**25.5758**	**9.6000e-004**	**0.0000**	**25.5998**

3.2 Site Preparation - 2018

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					2.7099	0.0000	2.7099	1.4896	0.0000	1.4896	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.5954	6.2899	2.9332	4.9600e-003		0.3363	0.3363		0.3094	0.3094	0.0000	453.6163	453.6163	0.1412	0.0000	457.1467
Total	**0.5954**	**6.2899**	**2.9332**	**4.9600e-003**	**2.7099**	**0.3363**	**3.0462**	**1.4896**	**0.3094**	**1.7990**	**0.0000**	**453.6163**	**453.6163**	**0.1412**	**0.0000**	**457.1467**

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	0.0130	0.0111	0.1198	2.8000e-004	0.0257	2.3000e-004	0.0260	6.8400e-003	2.2000e-004	7.0500e-003	0.0000	25.5758	25.5758	9.6000e-004	0.0000	25.5998
Total	**0.0130**	**0.0111**	**0.1198**	**2.8000e-004**	**0.0257**	**2.3000e-004**	**0.0260**	**6.8400e-003**	**2.2000e-004**	**7.0500e-003**	**0.0000**	**25.5758**	**25.5758**	**9.6000e-004**	**0.0000**	**25.5998**

3.2 Site Preparation - 2019

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					2.7099	0.0000	2.7099	1.4896	0.0000	1.4896	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0845	0.8887	0.4302	7.4000e-004		0.0466	0.0466		0.0429	0.0429	0.0000	66.6289	66.6289	0.0211	0.0000	67.1560
Total	**0.0845**	**0.8887**	**0.4302**	**7.4000e-004**	**2.7099**	**0.0466**	**2.7566**	**1.4896**	**0.0429**	**1.5325**	**0.0000**	**66.6289**	**66.6289**	**0.0211**	**0.0000**	**67.1560**

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	1.7600e-003	1.4700e-003	0.0159	4.0000e-005	3.8500e-003	3.0000e-005	3.8800e-003	1.0200e-003	3.0000e-005	1.0500e-003	0.0000	3.6973	3.6973	1.3000e-004	0.0000	3.7005
Total	**1.7600e-003**	**1.4700e-003**	**0.0159**	**4.0000e-005**	**3.8500e-003**	**3.0000e-005**	**3.8800e-003**	**1.0200e-003**	**3.0000e-005**	**1.0500e-003**	**0.0000**	**3.6973**	**3.6973**	**1.3000e-004**	**0.0000**	**3.7005**

3.2 Site Preparation - 2019

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					2.7099	0.0000	2.7099	1.4896	0.0000	1.4896	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0845	0.8887	0.4302	7.4000e-004		0.0466	0.0466		0.0429	0.0429	0.0000	66.6289	66.6289	0.0211	0.0000	67.1559
Total	**0.0845**	**0.8887**	**0.4302**	**7.4000e-004**	**2.7099**	**0.0466**	**2.7566**	**1.4896**	**0.0429**	**1.5325**	**0.0000**	**66.6289**	**66.6289**	**0.0211**	**0.0000**	**67.1559**

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	1.7600e-003	1.4700e-003	0.0159	4.0000e-005	3.8500e-003	3.0000e-005	3.8800e-003	1.0200e-003	3.0000e-005	1.0500e-003	0.0000	3.6973	3.6973	1.3000e-004	0.0000	3.7005
Total	**1.7600e-003**	**1.4700e-003**	**0.0159**	**4.0000e-005**	**3.8500e-003**	**3.0000e-005**	**3.8800e-003**	**1.0200e-003**	**3.0000e-005**	**1.0500e-003**	**0.0000**	**3.6973**	**3.6973**	**1.3000e-004**	**0.0000**	**3.7005**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	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	15.1628	118.2085	144.0902	0.7227	69.2490	0.3197	69.5687	18.5580	0.2972	18.8552	0.0000	67,750.3022	67,750.3022	2.9726	0.0000	67,824.6170
Unmitigated	15.1628	118.2085	144.0902	0.7227	69.2490	0.3197	69.5687	18.5580	0.2972	18.8552	0.0000	67,750.3022	67,750.3022	2.9726	0.0000	67,824.6170

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	68,741.05	66,053.43	60574.82	21,779,263	21,779,263
Automobile Care Center	19,165.76	19,165.76	9599.04	4,819,224	4,819,224
Elementary School	2,029.17	0.00	0.00	4,995,213	4,995,213
Free-Standing Discount Store	12,249.36	15,208.98	12061.04	23,731,532	23,731,532
Government Office Building	4,135.80	0.00	0.00	6,956,313	6,956,313
High School	489.06	174.46	71.50	1,641,969	1,641,969
Hospital	24,932.92	19,199.48	16804.26	88,983,674	88,983,674
Hotel	8,758.24	8,779.68	6378.40	20,094,724	20,094,724
Medical Office Building	14,488.13	3,592.96	621.55	2,730,457	2,730,457
Movie Theater (No Matinee)	1,170.90	1,489.20	1228.50	2,594,949	2,594,949
Place of Worship	72.88	82.96	293.04	225,588	225,588
University/College (4Yr)	10,602.00	8,060.00	0.00	3,828,941	3,828,941
Total	166,835.27	141,806.91	107,632.15	182,381,847	182,381,847

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	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 Mid Rise	1.00	1.00	1.00	40.20	19.20	40.60	86	11	3
Automobile Care Center	1.00	1.00	6.90	33.00	48.00	19.00	21	51	28
Elementary School	16.60	8.40	6.90	65.00	30.00	5.00	63	25	12
Free-Standing Discount Store	16.60	8.40	6.90	12.20	68.80	19.00	47.5	35.5	17
Government Office Building	16.60	8.40	6.90	33.00	62.00	5.00	50	34	16
High School	16.60	8.40	6.90	77.80	17.20	5.00	75	19	6
Hospital	16.60	8.40	6.90	64.90	16.10	19.00	73	25	2
Hotel	16.60	8.40	6.90	19.40	61.60	19.00	58	38	4
Medical Office Building	1.00	1.00	1.00	29.60	51.40	19.00	60	30	10
Movie Theater (No Matinee)	16.60	8.40	6.90	1.80	79.20	19.00	66	17	17
Place of Worship	16.60	8.40	6.90	0.00	95.00	5.00	64	25	11
University/College (4Yr)	1.00	1.00	6.86	6.40	88.60	5.00	91	9	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Government Office Building	0.537194	0.043713	0.210127	0.116181	0.013260	0.006460	0.022765	0.039037	0.002776	0.001599	0.005341	0.000737	0.000810
Hospital	0.537194	0.043713	0.210127	0.116181	0.013260	0.006460	0.022765	0.039037	0.002776	0.001599	0.005341	0.000737	0.000810
Medical Office Building	0.537194	0.043713	0.210127	0.116181	0.013260	0.006460	0.022765	0.039037	0.002776	0.001599	0.005341	0.000737	0.000810
Elementary School	0.537194	0.043713	0.210127	0.116181	0.013260	0.006460	0.022765	0.039037	0.002776	0.001599	0.005341	0.000737	0.000810
High School	0.537194	0.043713	0.210127	0.116181	0.013260	0.006460	0.022765	0.039037	0.002776	0.001599	0.005341	0.000737	0.000810
Place of Worship	0.537194	0.043713	0.210127	0.116181	0.013260	0.006460	0.022765	0.039037	0.002776	0.001599	0.005341	0.000737	0.000810
University/College (4Yr)	0.537194	0.043713	0.210127	0.116181	0.013260	0.006460	0.022765	0.039037	0.002776	0.001599	0.005341	0.000737	0.000810
Hotel	0.537194	0.043713	0.210127	0.116181	0.013260	0.006460	0.022765	0.039037	0.002776	0.001599	0.005341	0.000737	0.000810
Movie Theater (No Matinee)	0.537194	0.043713	0.210127	0.116181	0.013260	0.006460	0.022765	0.039037	0.002776	0.001599	0.005341	0.000737	0.000810
Apartments Mid Rise	0.537194	0.043713	0.210127	0.116181	0.013260	0.006460	0.022765	0.039037	0.002776	0.001599	0.005341	0.000737	0.000810
Automobile Care Center	0.537194	0.043713	0.210127	0.116181	0.013260	0.006460	0.022765	0.039037	0.002776	0.001599	0.005341	0.000737	0.000810
Free-Standing Discount Store	0.537194	0.043713	0.210127	0.116181	0.013260	0.006460	0.022765	0.039037	0.002776	0.001599	0.005341	0.000737	0.000810

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

SGCP - Los Angeles-South Coast County, Annual

	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	21,353.6924	21,353.6924	0.8811	0.1175	21,410.7288
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	21,353.6924	21,353.6924	0.8811	0.1175	21,410.7288
NaturalGas Mitigated	1.7225	15.3196	10.6651	0.0940		1.1901	1.1901		1.1901	1.1901	0.0000	17,046.5982	17,046.5982	0.3267	0.3125	17,147.8976
NaturalGas Unmitigated	1.7225	15.3196	10.6651	0.0940		1.1901	1.1901		1.1901	1.1901	0.0000	17,046.5982	17,046.5982	0.3267	0.3125	17,147.8976

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 Mid Rise	1.15371e+008	0.6221	5.3161	2.2622	0.0339		0.4298	0.4298		0.4298	0.4298	0.0000	6,156.6496	6,156.6496	0.1180	0.1129	6,193.2355
Automobile Care Center	1.40996e+007	0.0760	0.6912	0.5806	4.1500e-003		0.0525	0.0525		0.0525	0.0525	0.0000	752.4084	752.4084	0.0144	0.0138	756.8795
Elementary School	1.31245e+006	7.0800e-003	0.0643	0.0540	3.9000e-004		4.8900e-003	4.8900e-003		4.8900e-003	4.8900e-003	0.0000	70.0374	70.0374	1.3400e-003	1.2800e-003	70.4536
Free-Standing Discount Store	340260	1.8300e-003	0.0167	0.0140	1.0000e-004		1.2700e-003	1.2700e-003		1.2700e-003	1.2700e-003	0.0000	18.1576	18.1576	3.5000e-004	3.3000e-004	18.2655
Government Office Building	599400	3.2300e-003	0.0294	0.0247	1.8000e-004		2.2300e-003	2.2300e-003		2.2300e-003	2.2300e-003	0.0000	31.9863	31.9863	6.1000e-004	5.9000e-004	32.1764
High School	378652	2.0400e-003	0.0186	0.0156	1.1000e-004		1.4100e-003	1.4100e-003		1.4100e-003	1.4100e-003	0.0000	20.2063	20.2063	3.9000e-004	3.7000e-004	20.3264
Hospital	1.17536e+008	0.6338	5.7616	4.8397	0.0346		0.4379	0.4379		0.4379	0.4379	0.0000	6,272.1430	6,272.1430	0.1202	0.1150	6,309.4152
Hotel	3.58939e+007	0.1936	1.7595	1.4780	0.0106		0.1337	0.1337		0.1337	0.1337	0.0000	1,915.4354	1,915.4354	0.0367	0.0351	1,926.8179
Medical Office Building	4.00599e+006	0.0216	0.1964	0.1650	1.1800e-003		0.0149	0.0149		0.0149	0.0149	0.0000	213.7749	213.7749	4.1000e-003	3.9200e-003	215.0452
Movie Theater (No Matinee)	261750	1.4100e-003	0.0128	0.0108	8.0000e-005		9.8000e-004	9.8000e-004		9.8000e-004	9.8000e-004	0.0000	13.9680	13.9680	2.7000e-004	2.6000e-004	14.0510
Place of Worship	139600	7.5000e-004	6.8400e-003	5.7500e-003	4.0000e-005		5.2000e-004	5.2000e-004		5.2000e-004	5.2000e-004	0.0000	7.4496	7.4496	1.4000e-004	1.4000e-004	7.4939
University/College (4Yr)	2.95028e+007	0.1591	1.4462	1.2148	8.6800e-003		0.1099	0.1099		0.1099	0.1099	0.0000	1,574.3819	1,574.3819	0.0302	0.0289	1,583.7376
Total		**1.7225**	**15.3196**	**10.6651**	**0.0940**		**1.1901**	**1.1901**		**1.1901**	**1.1901**	**0.0000**	**17,046.5982**	**17,046.5982**	**0.3267**	**0.3125**	**17,147.8976**

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 Mid Rise	1.15371e+008	0.6221	5.3161	2.2622	0.0339		0.4298	0.4298		0.4298	0.4298	0.0000	6,156.6496	6,156.6496	0.1180	0.1129	6,193.2355
Automobile Care Center	1.40996e+007	0.0760	0.6912	0.5806	4.1500e-003		0.0525	0.0525		0.0525	0.0525	0.0000	752.4084	752.4084	0.0144	0.0138	756.8795
Elementary School	1.31245e+006	7.0800e-003	0.0643	0.0540	3.9000e-004		4.8900e-003	4.8900e-003		4.8900e-003	4.8900e-003	0.0000	70.0374	70.0374	1.3400e-003	1.2800e-003	70.4536
Free-Standing Discount Store	340260	1.8300e-003	0.0167	0.0140	1.0000e-004		1.2700e-003	1.2700e-003		1.2700e-003	1.2700e-003	0.0000	18.1576	18.1576	3.5000e-004	3.3000e-004	18.2655
Government Office Building	599400	3.2300e-003	0.0294	0.0247	1.8000e-004		2.2300e-003	2.2300e-003		2.2300e-003	2.2300e-003	0.0000	31.9863	31.9863	6.1000e-004	5.9000e-004	32.1764
High School	378652	2.0400e-003	0.0186	0.0156	1.1000e-004		1.4100e-003	1.4100e-003		1.4100e-003	1.4100e-003	0.0000	20.2063	20.2063	3.9000e-004	3.7000e-004	20.3264
Hospital	1.17536e+008	0.6338	5.7616	4.8397	0.0346		0.4379	0.4379		0.4379	0.4379	0.0000	6,272.1430	6,272.1430	0.1202	0.1150	6,309.4152
Hotel	3.58939e+007	0.1936	1.7595	1.4780	0.0106		0.1337	0.1337		0.1337	0.1337	0.0000	1,915.4354	1,915.4354	0.0367	0.0351	1,926.8179
Medical Office Building	4.00599e+006	0.0216	0.1964	0.1650	1.1800e-003		0.0149	0.0149		0.0149	0.0149	0.0000	213.7749	213.7749	4.1000e-003	3.9200e-003	215.0452
Movie Theater (No Matinee)	261750	1.4100e-003	0.0128	0.0108	8.0000e-005		9.8000e-004	9.8000e-004		9.8000e-004	9.8000e-004	0.0000	13.9680	13.9680	2.7000e-004	2.6000e-004	14.0510
Place of Worship	139600	7.5000e-004	6.8400e-003	5.7500e-003	4.0000e-005		5.2000e-004	5.2000e-004		5.2000e-004	5.2000e-004	0.0000	7.4496	7.4496	1.4000e-004	1.4000e-004	7.4939
University/College (4Yr)	2.95028e+007	0.1591	1.4462	1.2148	8.6800e-003		0.1099	0.1099		0.1099	0.1099	0.0000	1,574.3819	1,574.3819	0.0302	0.0289	1,583.7376
Total		**1.7225**	**15.3196**	**10.6651**	**0.0940**		**1.1901**	**1.1901**		**1.1901**	**1.1901**	**0.0000**	**17,046.5982**	**17,046.5982**	**0.3267**	**0.3125**	**17,147.8976**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	4.3803e+007	7,222.8771	0.2980	0.0397	7,242.1696
Automobile Care Center	9.0092e+006	1,485.5669	0.0613	8.1700e-003	1,489.5349
Elementary School	782473	129.0255	5.3200e-003	7.1000e-004	129.3701
Free-Standing Discount Store	2.92324e+006	482.0260	0.0199	2.6500e-003	483.3135
Government Office Building	786000	129.6070	5.3500e-003	7.1000e-004	129.9532
High School	225749	37.2248	1.5400e-003	2.0000e-004	37.3242
Hospital	4.31705e+007	7,118.5818	0.2937	0.0392	7,137.5957
Hotel	1.18142e+007	1,948.0907	0.0804	0.0107	1,953.2941
Medical Office Building	5.2531e+006	866.2070	0.0357	4.7700e-003	868.5206
Movie Theater (No Matinee)	167250	27.5786	1.1400e-003	1.5000e-004	27.6523
Place of Worship	89200	14.7086	6.1000e-004	8.0000e-005	14.7479
University/College (4Yr)	1.14752e+007	1,892.1984	0.0781	0.0104	1,897.2526
Total		**21,353.6924**	**0.8811**	**0.1175**	**21,410.7287**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	4.3803e+007	7,222.8771	0.2980	0.0397	7,242.1696
Automobile Care Center	9.0092e+006	1,485.5669	0.0613	8.1700e-003	1,489.5349
Elementary School	782473	129.0255	5.3200e-003	7.1000e-004	129.3701
Free-Standing Discount Store	2.92324e+006	482.0260	0.0199	2.6500e-003	483.3135
Government Office Building	786000	129.6070	5.3500e-003	7.1000e-004	129.9532
High School	225749	37.2248	1.5400e-003	2.0000e-004	37.3242
Hospital	4.31705e+007	7,118.5818	0.2937	0.0392	7,137.5957
Hotel	1.18142e+007	1,948.0907	0.0804	0.0107	1,953.2941
Medical Office Building	5.2531e+006	866.2070	0.0357	4.7700e-003	868.5206
Movie Theater (No Matinee)	167250	27.5786	1.1400e-003	1.5000e-004	27.6523
Place of Worship	89200	14.7086	6.1000e-004	8.0000e-005	14.7479
University/College (4Yr)	1.14752e+007	1,892.1984	0.0781	0.0104	1,897.2526
Total		**21,353.6924**	**0.8811**	**0.1175**	**21,410.7287**

6.0 Area Detail

6.1 Mitigation Measures Area

	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	103.1460	3.9074	172.0037	0.1733		10.4621	10.4621		10.4621	10.4621	1,097.9865	2,284.3962	3,382.3827	3.4410	0.0745	3,490.6145
Unmitigated	103.1460	3.9074	172.0037	0.1733		10.4621	10.4621		10.4621	10.4621	1,097.9865	2,284.3962	3,382.3827	3.4410	0.0745	3,490.6145

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	6.1344					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	59.9644					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	33.8583	2.6809	65.7113	0.1676		9.8703	9.8703		9.8703	9.8703	1,097.9865	2,109.9530	3,207.9395	3.2744	0.0745	3,312.0077
Landscaping	3.1889	1.2265	106.2925	5.6400e-003		0.5917	0.5917		0.5917	0.5917	0.0000	174.4432	174.4432	0.1666	0.0000	178.6069
Total	**103.1460**	**3.9074**	**172.0037**	**0.1733**		**10.4621**	**10.4621**		**10.4621**	**10.4621**	**1,097.9865**	**2,284.3962**	**3,382.3827**	**3.4410**	**0.0745**	**3,490.6145**

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	6.1344					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	59.9644					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	33.8583	2.6809	65.7113	0.1676		9.8703	9.8703		9.8703	9.8703	1,097.9865	2,109.9530	3,207.9395	3.2744	0.0745	3,312.0077
Landscaping	3.1889	1.2265	106.2925	5.6400e-003		0.5917	0.5917		0.5917	0.5917	0.0000	174.4432	174.4432	0.1666	0.0000	178.6069
Total	**103.1460**	**3.9074**	**172.0037**	**0.1733**		**10.4621**	**10.4621**		**10.4621**	**10.4621**	**1,097.9865**	**2,284.3962**	**3,382.3827**	**3.4410**	**0.0745**	**3,490.6145**

7.0 Water Detail

7.1 Mitigation Measures Water

SGCP - Los Angeles-South Coast County, Annual

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	3,813.8126	36.5101	0.8778	4,988.1329
Unmitigated	3,813.8126	36.5101	0.8778	4,988.1329

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	673.497 / 424.596	2,437.5791	22.0377	0.5304	3,146.5879
Automobile Care Center	76.0175 / 46.5914	272.6877	2.4873	0.0599	352.7070
Elementary School	3.81333 / 9.8057	27.3612	0.1253	3.0800e-003	31.4118
Free-Standing Discount Store	15.8515 / 9.71545	56.8621	0.5187	0.0125	73.5481
Government Office Building	11.9196 / 7.30555	42.7576	0.3900	9.3900e-003	55.3046
High School	1.25982 / 3.23953	9.0394	0.0414	1.0200e-003	10.3776
Hospital	236.656 / 45.0774	665.7833	7.7358	0.1853	914.4084
Hotel	27.1932 / 3.02146	72.5486	0.8887	0.0213	101.1065
Medical Office Building	50.3177 / 9.58432	141.5584	1.6448	0.0394	194.4209
Movie Theater (No Matinee)	6.02402 / 0.384512	15.5497	0.1969	4.7100e-003	21.8746
Place of Worship	0.250311 / 0.391512	1.3341	8.2100e-003	2.0000e-004	1.5988
University/College (4Yr)	13.2748 / 20.7632	70.7514	0.4353	0.0106	84.7868
Total		**3,813.8126**	**36.5101**	**0.8778**	**4,988.1329**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	673.497 / 424.596	2,437.5791	22.0377	0.5304	3,146.5879
Automobile Care Center	76.0175 / 46.5914	272.6877	2.4873	0.0599	352.7070
Elementary School	3.81333 / 9.8057	27.3612	0.1253	3.0800e-003	31.4118
Free-Standing Discount Store	15.8515 / 9.71545	56.8621	0.5187	0.0125	73.5481
Government Office Building	11.9196 / 7.30555	42.7576	0.3900	9.3900e-003	55.3046
High School	1.25982 / 3.23953	9.0394	0.0414	1.0200e-003	10.3776
Hospital	236.656 / 45.0774	665.7833	7.7358	0.1853	914.4084
Hotel	27.1932 / 3.02146	72.5486	0.8887	0.0213	101.1065
Medical Office Building	50.3177 / 9.58432	141.5584	1.6448	0.0394	194.4209
Movie Theater (No Matinee)	6.02402 / 0.384512	15.5497	0.1969	4.7100e-003	21.8746
Place of Worship	0.250311 / 0.391512	1.3341	8.2100e-003	2.0000e-004	1.5988
University/College (4Yr)	13.2748 / 20.7632	70.7514	0.4353	0.0106	84.7868
Total		**3,813.8126**	**36.5101**	**0.8778**	**4,988.1329**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	7,248.0197	428.3457	0.0000	17,956.6620
Unmitigated	7,248.0197	428.3457	0.0000	17,956.6620

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	4755.02	965.2261	57.0432	0.0000	2,391.3068
Automobile Care Center	3086.56	626.5438	37.0277	0.0000	1,552.2357
Elementary School	287.07	58.2726	3.4438	0.0000	144.3679
Free-Standing Discount Store	920.35	186.8227	11.0409	0.0000	462.8454
Government Office Building	55.8	11.3269	0.6694	0.0000	28.0619
High School	52.2	10.5961	0.6262	0.0000	26.2515
Hospital	20368.8	4,134.6823	244.3527	0.0000	10,243.5005
Hotel	586.92	119.1395	7.0409	0.0000	295.1630
Medical Office Building	4330.8	879.1133	51.9541	0.0000	2,177.9659
Movie Theater (No Matinee)	85.5	17.3557	1.0257	0.0000	42.9981
Place of Worship	45.6	9.2564	0.5470	0.0000	22.9323
University/College (4Yr)	1131.5	229.6843	13.5740	0.0000	569.0331
Total		**7,248.0197**	**428.3457**	**0.0000**	**17,956.6620**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	4755.02	965.2261	57.0432	0.0000	2,391.3068
Automobile Care Center	3086.56	626.5438	37.0277	0.0000	1,552.2357
Elementary School	287.07	58.2726	3.4438	0.0000	144.3679
Free-Standing Discount Store	920.35	186.8227	11.0409	0.0000	462.8454
Government Office Building	55.8	11.3269	0.6694	0.0000	28.0619
High School	52.2	10.5961	0.6262	0.0000	26.2515
Hospital	20368.8	4,134.6823	244.3527	0.0000	10,243.5005
Hotel	586.92	119.1395	7.0409	0.0000	295.1630
Medical Office Building	4330.8	879.1133	51.9541	0.0000	2,177.9659
Movie Theater (No Matinee)	85.5	17.3557	1.0257	0.0000	42.9981
Place of Worship	45.6	9.2564	0.5470	0.0000	22.9323
University/College (4Yr)	1131.5	229.6843	13.5740	0.0000	569.0331
Total		**7,248.0197**	**428.3457**	**0.0000**	**17,956.6620**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Attahcment B

CITY OF GLENDALE MODEL LAND USE FORECASTS

LAND USE CATEGORY	2015 EXISTING	2040 NO PROJECT	2040 ALT 1	2040 ALT 2	2040 SGCP
CITY OF GLENDALE					
SINGLE FAMILY (DU)	23,663	23,701	23,694	23,639	23,634
MULTI FAMILY (DU)	53,520	56,108	60,181	62,143	64,124
SENIOR (DU)	2,673	2,734	2,535	2,535	2,535
OFFICE (KSF)	9,996	12,259	12,163	12,167	12,018
GOVOFF (KSF)	585	689	644	644	644
MEDOFF (KSF)	927	924	911	1,023	1,316
HOSPITAL (KSF)	2,297	4,183	4,183	4,183	4,183
AUTO DEALER (KSF)	649	664	1,457	1,457	1,457
AUTO SERVICES (KSF)	704	724	657	645	641
RETAIL (KSF)	6,921	6,697	6,982	6,976	7,150
RESTAURANT (KSF)	987	975	880	858	857
ENTERTAINMENT (KSF)	344	364	364	358	358
MALL (KSF)	1,203	1,203	1,203	1,203	1,203
CULTURAL (KSF)	283	283	277	276	276
LODGING (KSF)	1,028	1,642	1,633	1,408	1,865
RELIGIOUS (KSF)	1,371	1,429	1,429	1,383	1,379
INDUSTRIAL (KSF)	5,715	8,119	7,943	8,142	8,102
K8 (STUDENTS)	15,172	15,581	16,165	16,460	16,758
HIGH (STUDENTS)	5,403	5,478	5,584	5,638	5,692
COLLEGE (STUDENTS)	23,816	30,500	30,500	30,500	30,500
PARKS & REC (ACRE)	340	340	340	340	340
CEMETERY (ACRE)	300	300	300	300	300
DWELLING UNITS	**79,856**	**82,543**	**86,410**	**88,317**	**90,293**
NON-RESIDENTIAL KSF	**33,010**	**40,155**	**40,728**	**40,724**	**41,451**

CITY OF GLENDALE

LAND USE CATEGORY	2015 EXISTING
SOUTH GLEN	
SINGLE FAMILY (DU)	2,625
MULTI FAMILY (DU)	33,326
SENIOR (DU)	1,952
OFFICE (KSF)	6,738
GOVOFF (KSF)	530
MEDOFF (KSF)	515
HOSPITAL (KSF)	434
AUTO DEALER (KSF)	598
AUTO SERVICES (KSF)	449
RETAIL (KSF)	4,323
RESTAURANT (KSF)	645
ENTERTAINMENT (KSF)	227
MALL (KSF)	1,203
CULTURAL (KSF)	230
LODGING (KSF)	977
RELIGIOUS (KSF)	774
INDUSTRIAL (KSF)	2,600
K8 (STUDENTS)	6,031
HIGH (STUDENTS)	2,660
COLLEGE (STUDENTS)	4,100
PARKS & REC (ACRE)	23
CEMETERY (ACRE)	300
DWELLING UNITS	**37,903**
NON-RESIDENTIAL KSF	**20,243.992**

Employment Density Study Table 4B	**Land Use Cate**
Averaged as "Office"	Regional Reta
	Other Retail/S
	Low-Rise Offic
	High-Rise Offi
	Hotel/Motel
Averaged as "Industrial"	R&D/Flex Spa
	Light Manufa
	Heavy Manufa
	Warehouse
	Government (

E MODEL LAND USE FORECASTS **2040 SGCP Employees**

2040 NO PROJECT	2040 ALT 1	2040 ALT 2	2040 SGCP	Project Delta from Baseline	SCAG LU Cat	2015 Employees	SGCP 2040 Employees	No Project 2040 Employees	SGCP Employees Delta from Baseline	
IDALE COMMUNITY PLAN										
2,616	2,609	2,554	2,549	-76						
35,873	39,946	41,908	43,889	10,563						
2,001	1,802	1,802	1,802	-150						
6,741	6,646	6,650	6,500	-237	Office	22,310	21,524	22,323	(786)	
634	590	590	590	60	Government Offices	732	815	876	82	
523	511	623	916	401	Office	1,705	3,034	1,733	1,329	
2,321	2,321	2,321	2,321	1,886	Office	1,438	7,685	7,685	6,246	
613	1,406	1,406	1,406	808	Other Retail/Service	1,170	2,751	1,200	1,581	
474	406	394	391	-58	Other Retail/Service	879	765	927	(114)	
4,084	4,369	4,363	4,537	214	Other Retail/Service	8,460	8,878	7,991	418	
635	540	518	517	-128	Other Retail/Service	1,263	1,012	1,243	(251)	
247	247	241	241	15	Other Retail/Service	443	472	484	29	
1,203	1,203	1,203	1,203	0	Regional Retail	494	494	494	-	
230	224	223	223	-7	Other Retail/Service	451	437	451	(14)	
1,558	1,550	1,325	1,782	804	Hotel/Motel	3,280	5,978	5,228	2,698	
833	833	786	783	8	Office	1,515	1,532	1,630	16	
2,617	2,441	2,641	2,600	0	Industrial	2,372	2,372	2,387	0	
6,427	7,011	7,306	7,604	1,573						
2,732	2,838	2,892	2,946	286						
10,300	10,300	10,300	10,300	6,200						
23	23	23	23	0						
300	300	300	300	0						
40,490	**44,357**	**46,264**	**48,240**	**10,337**						
22,714	**23,287**	**23,283**	**24,009**	**3,765**		46,511	57,747	54,651	11,236	Totals
							3,096	8,140	18%	
							5.7%	17.5%		

egory	Sqft/Employee	
il		2,437
Service		511
ce	299	302
ce	305	
		298
ce	1862	1096
cturing	749	
acturing	602	
	1172	
Offices		724

	9774
	25.41%

CalEEMod Inputs

CITY OF GLENDALE MODEL LAND USE FORECASTS

CalEEmod (Land Use) Translation	LAND USE CATEGORY	2015 EXISTING	2040 NO PROJECT	2040 ALT 1	2040 ALT 2	2040 SGCP	Project Delta from Baseline	Amoritize Construction by LU	Annual Growth Rate by LU	Annual Growth Rate + .5% by LU	Annnual Increase by LU (Excelerated GR)
	SOUTH GLENDALE COMMUNITY PLAN										
N/A	SINGLE FAMILY (DU)	2,625	2,616	2,609	2,554	2,549	-76	**-3.3**	-0.12%	**-0.1%**	-3
Res: Apt Mid-Rise	MULTI FAMILY (DU)	33,326	35,873	39,946	41,908	43,889	10,563	**459.3**	1.15%	**2.02%**	673
N/A	SENIOR (DU)	1,952	2,001	1,802	1,802	1,802	-150	**-6.5**	-0.33%	**-1%**	-11
N/A	OFFICE (KSF)	6,738	6,741	6,646	6,650	6,500	-237	**-10.3**	-0.15%	**0%**	-18
Com: Government Office Building	GOVOFF (KSF)	530	634	590	590	590	60	**2.6**	0.44%	**1%**	4
Com: Medical Office	MEDOFF (KSF)	515	523	511	623	916	401	**17.4**	2.43%	**4%**	22
Com: Hospital	HOSPITAL (KSF)	434	2,321	2,321	2,321	2,321	1,886	**82.0**	7.23%	**13%**	55
Automobile Care Center	AUTO DEALER (KSF)	598	613	1,406	1,406	1,406	808	**35.1**	3.63%	**6%**	38
N/A	AUTO SERVICES (KSF)	449	474	406	394	391	-58	**-2.5**	-0.58%	**-1%**	25
Retail: Free Standing Discount Store	RETAIL (KSF)	4,323	4,084	4,369	4,363	4,537	214	**9.3**	0.20%	**0%**	15
N/A	RESTAURANT (KSF)	645	635	540	518	517	-128	**-5.6**	-0.92%	**-2%**	-10
Rec: Movie Theater	ENTERTAINMENT (KSF)	227	247	247	241	241	15	**0.6**	0.26%	**0%**	1
N/A	MALL (KSF)	1,203	1,203	1,203	1,203	1,203	0	**0.0**	0.00%	**0%**	0
N/A	CULTURAL (KSF)	230	230	224	223	223	-7	**-0.3**	-0.13%	**0%**	-1
	LODGING (KSF)	977	1,558	1,550	1,325	1,782	804	**35.0**	2.53%	**4%**	43
ED: Place of Worship	RELIGIOUS (KSF)	774	833	833	786	783	8	**0.4**	0.04%	**0%**	1
N/A	INDUSTRIAL (KSF)	2,600	2,617	2,441	2,641	2,600	0	**0.0**	0.00%	**0%**	0
ED:Elementary School	K8 (STUDENTS)	6,031	6,427	7,011	7,306	7,604	1,573	**68.4**	0.97%	**2%**	102
ED: High School	HIGH (STUDENTS)	2,660	2,732	2,838	2,892	2,946	286	**12.4**	0.43%	**1%**	20
ED: College	COLLEGE (STUDENTS)	4,100	10,300	10,300	10,300	10,300	6,200	**269.6**	3.91%	**7%**	281
	PARKS & REC (ACRE)	23	23	23	23	23	0	**0.0**	0.00%	**0.0%**	0
	CEMETERY (ACRE)	300	300	300	300	300	0	**0.0**	0.00%	**0.0%**	0
	DWELLING UNITS	**37,903**	**40,490**	**44,357**	**46,264**	**48,240**	**10,337**				
	NON-RESIDENTIAL KSF	**20,243.992**	**22,714**	**23,287**	**23,283**	**24,009**	**3,765**				

	2015 EXISTING	2040 NO PROJECT	2040 ALT 1	2040 ALT 2	2040 SGCP	Percent Increase
Dwelling Units (DU)	37,903	40,490	44,357	46,264	48,240	27%
Non-residential (KSF)	20,244	22,714	23,287	23,283	24,009	19%
K-12 (Students)	8,691	9,159	9,849	10,198	10,550	21%
College (Students)	4,100	10,300	10,300	10,300	10,300	151%
Parks (Acres)	23	23	23	23	23	

Project Build-Out Ye	Annual Growth Rate Increase
23	0.87%

Annual Growth Rate by LU	Annual Growth Rate by LU (Excelerated)
1.01%	**2%**
0.71%	**1%**
0.81%	**1%**
3.91%	**7%**
0.00%	**0%**
Average	
1.3%	2.3%

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2040 SGCP
SINGLE FAMILY (DU)	2,625	2,622	2,619	2,615	2,612	2,609	2,606	2,602	2,599	2,596	2,593	2,590	2,586	2,583	2,580	2,577	2,574	2,570	2,567	2,564	2,561	2,558	2,555	2,551	2,549
MULTI FAMILY (DU)	33,326	33,999	34,686	35,386	36,101	36,830	37,574	38,333	39,107	39,897	40,703	41,525	42,364	43,220	44,092	44,983	45,892	46,818	47,764	48,729	49,713	50,717	51,741	52,787	43,889
SENIOR (DU)	1,952	1,941	1,929	1,918	1,907	1,896	1,885	1,874	1,863	1,852	1,841	1,831	1,820	1,809	1,799	1,788	1,778	1,768	1,757	1,747	1,737	1,727	1,717	1,707	1,802
OFFICE (KSF)	6,738	6,720	6,702	6,685	6,667	6,650	6,633	6,615	6,598	6,581	6,564	6,546	6,529	6,512	6,495	6,478	6,461	6,444	6,428	6,411	6,394	6,377	6,361	6,344	6,500
GOVOFF (KSF)	530	534	538	543	547	551	555	560	564	569	573	577	582	586	591	596	600	605	610	614	619	624	629	634	590
MEDOFF (KSF)	515	537	560	583	608	634	661	689	719	749	781	814	849	885	923	962	1,003	1,045	1,090	1,136	1,185	1,235	1,287	1,342	916
HOSPITAL (KSF)	434	489	551	621	700	788	888	1,000	1,127	1,270	1,431	1,612	1,816	2,046	2,305	2,596	2,925	3,296	3,713	4,183	4,712	5,309	5,981	6,738	2,321
AUTO DEALER (KSF)	598	636	676	719	765	813	865	920	978	1,040	1,107	1,177	1,252	1,331	1,415	1,505	1,601	1,703	1,811	1,926	2,048	2,178	2,316	2,463	1,406
AUTO SERVICES (KSF)	449	445	440	436	431	427	423	418	414	410	406	402	398	394	390	386	382	378	374	370	367	363	359	356	391
RETAIL (KSF)	4,323	4,338	4,353	4,369	4,384	4,400	4,415	4,431	4,446	4,462	4,478	4,493	4,509	4,525	4,541	4,557	4,573	4,589	4,605	4,622	4,638	4,654	4,671	4,687	4,537
RESTAURANT (KSF)	645	635	625	615	605	595	586	576	567	558	549	540	531	523	514	506	498	490	482	474	467	459	452	445	517
ENTERTAINMENT (KSF)	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	243	244	245	246	247	248	249	250	252	241
MALL (KSF)	1,203	1,203	1,203	1,203	1,203	1,203	1,203	1,203	1,203	1,203	1,203	1,203	1,203	1,203	1,203	1,203	1,203	1,203	1,203	1,203	1,203	1,203	1,203	1,203	1,203
CULTURAL (KSF)	230	230	229	229	228	228	227	227	226	226	225	225	224	224	223	223	222	222	221	220	220	219	219	218	223
LODGING (KSF)	977	1,021	1,066	1,113	1,163	1,214	1,268	1,324	1,383	1,444	1,508	1,575	1,645	1,718	1,794	1,874	1,957	2,044	2,134	2,229	2,328	2,431	2,539	2,651	1,782
RELIGIOUS (KSF)	774	775	776	776	777	777	778	779	779	780	780	781	782	782	783	783	784	785	785	786	787	787	788	788	783
INDUSTRIAL (KSF)	2,600	2,600	2,600	2,600	2,600	2,600	2,600	2,600	2,600	2,600	2,600	2,600	2,600	2,600	2,600	2,600	2,600	2,600	2,600	2,600	2,600	2,600	2,600	2,600	2,600
K8 (STUDENTS)	6,031	6,133	6,238	6,344	6,451	6,561	6,672	6,786	6,901	7,018	7,137	7,259	7,382	7,507	7,635	7,765	7,896	8,031	8,167	8,306	8,447	8,590	8,736	8,885	7,604
HIGH (STUDENTS)	2,660	2,680	2,700	2,720	2,740	2,761	2,781	2,802	2,823	2,844	2,865	2,887	2,908	2,930	2,952	2,974	2,996	3,018	3,041	3,064	3,087	3,110	3,133	3,156	2,946
COLLEGE (STUDENTS)	4,100	4,381	4,681	5,002	5,344	5,710	6,101	6,519	6,966	7,443	7,953	8,497	9,079	9,701	10,366	11,076	11,834	12,645	13,511	14,436	15,425	16,482	17,611	18,817	10,300
PARKS & REC (ACRE)	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23
CEMETERY (ACRE)	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2040 SGCP
Dwelling Units (DU)	37,903	38,562	39,234	39,920	40,620	41,335	42,065	42,809	43,569	44,345	45,137	45,945	46,770	47,612	48,471	49,348	50,243	51,156	52,089	53,040	54,011	55,002	56,013	57,045	48,240
Non-residential (KSF)	20,244	20,390	20,549	20,721	20,909	21,113	21,335	21,576	21,840	22,127	22,441	22,784	23,159	23,569	24,019	24,512	25,053	25,648	26,302	27,022	27,815	28,689	29,655	30,722	24,009
K-12 (Students)	8,691	8,813	8,937	9,064	9,192	9,322	9,454	9,588	9,724	9,862	10,003	10,145	10,290	10,437	10,587	10,738	10,893	11,049	11,208	11,369	11,533	11,700	11,869	12,041	10,550
College (Students)	4,100	4,381	4,681	5,002	5,344	5,710	6,101	6,519	6,966	7,443	7,953	8,497	9,079	9,701	10,366	11,076	11,834	12,645	13,511	14,436	15,425	16,482	17,611	18,817	10,300
Parks (Acres)	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23

CITY OF GLENDALE MODEL LAND USE FORECASTS — **2040 SGCP Employees**

Notes	CalEEmod (Land Use) Translation	LAND USE CATEGORY	2015 EXISTING	2040 NO PROJECT	2040 ALT 1	2040 ALT 2	2040 SGCP	Project Delta from Baseline	SCAG LU Cat	2015 Employees	SGCP 2040 Employees	No Project 2040 Employees	SGCP Employees Delta from Baseline
		SOUTH GLENDALE COMMUNITY PLAN											
		SINGLE FAMILY (DU)	2,625	2,616	2,609	2,554	2,549	-76					
	Res: Apt Mid-Rise	MULTI FAMILY (DU)	33,326	35,873	39,946	41,908	43,889	10,563					
		SENIOR (DU)	1,952	2,001	1,802	1,802	1,802	-150					
		OFFICE (KSF)	6,738	6,741	6,646	6,650	6,500	-237	Office	22,310	21,524	22,323	(786)
	Com: Government Office Building	GOVOFF (KSF)	530	634	590	590	590	60	Government Offices	732	815	876	82
	Com: Medical Office	MEDOFF (KSF)	515	523	511	623	916	401	Office	1,705	3,034	1,733	1,329
	Com: Hospital	HOSPITAL (KSF)	434	2,321	2,321	2,321	2,321	1,886	Office	1,438	7,685	7,685	6,246
	Indus: G Light Industry	AUTO DEALER (KSF)	598	613	1,406	1,406	1,406	808	Other Retail/Service	1,170	2,751	1,200	1,581
		AUTO SERVICES (KSF)	449	474	406	394	391	-58	Other Retail/Service	879	765	927	(114)
	Retail: Free Standing Discount Store	RETAIL (KSF)	4,323	4,084	4,369	4,363	4,537	214	Other Retail/Service	8,460	8,878	7,991	418
		RESTAURANT (KSF)	645	635	540	518	517	-128	Other Retail/Service	1,263	1,012	1,243	(251)
	Rec: Movie Theater	ENTERTAINMENT (KSF)	227	247	247	241	241	15	Other Retail/Service	443	472	484	29
		MALL (KSF)	1,203	1,203	1,203	1,203	1,203	0	Regional Retail	494	494	494	-
		CULTURAL (KSF)	230	230	224	223	223	-7	Other Retail/Service	451	437	451	(14)
	Hotel	LODGING (KSF)	977	1,558	1,550	1,325	1,782	804	Hotel/Motel	3,280	5,978	5,228	2,698
	ED: Place of Worship	RELIGIOUS (KSF)	774	833	833	786	783	8	Office	1,515	1,532	1,630	16
		INDUSTRIAL (KSF)	2,600	2,617	2,441	2,641	2,600	0	Industrial	2,372	2,372	2,387	0
	ED:Elementary School	K8 (STUDENTS)	6,031	6,427	7,011	7,306	7,604	1,573					
	ED: High School	HIGH (STUDENTS)	2,660	2,732	2,838	2,892	2,946	286					
	ED: College	COLLEGE (STUDENTS)	4,100	10,300	10,300	10,300	10,300	6,200					
		PARKS & REC (ACRE)	23	23	23	23	23	0					
		CEMETERY (ACRE)	300	300	300	300	300	0					
	TOTAL	**DWELLING UNITS**	**37,903**	**40,490**	**44,357**	**46,264**	**48,240**	**10,337**					
	TOTAL	**NON-RESIDENTIAL KSF**	**20,243.992**	**22,714**	**23,287**	**23,283**	**24,009**	**3,765**		46,511	57,747	54,651	11,236

City of Glendale Building Permits									
Year	City Total DU	Source	Total DU (Imputation)	Total DU (Reported)	Year over Year Change	Percent of Annual Average Buidling Growth Rate	Annual DU Growth Rate (2000-2016)	Annual Average DU Growth Rate (2000-2015)	Annual Increase in Building Permit Activity
							323.70588	0.4%	0.87%
2000	73,713	2000 Census	72	72		22%	0.1%		
2001	73,785		155	155	83	48%	0.2%		
2002	73,940		313	313	158	97%	0.4%		
2003	74,253		137	137	-176	42%	0.2%		
2004	74,390		77	77	-60	24%	0.1%		
2005	74,467		201	192	124	62%	0.3%		
2006	74,668		126	7	-75	39%	0.0%		
2007	74,794		126	0	0	39%	0.0%		
2008	74,920		249	202	123	77%	0.3%		
2009	75,169		114	49	-135	35%	0.1%		
2010	75,283		99	99	-15	31%	0.1%		
2011	75,382		239	239	140	74%	0.3%		
2012	75,621		404	404	165	125%	0.5%		
2013	74,822	ACS 2013 1 YR	1004	941	600	310%	1.3%		
2014	75,826		373	373	-631	115%	0.5%		
2015	78,270	ACS 2015 1 YR	698	698	325	216%	0.9%		
2016	78,968		1116	1116	418	345%	1.4%		

Source: U.S. Census Bureau Data, U.S. Factfinder

Survey Date	State Code	6-Digit ID	County Code	Place Code	MSA/ CMSA	PMSA Code	Central City	Zip Code	Region Code	Division Code	Number of Months Rep	Place Name	Bldgs	1-unit Units
200012	6	158000	37	1130	4472	4480		91206	4	9	12	Glendale	37	37
200112	6	158000	37	1130	4472	4480		91206	4	9	12	Glendale	56	56
200212	6	158000	37	1130	4472	4480		91206	4	9	12	Glendale	23	23
200312	6	158000	37	1130	4472	4480		91206	4	9	12	Glendale	15	15

Survey Date	State Code	6-Digit ID	County Code	Place Code	CSA CSA	CBSA Code	Central City	Zip Code	Region Code	Division Code	Number of Months Rep	Place Name	Bldgs	1-unit Units
200412	6	158000	37	1130	348	31100	1	91206	4	9	12	Glendale	2	2
200512	6	158000	37	1130	348	31100	1	91206	4	9	11	Glendale	28	28
200612	6	158000	37	1130	348	31100	1	91206	4	9	3	Glendale	23	23
200712	6	158000	37	1130	348	31100	1	91206	4	9	0	Glendale	15	15

Survey Date	State Code	6-Digit ID	County Code	Census Pla Code	FIPS Place Code	FIPS MCD Code	Pop	CSA Code	CBSA Code	Footnote Code	Central City	Zip Code	Region Code	Division Code	Number of Months Rep	Place Name	Bldgs	1-unit Units
200812	6	158000	37	1130	30000	91750	194973	348	31100		1	91206	4	9	10	Glendale	23	23
200912	6	158000	37	1130	30000	92785	194973	348	31100		1	91206	4	9	7	Glendale	13	13
201012	6	158000	37	1130	30000	92785	194973	348	31100		1	91206	4	9	12	Glendale	7	7
201112	6	158000	37	1130	30000	92785	194973	348	31100		1	91206	4	9	12	Glendale	11	11

Survey Date	State Code	6-Digit ID	County Code	Census Pla Code	FIPS Place Code	FIPS MCD Code	Pop	CSA Code	CBSA Code	Footnote Code	Central City	Zip Code	Region Code	Division Code	Number of Months Rep	Place Name	Bldgs	1-unit Units
201212	6	158000	37	2790	30000	0	194973	348	31100		1	91206	4	9	12	Glendale	10	10
201312	6	158000	37	2790	30000	0	191719	348	31100		1	91206	4	9	11	Glendale	11	11
201412	6	158000	37	2790	30000	0	191719	348	31080		1	91206	4	9	12	Glendale	17	17
201512	6	158000	37	2790	30000	0	191719	348	31080		1	91206	4	9	12	Glendale	9	9
201612	6	158000	37	2790	30000	0	191719	348	31080		1	91206	4	9	12	Glendale	9	9

Total Permits (2000-2016)	1-unit			2-units			3-4 units			5+ units			1-unit rep			2-units rep		
Bldgs	Units	Value	Bldgs	Units	Value	Bldgs	Units	Value	Bldgs	Units	Value	Bldgs	Units	Value	Bldgs	Units	Value	Bldgs
309	309		18	36		20	76		111	5082	6.37E+08	270	270	74414237	13	26	3929276	19

City of Glendale Total Permits (2000-2016)		
Building Permits	Bldgs	Units
1-unit	309	309
2-units	18	36
3-4 units	20	76
5+ units	111	5082
1-unit rep	270	270
2-units rep	13	26
3-4 units rep	19	73
5+ units rep	83	4705

Source: U.S. Census Bureau Building Permit; https://www.census.gov/construction/bps/

		2-units			3-4 units			5+ units			1-unit rep			2-units rep			3-4 units rep			5+ units rep	
Value	Bldgs	Units	Value	Bldgs	Units	Value	Bldgs	Units	Value	Bldgs	Units	Value	Bldgs	Units	Value	Bldgs	Units	Value	Bldgs	Units	Value
6378909	1	2	180843	1	4	326147	3	29	2929013	37	37	6378909	1	2	180843	1	4	326147	3	29	2929013
11256271	0	0	0	2	8	671920	9	91	6155225	56	56	11256271	0	0	0	2	8	671920	9	91	6155225
6709780	2	4	366442	1	3	266029	5	283	34306267	23	23	6709780	2	4	366442	1	3	266029	5	283	34306267
4192038	0	0	0	0	0	0	8	122	12791291	15	15	4192038	0	0	0	0	0	0	8	122	12791291

		2-units			3-4 units			5+ units			1-unit rep			2-units rep			3-4 units rep			5+ units rep	
Value	Bldgs	Units	Value	Bldgs	Units	Value	Bldgs	Units	Value	Bldgs	Units	Value	Bldgs	Units	Value	Bldgs	Units	Value	Bldgs	Units	Value
343922	1	2	191991	3	11	1010490	6	62	4825200	2	2	343922	1	2	191991	3	11	1010490	6	62	4825200
8934000	2	4	800000	2	8	2400000	9	161	29828250	26	26	8242000	2	4	800000	2	8	2400000	8	154	28710000
8527857	2	4	800000	0	0	0	8	99	18188485	7	7	3315000	0	0	0	0	0	0	0	0	0
5354824	3	6	1200000	1	3	900000	12	102	18801514	0	0	0	0	0	0	0	0	0	0	0	0

		2-units			3-4 units			5+ units			1-unit rep			2-units rep			3-4 units rep			5+ units rep	
Value	Bldgs	Units	Value	Bldgs	Units	Value	Bldgs	Units	Value	Bldgs	Units	Value	Bldgs	Units	Value	Bldgs	Units	Value	Bldgs	Units	Value
6535000	0	0	0	1	4	750000	9	222	35984608	23	23	6535000	0	0	0	1	4	750000	7	175	31680000
4948087	0	0	0	2	7	1150000	5	94	13847771	8	8	3445000	0	0	0	2	7	1150000	1	34	8000000
1840000	3	6	550000	2	8	2120000	3	78	12111023	7	7	1840000	3	6	550000	2	8	2120000	3	78	12111023
3472022	1	2	370000	0	0	0	4	226	31298000	11	11	3472022	1	2	370000	0	0	0	4	226	31298000

		2-units			3-4 units			5+ units			1-unit rep			2-units rep			3-4 units rep			5+ units rep	
Value	Bldgs	Units	Value	Bldgs	Units	Value	Bldgs	Units	Value	Bldgs	Units	Value	Bldgs	Units	Value	Bldgs	Units	Value	Bldgs	Units	Value
2325000	0	0	0	1	4	200500	3	390	62423429	10	10	2325000	0	0	0	1	4	200500	3	390	62423429
4478745	0	0	0	2	8	1886000	5	985	1.04E+08	10	10	4246245	0	0	0	2	8	1886000	4	923	93897745
5435000	1	2	375000	0	0	0	4	354	38270000	17	17	5435000	1	2	375000	0	0	0	4	354	38270000
2907000	1	2	330000	0	0	0	7	687	82213342	9	9	2907000	1	2	330000	0	0	0	7	687	82213342
3771050	1	2	765000	2	8	2600000	11	1097	1.29E+08	9	9	3771050	1	2	765000	2	8	2600000	11	1097	1.29E+08

3-4 units rep			5+ units rep	
Units	Value	Bldgs	Units	Value
73	13381086	83	4705	5.79E+08

CalEEmod (Land Use) Translation	LAND USE CATEGORY	2015 EXISTING	2040 NO PROJECT	2040 ALT 1	2040 ALT 2	2040 SGCP	Project Delta from Baseline	Number of Hotel Rooms SGCP	Amoritized for lifetime of the project
	LODGING (KSF)	977	1,558	1,550	1,325	1,782	804	1072	47

	Guest Room Area		Total Hotel
	Net	Gross	Gross
Conventional	240	480	750

Figure 21.3
Overall Hotel Program

	Guestroom Area (ft^2)		Total Hotel
	Net	Gross	Gross Area (ft^2)
Motel, economy hotel	300	380	420
All-Suite hotel	430	590	750
Urban Business hotel	340	480	650
Resort	390	540	780
Convention hotel	340	480	750

Note: Figures are floor area in square feet per guestroom. Guestroom net area is the usable area including bathroom and vestibule. Guestroom gross area includes walls, elevators, stairways, corridors, storage, and mechanical areas on the guestroom floors. Total hotel gross area is the entire hotel, excluding parking.

Source: deRoos, J. A. 2011, “Planning and Programming a Hotel” In M. C. Sturman, J. B. Corgel, & R. Verma (Eds.), The Cornell School of Hotel Administration on hospitality: Cutting edge thinking and practice(pp. 321-332). New York, NY: Wiley

CalEEMod Default

LU	Title 24 Elect (KWhr/size/yr)	Title 24 Natural Gas (KBTU/size/yr)
Apartments Mid Rise	304.35	6,778.04
Automobile Care Center	2.36	13.71
Elementary School	1.83	9.37
Free-Standing Discount Store	4.2	1.16
Government Office Building	4.82	10.07
High School	1.83	9.37
Hospital	10.44	55.22
Hotel	2.68	20.02
Medical Office Building	4.82	10.07
Movie Theater (No Matinee)	2.36	13.71
Place of Worship	2.36	13.71
University/College (4Yr)	3.18	26.63

CalEEMod Title 24 Adjustments for 2016 Building Code Update

LU	Title 24 Elect (KWhr/size/yr)	Title 24 Natural Gas (KBTU/size/yr)
Apartments Mid Rise	219	4880
Automobile Care Center	2.2	13.0
Elementary School	1.7	8.9
Free-Standing Discount Store	4.0	1.1
Government Office Building	4.6	9.6
High School	1.7	8.9
Hospital	9.9	52.5
Hotel	2.5	19.0
Medical Office Building	4.6	9.6
Movie Theater (No Matinee)	2.2	13.0
Place of Worship	2.2	13.0
University/College (4Yr)	3.0	25.3

Adjustment:

5% reduction for Non-Residential

28% reductiong for Residential

Proposed Project	2015	2020	2035	2040	Annual Growth Increase	Percent Increase
Dwelling Units (DU)	37,903	N/A	N/A	48,240	1.1%	27%
Non-residential (KSF)	20,244	N/A	N/A	24,009	0.7%	19%
K-12 (Students)	8,691	N/A	N/A	10,550	0.9%	21%
College (Students)	4,100	N/A	N/A	10,300	6.0%	151%
Parks (Acres)	23	N/A	N/A	23	0.0%	0%
Employment	46,511	N/A	N/A	54,651	0.7%	18%
Population	193,200	200,100	209,000	244,210	1.1%	26%

Source: Atkins 2017

Residential Density Assumptions (CalEEMod Assumptions)	
New Residents	30210
New DU	10563
Residents/DU	2.86

Proposed Project	2015	2040	Annual Growth Increase
Dwelling Units	37,903	48,240	1.1%
Population (Total Cit	193,200	243,564	1.0%
Employment	46,511	54,651	0.7%
SCAG RTP/SCS Regional Forecast	**2012**	**2040**	**Annual Growth Increase**
Households	5,885,000	7,412,000	0.9%
Population	7,440,000	9,872,000	1.2%
Employment	18,322,000	22,138,000	0.7%

Source: SCAG 2016-2040 RTP/SCS Final Growth Forecast by Jurisdiction
http://www.scag.ca.gov/Documents/2016_2040RTPSCS_FinalGrowthForecastbyJurisdiction.pdf

SGCP AVERAGE DAILY WEEKDAY VEHICLE MILES TRAVELED SUMMARY

Source: Fehr & Peers 2017

All Trip Types (II, IX, and XI)	Vehicle Miles Traveled	Vehicle Trips	Average Trip Length
2016 Existing	3,870,000	548,100	7.1 miles
2040 No Project	4,214,000	587,800	7.2 miles
2040 Alternative 1	4,323,000	606,100	7.1 miles
2040 Alternative 2	4,263,000	600,400	7.1 miles
2040 Preferred Project	4,410,000	619,500	7.1 miles
Project added VMT + Trips	540,000	71,400	

Construction Emissions			
Source	Year	MTCO2e	Annual Reduction (2018-2031)
CalEEMod 2018 Run	2018	1406	-0.4
	2019	1406	
	2020	1407	
	2021	1407	
	2022	1408	
	2023	1408	
	2024	1408	
	2025	1409	
	2026	1409	
	2027	1409	
	2028	1410	
	2029	1410	
	2030	1411	
CalEEMod 2031 Run	2031	1411	
	Subtotal	19,719	

	Total Construction Emissions
Demolition	546
Construction	19,719
Total	20,265
Amoritized Total (30 Yrs)	676

Demolition Emissions			
Source	Year	MTCO2e	MTCO2e per year change
CalEEMod 2018 Run	2018	37	0.31
	2019	37	
	2020	38	
	2021	38	
	2022	38	
	2023	39	
	2024	39	
	2025	39	
	2026	39	
	2027	40	
	2028	40	
	2029	40	
	2030	41	
CalEEMod 2031 Run	2031	41	
	Subtotal	546	

Construction Total **20,265**

CalEEMod VMT Calculator (MITIGATED SCENARIO)

This calcultor was created based on the default trip inputs for the unmitigated CalEEMod run. The calculator calculateds the annual VMT from the proposed project using the same methodology from CalEEMod, described in Appendix A, for the MITIGATED SCENARIO. This calculator can be used to adjust land use trip rates for the MITIGATED PROJECT scenario which is based on the traffic study conducted for the project

	Daily VMT	
Daily VMT Provided by Traffic Study	**540,000**	
Annual VMT	**3,509,039**	**462,298,140**

Trip Type

CalEEMod defaults based on land uses inputted

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-O	Primary	Diverted	Pass-by
Apartments Mid Rise	14.7	5.9	8.7	40%	19%	41%	86%	11%	3%
Automobile Care Center	16.6	8.4	6.9	33.0%	48.0%	19.0%	21%	51%	28%
Elementary School	16.6	8.4	6.9	65.0%	30.0%	5.0%	63%	25%	12%
Free-Standing Discount Store	16.6	8.4	6.9	12.2%	68.8%	19.0%	48%	36%	17%
Government Office Building	16.6	8.4	6.9	33.0%	62.0%	5.0%	50%	34%	16%
High School	16.6	8.4	6.9	77.8%	17.2%	5.0%	75%	19%	6%
Hospital	16.6	8.4	6.9	64.9%	16.1%	19.0%	73%	25%	2%
Hotel	16.6	8.4	6.9	19.4%	61.6%	19.0%	58%	38%	4%
Medical Office Building	16.6	8.4	6.9	29.6%	51.4%	19.0%	60%	30%	10%
Movie Theater (No Matinee)	16.6	8.4	6.9	1.8%	79.2%	19.0%	66%	17%	17%
Place of Worship	16.6	8.4	6.9	0.0%	95.0%	5.0%	64%	25%	11%
University/College (4Yr)	16.6	8.4	6.9	6.4%	88.6%	5.0%	91%	9%	0%

Total Trips

Total Trips = (TripRate weekday x 5 +Trip Sat + Trip Sun)

Average Daily Trips Based on CalEEMod Trip Gen Defaults per land use unit. Total trips Calculated

Land Use	Average Daily Trip Rate			
	weekday	Saturday	Sunday	Total Trips (weekly)
Apartments Mid Rise	70,243.95	67,497.57	61899.18	480,617
Automobile Care Center	19,165.76	19,165.76	9599.04	124,594
Elementary School	2,029.17	0	0	10,146
Free-Standing Discount Store	12,249.36	15,208.98	12061.04	88,517
Government Office Building	4,135.80	0	0	20,679
High School	489.06	174.46	71.5	2,691
Hospital	24,932.92	19,199.48	16804.26	160,668
Hotel	8,758.24	8,779.68	6378.4	58,949
Medical Office Building	14,488.13	3,592.96	621.55	76,655
Movie Theater (No Matinee)	1,170.90	1,489.20	1228.5	8,572
Place of Worship	72.88	82.96	293.04	740
University/College (4Yr)	10,602.00	8,060.00	0	61,070
Total	**168338**	**143251**	**108957**	**1093898**
	100%	**85%**	**65%**	

Trip Length Calc

AVG Trip Length = Link % primary x trip length primary+link % divertedx0.25x length trip primary+link % passbyx0.1

Trip length calculated for each trip type based on trip purpose % and length defaults from CalEEMod

Land Use

Apartments Mid Rise	link % primary	trip length primary	link % diverted	Constant (0.25)	trip length primary	link % passby	constant	Trip Length
H-W or c-w	86.0%	14.70	11.0%	0.25	14.7	3.0%	0.1	13.0
h-s or c-c	86.0%	5.90	11.0%	0.25	5.9	3.0%	0.1	5.2
h-o or c-o	86.0%	8.70	11.0%	0.25	8.7	3.0%	0.1	7.7
Automobile Care Center								
H-W or c-w	21.0%	16.6	51.0%	0.25	16.6	28.0%	0.1	5.6
h-s or c-c	21.0%	8.4	51.0%	0.25	8.4	28.0%	0.1	2.9
h-o or c-o	21.0%	6.9	51.0%	0.25	6.9	28.0%	0.1	2.4
Elementary School								
H-W or c-w	63.0%	16.6	25.0%	0.25	16.6	12.0%	0.1	11.5
h-s or c-c	63.0%	8.4	25.0%	0.25	8.4	12.0%	0.1	5.8
h-o or c-o	63.0%	6.9	25.0%	0.25	6.9	12.0%	0.1	4.8
Free-Standing Discount Store								
H-W or c-w	47.5%	16.6	35.5%	0.25	16.6	17.0%	0.1	9.4
h-s or c-c	47.5%	8.4	35.5%	0.25	8.4	17.0%	0.1	4.8
h-o or c-o	47.5%	6.9	35.5%	0.25	6.9	17.0%	0.1	3.9
Government Office Building								
H-W or c-w	50.0%	16.6	34.0%	0.25	16.6	16.0%	0.1	9.7
h-s or c-c	50.0%	8.4	34.0%	0.25	8.4	16.0%	0.1	4.9
h-o or c-o	50.0%	6.9	34.0%	0.25	6.9	16.0%	0.1	4.1
High School								
H-W or c-w	75.0%	16.6	19.0%	0.25	16.6	6.0%	0.1	13.2
h-s or c-c	75.0%	8.4	19.0%	0.25	8.4	6.0%	0.1	6.7
h-o or c-o	75.0%	6.9	19.0%	0.25	6.9	6.0%	0.1	5.5
Hospital								
H-W or c-w	73.0%	16.6	25.0%	0.25	16.6	2.0%	0.1	13.2
h-s or c-c	73.0%	8.4	25.0%	0.25	8.4	2.0%	0.1	6.7
h-o or c-o	73.0%	6.9	25.0%	0.25	6.9	2.0%	0.1	5.5
Hotel								
H-W or c-w	58.0%	16.6	38.0%	0.25	16.6	4.0%	0.1	11.2
h-s or c-c	58.0%	8.4	38.0%	0.25	8.4	4.0%	0.1	5.7
h-o or c-o	58.0%	6.9	38.0%	0.25	6.9	4.0%	0.1	4.7
Medical Office Building								
H-W or c-w	60.0%	16.6	30.0%	0.25	16.6	10.0%	0.1	11.2
h-s or c-c	60.0%	8.4	30.0%	0.25	8.4	10.0%	0.1	5.7
h-o or c-o	60.0%	6.9	30.0%	0.25	6.9	10.0%	0.1	4.7

Movie Theater (No Matinee)								
H-W or c-w	66.0%	16.6	17.0%	0.25	16.6	17.0%	0.1	11.7
h-s or c-c	66.0%	8.4	17.0%	0.25	8.4	17.0%	0.1	5.9
h-o or c-o	66.0%	6.9	17.0%	0.25	6.9	17.0%	0.1	4.9
Place of Worship								
H-W or c-w	64.0%	16.6	25.0%	0.25	16.6	11.0%	0.1	11.7
h-s or c-c	64.0%	8.4	25.0%	0.25	8.4	11.0%	0.1	5.9
h-o or c-o	64.0%	6.9	25.0%	0.25	6.9	11.0%	0.1	4.9
University/College (4Yr)								
H-W or c-w	91.0%	16.60	9.0%	0.25	16.6	0.0%	0.1	15.5
h-s or c-c	91.0%	8.4	9.0%	0.25	8.4	0.0%	0.1	7.8
h-o or c-o	91.0%	6.9	9.0%	0.25	6.9	0.0%	0.1	6.4

VMT Calc Per Land Use Type (Weekly)

VMT = #Trips x AVG Trip Length per land use and trip type

Trip number for each trip type are derived by multiplying the total trips for each land use calculated above in the Total Trip Calcs by the trip % shown in the Trip Type table for each land use

Apartments Mid Rise	**# trips**	**trip length**	**Weekly VMT**	**Annual VMT**
H-W or c-w	193,208	13.0	2,521,217	
h-s or c-c	92,278	5.2	483,469	
h-o or c-o	195,130	7.7	1,507,235	
Total VMT			4,511,922	234,619,942.25
Automobile Care Center				
H-W or c-w	41,116	5.6	231,503	
h-s or c-c	59,805	2.9	171,222	
h-o or c-o	23,673	2.4	55,791	
Total VMT			458,515	23,842,798
Elementary School				
H-W or c-w	6,595	11.5	75,890	
h-s or c-c	3,044	5.8	17,742	
h-o or c-o	507	4.8	2,430	
Total VMT			96,062	4,995,213
Free-Standing Discount Store				
H-W or c-w	10,799	9.4	101,244	
h-s or c-c	60,900	4.8	289,425	
h-o or c-o	16,818	3.9	65,707	
Total VMT			456,376	23,731,532
Government Office Building				
H-W or c-w	6,824	9.7	66,378	
h-s or c-c	12,821	4.9	63,207	
h-o or c-o	1,034	4.1	4,190	
Total VMT			133,775	6,956,313
High School				
H-W or c-w	2,094	13.2	27,731	

h-s or c-c	463	6.7	3,104	
h-o or c-o	135	5.5	741	
Total VMT			31,576	1,641,969
Hospital				
H-W or c-w	104,274	13.2	1,371,982	
h-s or c-c	25,868	6.7	172,252	
h-o or c-o	30,527	5.5	166,990	
Total VMT			1,711,225	88,983,674
Hotel				
H-W or c-w	11,436	11.2	128,188	
h-s or c-c	36,313	5.7	206,039	
h-o or c-o	11,200	4.7	52,210	
Total VMT			386,437	20,094,724
Medical Office Building				
H-W or c-w	22,690	11.2	254,468	
h-s or c-c	39,401	5.7	223,796	
h-o or c-o	14,564	4.7	67,980	
Total VMT			546,244	28,404,663
Movie Theater (No Matinee)				
H-W or c-w	154	11.7	1,802	
h-s or c-c	6,789	5.9	40,178	
h-o or c-o	1,629	4.9	7,922	
Total VMT			49,903	2,594,949
Place of Worship				
H-W or c-w	0	11.7	-	
h-s or c-c	703	5.9	4,158	
h-o or c-o	37	4.9	180	
Total VMT			4,338	225,588
University/College (4Yr)				
H-W or c-w	3,908	15.5	60,501	
h-s or c-c	54,108	7.8	423,828	
h-o or c-o	3,054	6.4	19,647	
Total VMT			503,976	26,206,774

Annual VMT Calc

the calculated weekly VMT for each land use is summed. This value is multiplied by 50 weeks/year to equal the annual VMT number calculated by CalEEMod

Summed Weekly VMT from Each Land Use	8,890,348.84	
Weeks per Year CalEEMod Uses for Annual VMT	52.00	
Calculated Annual VMT	**462,298,140**	462,298,140
		458,789,101.12

	Size		metric	Weekly VMT		
Apartments Mid Rise		10,563	DU	47,659,431,730.77	2,478,290,449,999.85	199,639.00
Automobile Care Center		808	1000			
Elementary School		1573	Student			
Free-Standing Discount Store		214	1000			
Government Office Building		60	1000			
High School		286	Student			
Hospital		1886	1000			
Hotel		1072	Rooms			
Medical Office Building		401	1000			
Movie Theater (No Matinee)		15	1000			
Place of Worship		8	1000			
University/College (4Yr)		6,200	Students			

CalEEMod VMT Calculator (MITIGATED SCENARIO)

This calcultor was created based on the default trip inputs for the unmitigated CalEEMod run. The calculator calculateds the annual VMT from the proposed project using the same methodology from CalEEMod, described in Appendix A, for the MITIGATED SCENARIO. This calculator can be used to adjust land use trip rates for the MITIGATED PROJECT scenario which is based on the traffic study conducted for the project

	Daily VMT	Calculator Output
Daily VMT Provided by Traffic Study	**540,000**	
Weekly VMT	**3,509,039**	
Annual VMT	**182,470,009**	**182,470,084**

Trip Type

CalEEMod defaults based on land uses inputted #NAME?

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-O	Primary	Diverted	Pass-by
Apartments Mid Rise	1	1	1	40%	19%	41%	86%	11%	3%
Automobile Care Center	1	1	6.9	33.0%	48.0%	19.0%	21%	51%	28%
Elementary School	16.6	8.4	6.9	65.0%	30.0%	5.0%	63%	25%	12%
Free-Standing Discount Store	16.6	8.4	6.9	12.2%	68.8%	19.0%	48%	36%	17%
Government Office Building	16.6	8.4	6.9	33.0%	62.0%	5.0%	50%	34%	16%
High School	16.6	8.4	6.9	77.8%	17.2%	5.0%	75%	19%	6%
Hospital	16.6	8.4	6.9	64.9%	16.1%	19.0%	73%	25%	2%
Hotel	16.6	8.4	6.9	19.4%	61.6%	19.0%	58%	38%	4%
Medical Office Building	1	1	1	29.6%	51.4%	19.0%	60%	30%	10%
Movie Theater (No Matinee)	16.6	8.4	6.9	1.8%	79.2%	19.0%	66%	17%	17%
Place of Worship	16.6	8.4	6.9	0.0%	95.0%	5.0%	64%	25%	11%
University/College (4Yr)	1	1	4.24	6.4%	88.6%	5.0%	91%	9%	0%

Total Trips

Total Trips = (TripRate weekday x 5 +Trip Sat + Trip Sun)

Average Daily Trips Based on CalEEMod Trip Gen Defaults per land use unit. Total trips Calculated

Land Use	Average Daily Trip Rate			
	weekday	Saturday	Sunday	Total Trips (weekly)
Apartments Mid Rise	70,243.95	67,497.57	61899.18	480,617
Automobile Care Center	19,165.76	19,165.76	9599.04	124,594
Elementary School	2,029.17	0	0	10,146
Free-Standing Discount Store	12,249.36	15,208.98	12061.04	88,517
Government Office Building	4,135.80	0	0	20,679
High School	489.06	174.46	71.5	2,691
Hospital	24,932.92	19,199.48	16804.26	160,668
Hotel	8,758.24	8,779.68	6378.4	58,949
Medical Office Building	14,488.13	3,592.96	621.55	76,655
Movie Theater (No Matinee)	1,170.90	1,489.20	1228.5	8,572
Place of Worship	72.88	82.96	293.04	740
University/College (4Yr)	10,602.00	8,060.00	0	61,070
Total	**168338**	**143251**	**108957**	**1093898**
	100%	**85%**	**65%**	

Trip Length Calc

AVG Trip Length = Link % primary x trip length primary+link % divertedx0.25x length trip primary+link % passbyx0.1

Trip length calculated for each trip type based on trip purpose % and length defaults from CalEEMod

Land Use

Apartments Mid Rise	link % primary	trip length primary	link % diverted	Constant (0.25)	trip length primary	link % passby	constant	Trip Length
H-W or c-w	86.0%	1.00	11.0%	0.25	1	3.0%	0.1	0.9
h-s or c-c	86.0%	1.00	11.0%	0.25	1	3.0%	0.1	0.9
h-o or c-o	86.0%	1.00	11.0%	0.25	1	3.0%	0.1	0.9
Automobile Care Center								
H-W or c-w	21.0%	1	51.0%	0.25	1	28.0%	0.1	0.4
h-s or c-c	21.0%	1	51.0%	0.25	1	28.0%	0.1	0.4
h-o or c-o	21.0%	6.9	51.0%	0.25	6.9	28.0%	0.1	2.4
Elementary School								
H-W or c-w	63.0%	16.6	25.0%	0.25	16.6	12.0%	0.1	11.5
h-s or c-c	63.0%	8.4	25.0%	0.25	8.4	12.0%	0.1	5.8
h-o or c-o	63.0%	6.9	25.0%	0.25	6.9	12.0%	0.1	4.8
Free-Standing Discount Store								
H-W or c-w	47.5%	16.6	35.5%	0.25	16.6	17.0%	0.1	9.4
h-s or c-c	47.5%	8.4	35.5%	0.25	8.4	17.0%	0.1	4.8
h-o or c-o	47.5%	6.9	35.5%	0.25	6.9	17.0%	0.1	3.9
Government Office Building								
H-W or c-w	50.0%	16.6	34.0%	0.25	16.6	16.0%	0.1	9.7
h-s or c-c	50.0%	8.4	34.0%	0.25	8.4	16.0%	0.1	4.9
h-o or c-o	50.0%	6.9	34.0%	0.25	6.9	16.0%	0.1	4.1
High School								
H-W or c-w	75.0%	16.6	19.0%	0.25	16.6	6.0%	0.1	13.2
h-s or c-c	75.0%	8.4	19.0%	0.25	8.4	6.0%	0.1	6.7
h-o or c-o	75.0%	6.9	19.0%	0.25	6.9	6.0%	0.1	5.5
Hospital								
H-W or c-w	73.0%	16.6	25.0%	0.25	16.6	2.0%	0.1	13.2
h-s or c-c	73.0%	8.4	25.0%	0.25	8.4	2.0%	0.1	6.7
h-o or c-o	73.0%	6.9	25.0%	0.25	6.9	2.0%	0.1	5.5
Hotel								
H-W or c-w	58.0%	16.6	38.0%	0.25	16.6	4.0%	0.1	11.2

h-s or c-c	58.0%	8.4	38.0%	0.25	8.4	4.0%	0.1	5.7
h-o or c-o	58.0%	6.9	38.0%	0.25	6.9	4.0%	0.1	4.7
Medical Office Building								
H-W or c-w	60.0%	1	30.0%	0.25	1	10.0%	0.1	0.7
h-s or c-c	60.0%	1	30.0%	0.25	1	10.0%	0.1	0.7
h-o or c-o	60.0%	1	30.0%	0.25	1	10.0%	0.1	0.7
Movie Theater (No Matinee)								
H-W or c-w	66.0%	16.6	17.0%	0.25	16.6	17.0%	0.1	11.7
h-s or c-c	66.0%	8.4	17.0%	0.25	8.4	17.0%	0.1	5.9
h-o or c-o	66.0%	6.9	17.0%	0.25	6.9	17.0%	0.1	4.9
Place of Worship								
H-W or c-w	64.0%	16.6	25.0%	0.25	16.6	11.0%	0.1	11.7
h-s or c-c	64.0%	8.4	25.0%	0.25	8.4	11.0%	0.1	5.9
h-o or c-o	64.0%	6.9	25.0%	0.25	6.9	11.0%	0.1	4.9
University/College (4Yr)								
H-W or c-w	91.0%	1.00	9.0%	0.25	1	0.0%	0.1	0.9
h-s or c-c	91.0%	1	9.0%	0.25	1	0.0%	0.1	0.9
h-o or c-o	91.0%	4.24	9.0%	0.25	4.24	0.0%	0.1	4.0

VMT Calc Per Land Use Type (Weekly)

VMT = #Trips x AVG Trip Length per land use and trip type

Trip number for each trip type are derived by multiplying the total trips for each land use calculated above in the Total Trip Calcs by the trip % shown in the Trip Type table for each land use

Apartments Mid Rise	**# trips**	**trip length**	**Weekly VMT**	**Annual VMT**
H-W or c-w	193,208	0.9	172,052	
h-s or c-c	92,278	0.9	82,174	
h-o or c-o	195,130	0.9	173,764	
Total VMT			427,989	22,255,427.65
Automobile Care Center				
H-W or c-w	41,116	0.4	15,028	
h-s or c-c	59,805	0.4	21,859	
h-o or c-o	23,673	2.4	55,791	
Total VMT			92,677	4,819,224
Elementary School				
H-W or c-w	6,595	11.5	75,890	
h-s or c-c	3,044	5.8	17,742	
h-o or c-o	507	4.8	2,430	
Total VMT			96,062	4,995,213
Free-Standing Discount Store				
H-W or c-w	10,799	9.4	101,244	
h-s or c-c	60,900	4.8	289,425	
h-o or c-o	16,818	3.9	65,707	
Total VMT			456,376	23,731,532
Government Office Building				
H-W or c-w	6,824	9.7	66,378	
h-s or c-c	12,821	4.9	63,207	
h-o or c-o	1,034	4.1	4,190	
Total VMT			133,775	6,956,313
High School				
H-W or c-w	2,094	13.2	27,731	
h-s or c-c	463	6.7	3,104	
h-o or c-o	135	5.5	741	
Total VMT			31,576	1,641,969
Hospital				
H-W or c-w	104,274	13.2	1,371,982	
h-s or c-c	25,868	6.7	172,252	
h-o or c-o	30,527	5.5	166,990	
Total VMT			1,711,225	88,983,674
Hotel				
H-W or c-w	11,436	11.2	128,188	
h-s or c-c	36,313	5.7	206,039	
h-o or c-o	11,200	4.7	52,210	
Total VMT			386,437	20,094,724
Medical Office Building				
H-W or c-w	22,690	0.7	15,543	
h-s or c-c	39,401	0.7	26,990	
h-o or c-o	14,564	0.7	9,977	
Total VMT			52,509	2,730,457
Movie Theater (No Matinee)				
H-W or c-w	154	11.7	1,802	
h-s or c-c	6,789	5.9	40,178	
h-o or c-o	1,629	4.9	7,922	
Total VMT			49,903	2,594,949
Place of Worship				
H-W or c-w	0	11.7	-	
h-s or c-c	703	5.9	4,158	
h-o or c-o	37	4.9	180	
Total VMT			4,338	225,588
University/College (4Yr)				

H-W or c-w	3,908	0.9	3,645	
h-s or c-c	54,108	0.9	50,456	
h-o or c-o	3,054	4.0	12,073	
Total VMT			66,173	3,441,012

Annual VMT Calc

the calculated weekly VMT for each land use is summed. This value is multiplied by 50 weeks/year to equal the annual VMT number calculated by CalEEMod

Summed Weekly VMT from Each Land Use	3,509,040.07	
Weeks per Year CalEEMod Uses for Annual VMT	52.00	
Calculated Annual VMT	**182,470,084**	182,470,084