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Greenhouse Gas Analysis for the Villa Serena Project, City of San Marcos, California

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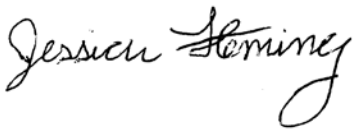

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Acronyms

AB	Assembly Bill
ACC	Advanced Clean Cars
BAU	business as usual
CAFE	Corporate Average Fuel Economy
CalEEMod	California Emissions Estimator Model
CalGreen	California Green Building Standards Code,
CAP	Climate Action Plan
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CBC	California Building Code
CEC	California Energy Commission
CEQ	Council on Environmental Quality
CEQA	California Environmental Quality Act
CFO	Clean Fuels Outlet
CH_4	methane
City	City of San Marcos
CO_2	carbon dioxide
EO	Executive Order
EPA	Environmental Protection Agency
GHG	greenhouse gas
GWP	Global warming potential
HVAC	heating, ventilation, and air conditioning
IPCC	Intergovernmental Panel on Climate Change
lbs	pounds
LCFS	Low Carbon Fuel Standard
LEED	Leadership in Energy and Environmental Design
LEV	low emissions vehicle
LEV III	Low Emissions Vehicle III Standards
MMT CO_2E	million metric tons carbon dioxide equivalent
mpg	miles per gallon
MPO	Metropolitan Planning Organizations
MT CO_2E	metric tons carbon dioxide equivalent
mWh	megawatt hour
N_2O	Nitrous oxide
RPS	Renewable Portfolio Standard
SANDAG	San Diego Association of Governments
SB	Senate Bill
SCAQMD	South Coast Air Quality Management District
SDG&E	San Diego Gas & Electric
U.S. EPA	U.S. Environmental Protection Agency
VMT	vehicle miles traveled
ZEV	zero emission vehicle

Executive Summary

The proposed Villa Serena Project (project) site is located at 339 and 340 Marcos Street in the Richmar Neighborhood of the city of San Marcos, California. The project site is developed with 136 one- and two-bedroom multi-family units in two- and three-story buildings totaling approximately 102,800 square feet. The project would demolish the existing buildings and construct 148 one-, two-, and three-bedroom multi-family units and associated parking, open space, and amenities.

In accordance with California Environmental Quality Act and City of San Marcos (City) guidance, this report evaluates the significance of the project in terms of (1) its contribution of greenhouse gases (GHGs) to cumulative statewide emissions, and (2) whether the project would conflict with local and/or state regulations, plans, and policies adopted to reduce GHG emissions.

The City has adopted GHG significance thresholds as a part of its Climate Action Plan (CAP). Appendix E.1 of the City's CAP provides a consistency worksheet that can be used to demonstrate project compliance with the CAP. If it is determined that a project is not consistent with the CAP, further analysis is required to demonstrate that the project's GHG emissions fall below the GHG thresholds provided in Appendix E.2 of the CAP. The project is required to demonstrate that it would not substantially interfere with implementation of the CAP. Specifically, a project must demonstrate how it would achieve consistency with a project-level GHG efficiency threshold of 2.76 metric tons of carbon dioxide equivalent (MT CO_2E) per service population (residents and employees) for projects built by 2020 and/or 1.93 MT CO_2E per service population for projects built after 2020 in order to find that the project's GHG impacts are less than significant.

The project would generally be consistent with the measures provided in the CAP consistency worksheet. However, the project proposes a General Plan Amendment and Rezone to change the land use designation to Specific Plan Area (SPA) with an increased density of 36.5 dwelling units per acre. This increase in density is not consistent with Measure T-1: Smart Growth. Therefore, the primary sources of direct and indirect GHG emissions have been calculated and compared to the CAP significance thresholds. The emissions sources include construction (off-road vehicles); mobile (on-road vehicles); energy (electricity and natural gas); area sources (landscape maintenance equipment); water and wastewater; and solid waste. Emissions estimates in this report incorporate project compliance with applicable regulations, including the 2013 Title 24 Part 6 (California Energy Code) and Part 11 (California Green Building Standards) requirements.

As calculated in this analysis, the existing uses result in a total of 792 MT CO_2E annually and the project would result in a total of 897 MT CO_2E annually. This would be a net increase of 105 MT CO_2E over the existing use. Using a household population of 3.06 persons per unit, it is calculated that the existing use has a service population of 416 and the project would have a service population of 453. The existing uses would therefore emit 1.90 MT CO_2E per person annually and the project would emit 1.98 MT CO_2E per person

annually, for a net increase of 0.08 MT CO_2E per person annually. The project-level GHG efficiency thresholds are 2.76 MT CO_2E per service population for projects built by 2020 and 1.93 MT CO_2E per service population for projects built after 2020. As noted, the GHG thresholds apply only to net new emissions associated with new projects. The increase of 0.08 MT CO_2E per person annually is less than the City's significance thresholds. Therefore, the level of impacts associated with contribution of GHGs to cumulative emissions would be less than cumulatively considerable. As such, the project would not conflict with the goals and strategies of local and state plans, policies, and regulations adopted to reduce GHG emissions including the City's CAP. Thus, impacts on applicable policies, plans, and regulations would be less than significant.

1.0 Introduction

This report evaluates the significance of the proposed Villa Serena Project (project) and its contribution of greenhouse gas (GHG) emissions and local GHG reduction targets. To evaluate the incremental effect of project development on statewide emissions and global climate change, it is important to have a basic understanding of the nature of the global climate change problem.

1.1 Understanding Global Climate Change

Global climate change is a change in the average weather of the earth, which can be measured by wind patterns, storms, precipitation, and temperature. The earth's climate is in a state of constant flux with periodic warming and cooling cycles. Extreme periods of cooling are termed "ice ages," which may then be followed by extended periods of warmth. For most of the earth's geologic history, these periods of warming and cooling have been the result of many complicated interacting natural factors that include volcanic eruptions that spew gases and particles (dust) into the atmosphere; the amount of water, vegetation, and ice covering the earth's surface; subtle changes in the earth's orbit; and the amount of energy released by the sun (sun cycles). However, since the beginning of the Industrial Revolution around 1750, the average temperature of the earth has been increasing at a rate that is faster than can be explained by natural climate cycles alone.

With the Industrial Revolution came an increase in the combustion of carbon-based fuels such as wood, coal, oil, natural gas, and biomass. Industrial processes have also created emissions of substances not found in nature. This in turn has led to a marked increase in the emissions of gases shown to influence the world's climate. These gases, termed "greenhouse" gases, influence the amount of heat trapped in the earth's atmosphere. Recently observed increased concentrations of GHGs in the atmosphere appear to be related to increases in human activity. Therefore, the current cycle of "global warming" is believed to be largely due to human activity. Of late, the issue of global warming or global climate change has arguably become the most important and widely debated environmental issue in the United States and the world. Because it is believed that the increased GHG concentrations around the world are related to human activity and the collective of human actions taking place throughout the world, it is quintessentially a global or cumulative issue.

1.2 Greenhouse Gases of Primary Concern

There are numerous GHGs, both naturally occurring and manmade. Each GHG has variable atmospheric lifetime and global warming potential (GWP). The atmospheric lifetime of the gas is the average time a molecule stays stable in the atmosphere. Most GHGs have long atmospheric lifetimes, staying in the atmosphere hundreds or thousands of years. GWP is a measure of the potential for a gas to trap heat and warm the atmosphere. Although GWP is related to its atmospheric lifetime, many other factors including chemical reactivity of the gas also influence GWP. GWP is reported as a unitless factor representing the potential for the gas to affect global climate relative to the potential of carbon dioxide (CO_2). Because CO_2 is the reference gas for establishing GWP, by definition its GWP is 1. Although methane (CH_4) has a shorter atmospheric lifetime than CO_2, it has a 100-year GWP of 25; this means that CH_4 has 25 times more effect on global warming than CO_2 on a molecule-by-molecule basis.

The GWP is officially defined as (U.S. Environmental Protection Agency [U.S. EPA] 2010):

> The cumulative radiative forcing—both direct and indirect effects—integrated over a period of time from the emission of a unit mass of gas relative to some reference gas.

GHG emissions estimates are typically represented in terms of equivalent metric tons of CO_2 (MT CO_2E). CO_2E emissions are the product of the amount of each gas by its GWP. The effects of several GHGs may be discussed in terms of MT CO_2E and can be summed to represent the total potential of these gases to warm the global climate. Table 1 summarizes some of the most common GHGs.

Table 1
Global Warming Potentials and Atmospheric Lifetimes (years)

Gas	Atmospheric Lifetime (years)	100-year GWP	20-year GWP
Carbon dioxide (CO_2)	50–200	1	1
Methane (CH_4)*	12.4	28	84
Nitrous oxide (N_2O)	121	265	264
HFC-23	222	12,400	10,800
HFC-32	5.2	677	2,430
HFC-125	28.2	3,170	6,090
HFC-134a	13.4	1,300	3,710
HFC-143a	47.1	4,800	6,940
HFC-152a	1.5	138	506
HFC-227ea	38.9	3,350	5,360
HFC-236fa	242	8,060	6,940
HFC-43-10mee	16.1	1,650	4,310
CF_4	50,000	6,630	4,880
C_2F_6	10,000	11,100	8,210
C_3F_8	2,600	8,900	6,640

Table 1 Global Warming Potentials and Atmospheric Lifetimes (years)			
Gas	Atmospheric Lifetime (years)	100-year GWP	20-year GWP
C_4F_{10}	2,600	9,200	6,870
c-C_4F_8	3,200	9,540	7,110
C_5F_{12}	4,100	8,550	6,350
C_6F_{14}	3,100	7,910	5,890
SF_6	3,200	23,500	17,500
SOURCE: Intergovernmental Panel on Climate Change (IPCC) 2014.			

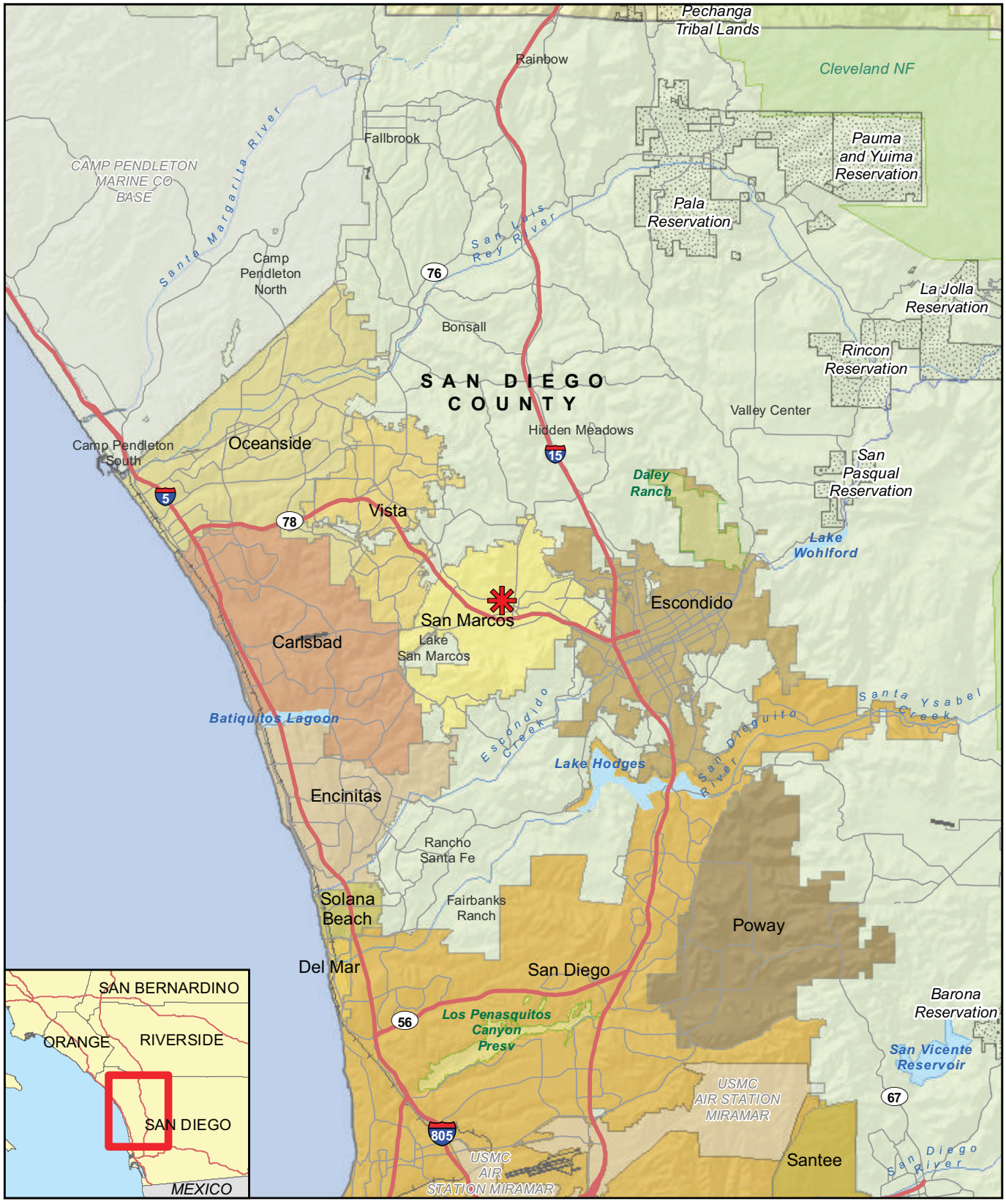
It should be noted that the U.S. EPA and other organizations will update the GWP values they use occasionally. This change can be due to updated scientific estimates of the energy absorption or lifetime of the gases or to changing atmospheric concentrations of GHGs that result in a change in the energy absorption of one additional ton of a gas relative to another. The GWPs shown in Table 1 are the most current. However, it should be noted that in the California Emissions Estimator Model (CalEEMod) CH_4 has a GWP of 21 and nitrous oxide (N_2O) has a GWP of 310, and these values were used for this analysis.

All of the gases in Table 1 are produced by both biogenic (natural) and anthropogenic (human) sources. These are the GHGs of primary concern in this analysis. CO_2 would be emitted by the project due to the combustion of fossil fuels in vehicles (including construction), from electricity generation and natural gas consumption, water use, and from solid waste disposal. Smaller amounts of CH_4 and N_2O would be emitted from the same project operations.

2.0 Project Description

The project site is located at 339 and 340 Marcos Street in the Richmar Neighborhood of the city of San Marcos. Figure 1 shows the regional location of the project site. The property consists of three parcels bordered by single-family residential uses to the north, Fitzpatrick Road to the east, Richmar Avenue to the south, and Liberty Drive to the west. The parcels are separated by Marcos Street running north and south intersecting with Richmar Avenue to the south. The Sprinter light rail transit line connecting Escondido and Oceanside is approximately 0.125 mile immediately to the south. Figure 2 shows an aerial photograph of the project site and vicinity.

The project site is currently developed with 136 one- and two-bedroom multi-family units in two- and three-story buildings totaling approximately 102,800 square feet. The project would demolish the existing buildings and construct 148 one-, two- and three-bedroom multi-family units and associated parking, open space, and amenities. The project would be constructed in two phases. Phase 1 would construct 84 multi-family units and 148 parking spaces at 340 Marcos Street (Figure 3a), and Phase 2 would construct 63 multi-family units and 109 parking spaces at 339 Marcos Street (Figure 3b).



Project Location

FIGURE 1
Regional Location

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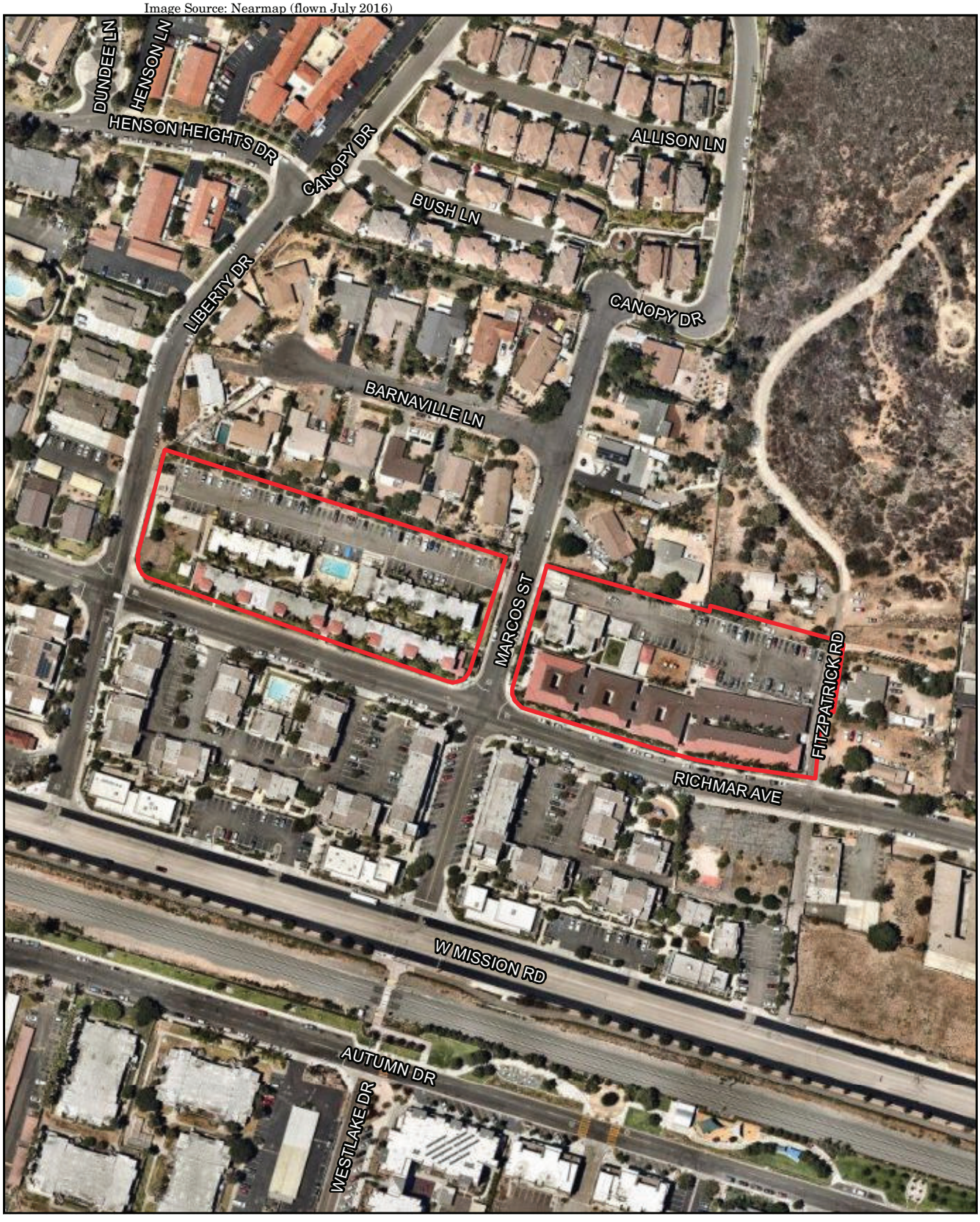
Image Source: Nearmap (flown July 2016)



Project Boundary

FIGURE 2

Project Location on Aerial Photograph

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Map Source: architectsDGa

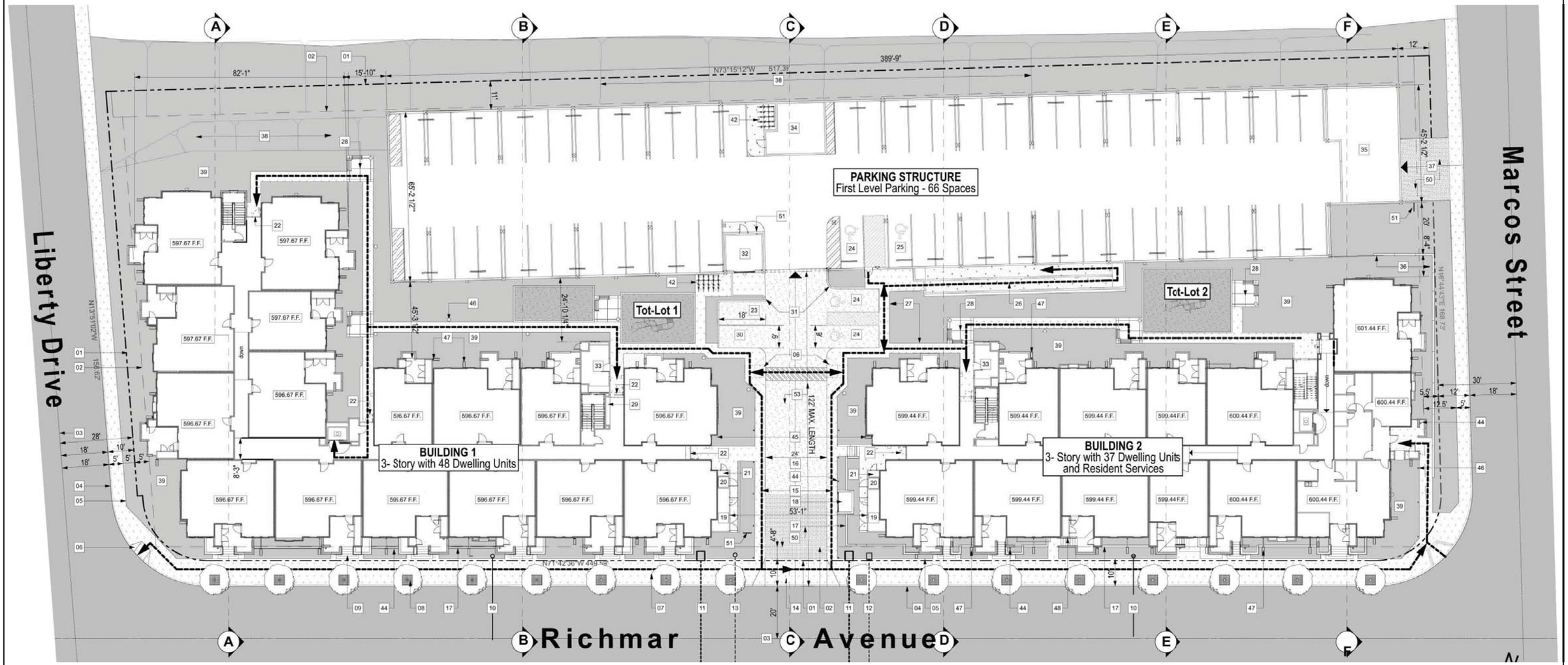

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FIGURE 3a
Phase 1 Site Plan

Map Source: architectsDGa

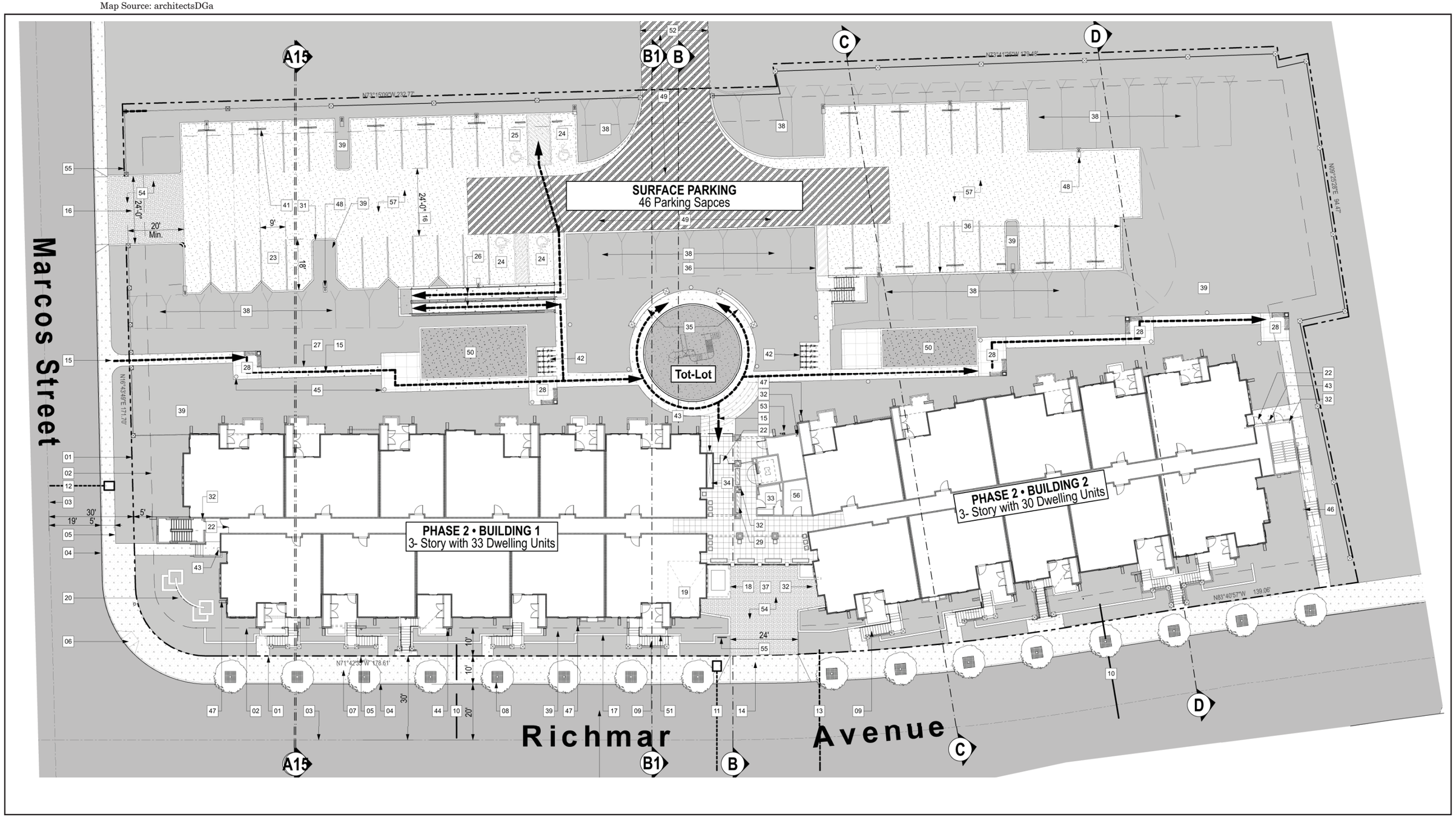

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FIGURE 3b
Phase 2 Site Plan

The project would implement the envisioned pedestrian-scaled residential neighborhood for the Richmar Neighborhood. The project site is located between two Sprinter light-rail transit stations and is in close proximity to public amenities such as San Marcos Elementary School, Boys and Girls Club, and public parks.

The project's primary goals are to:

a) Continue a multi-family residential development pattern in the center of San Marcos.

b) Revitalize an underutilized and under-parked residential area within the Richmar Neighborhood and along the Sprinter line to the South.

c) Provide a walkable community to reduce automobile use.

d) Contribute to the stock of affordable housing in the City.

e) Take advantage of the nearby transit infrastructure to facilitate ridership.

Additionally, the project would achieve a minimum LEED Gold certification by incorporating green features such as exceeding minimum Title 24 energy requirements, using solar power for common area lighting, implementing water conservation features, and implementing construction waste managements.

3.0 Existing Conditions

3.1 Environmental Setting

3.1.1 State and Local GHG Inventories

The California Air Resources Board (CARB) performs statewide GHG inventories. The inventory is divided into nine broad sectors of economic activity: agriculture, commercial, electricity generation, forestry, high GWP emitters, industrial, recycling and waste, residential, and transportation. Emissions are quantified in million metric tons of CO_2 equivalent (MMT CO_2E). Table 2 shows the estimated statewide GHG emissions for the years 1990, 2008, and 2012.

Table 2
California GHG Emissions By Sector in 1990, 2008, and 2012

Sector	1990[1] Emissions in MMT CO_2E (% total)[2]	2008[3] Emissions in MMT CO_2E (% total)[2]	2012[3] Emissions in MMT CO_2E (% total)[2]
Sources			
Agriculture	23.4 (5%)	37.99 (7%)	37.86 (7%)
Commercial	14.4 (3%)	13.37 (3%)	14.20 (3%)
Electricity Generation	110.6 (26%)	120.15 (25%)	95.09 (19%)
High GWP	--	12.87 (2%)	18.41 (3%)
Industrial	103.0 (24%)	87.54 (18%)	89.16 (21%)
Recycling and Waste	--	8.09 (1%)	8.49 (2%)
Residential	29.7 (7%)	29.07 (6%)	28.09 (7%)
Transportation	150.7 (35%)	178.02 (37%)	167.38 (38%)
Forestry (Net CO_2 flux)[4]	-6.69	--	--
Not Specified[4]	1.27	--	--
TOTAL[5]	**426.6**	**487.10**	**458.68**

SOURCE: CARB 2007 and 2014a.
[1]1990 data was retrieved from the CARB 2007 source and are based on IPCC second assessment report GWPs. The revised calculation, which uses the scientifically updated IPCC fourth assessment report GWPs, is 431 MMT CO_2E.
[2]Percentages may not total 100 due to rounding.
[3]2008 and 2012 data was retrieved from the CARB 2014a source.
[4]Reported emissions for key sectors. The inventory totals for 2008 and 2012 did not include Forestry or Not Specified sources.
[5]Totals may vary due to independent rounding.

As shown in Table 2, statewide GHG source emissions totaled approximately 427 MMT CO_2E in 1990, 487 MMT CO_2E in 2008, and 459 MMT CO_2E in 2012. Many factors affect year-to-year changes in GHG emissions, including economic activity, demographic influences, environmental conditions such as drought, and the impact of regulatory efforts to control GHG emissions. CARB has adopted multiple GHG emission reduction measures, the effect of those which will be seen over the following years. According to CARB, substantial reductions since 2008 have been driven by economic factors (recession), previous energy efficiency actions, and the renewable portfolio standard (CARB 2014a). Transportation-related emissions consistently contribute the most GHG emissions, followed by electricity generation and industrial emissions.

A 2005 GHG emissions inventory was prepared as a part of preparation of the City's Climate Action Plan (CAP). The inventory was conducted using the International Council on Environmental Initiatives Cities for Climate Protection inventory methodology. Table 3 summarizes the inventory. As shown, the primary sources of GHG emissions in the City are transportation, energy use in commercial and industrial buildings, and energy use in residential buildings.

Table 3 City of San Marcos 2005 Community-wide GHG Emissions by Source		
Category	MT CO_2E	Percent of Total
On-Road Transportation	144,517	35%
Commercial/Industrial	103,192	25%
Residential	82,754	20%
Solid Waste	21,714	5%
Wastewater	6,568	2%
Water	12,757	3%
Off-Road	40,437	10%
TOTAL	**411,939**	**100.0%**
SOURCE: City of San Marcos 2013.		

3.1.2 On-site GHG Emissions

The project site is currently developed with 136 multi-family units. Current sources of on-site GHG emissions are associated with the vehicle use, energy use, water use, area sources (landscaping and other equipment use), and waste disposal practices with this existing use. Emissions associated with the existing uses were calculated using the California Emissions Estimator Model (CalEEMod) version 2013.2.2 released in September 2013 by the California Air Pollution Control Officers Association (CAPCOA; 2013), and the results are summarized in Table 4. The CalEEMod output is contained in Attachment 1.

Table 4 Existing Annual GHG Emissions (MT CO_2E)	
Emission Source	GHG Emissions
Vehicles	639
Energy Use	165
Area Sources	2
Water Use	57
Solid Waste Disposal	28
TOTAL	**891**

3.2 Regulatory Background

In response to rising concern associated with increasing GHG emissions and global climate change impacts, several plans and regulations have been adopted at the international, national, and state levels with the aim of reducing GHG emissions. The following is a discussion of the federal, state, and local plans and regulations most applicable to the project.

3.2.1 Federal

The federal government, U.S. EPA, and other federal agencies have many federal level programs and projects to reduce GHG emissions. In June 2012, the Council on Environmental Quality (CEQ) revised the Federal Greenhouse Gas Accounting and Reporting Guidance originally issued in October 2010. The CEQ guidance identifies ways in which Federal agencies can improve consideration of GHG emissions and climate change for Federal actions. The guidance states that National Environmental Policy Act documents should provide decision makers with relevant and timely information and should consider (1) GHG emissions of a Proposed Action and alternative actions, and (2) the relationship of climate change effects to a Proposed Action or alternatives. Specifically, if a Proposed Action would be reasonably anticipated to cause direct emissions of 25,000 MT CO_2E GHG emissions on an annual basis, agencies should consider this as an indicator that a quantitative assessment may be meaningful to decision makers and the public (CEQ 2012).

3.2.1.1 Environmental Protection Agency

The U.S. EPA has many federal level programs and projects to reduce GHG emissions. The U.S. EPA provides technical expertise and encourages voluntary reductions from the private sector. One of the voluntary programs applicable to the proposed project is the Energy Star program.

Energy Star is a joint program of U.S. EPA and the U.S. Department of Energy, which promotes energy efficient products and practices. Tools and initiatives include the Energy Star Portfolio Manager, which helps track and assess energy and water consumption across an entire portfolio of buildings, and the Energy Star Most Efficient 2013, which provides information on exceptional products which represent the leading edge in energy efficient products in the year 2013 (U.S. EPA 2013).

The U.S. EPA also collaborates with the public sector, including states, tribes, localities, and resource managers, to encourage smart growth, sustainability preparation, and renewable energy and climate change preparation. These initiatives include the Clean Energy-Environment State Partnership Program, the Climate Ready Water Utilities Initiative, the Climate Ready Estuaries Program, and the Sustainable Communities Partnership (U.S. EPA 2014).

3.2.1.2 Corporate Average Fuel Economy Standards

The project would generate additional vehicle trips. These vehicles would consume fuel and would result in GHG emissions. The federal Corporate Average Fuel Economy (CAFE) standards determine the fuel efficiency of certain vehicle classes in the U.S. While the standards had not changed since 1990, as part of the Energy and Security Act of 2007, the CAFE standards were increased in 2007 for new light-duty vehicles to 35 miles per gallon (mpg) by 2020. In May 2009, plans were announced to further increase CAFE standards to require light-duty vehicles to meet an average fuel economy of 35.5 mpg by 2016. In August 2012, fuel economy standards were further increased to 54.5 mpg for cars

and light-duty trucks by Model Year 2025; this will nearly double the fuel efficiency of those vehicles compared to new vehicles currently on our roads. With improved gas mileage, fewer gallons of transportation fuel would be combusted to travel the same distance, thereby reducing nationwide GHG emissions associated with vehicle travel.

3.2.2 State

The State of California has adopted a number of plans and regulations aimed at identifying statewide and regional GHG emissions caps, GHG emissions reduction targets, and actions and timelines to achieve the target GHG reductions.

3.2.2.1 Executive Orders and Statewide GHG Emission Targets

S-3-05

This Executive Order (EO) established the following GHG emission reduction targets for the State of California:

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

This EO also directs the secretary of the California EPA to oversee the efforts made to reach these targets, and to prepare biannual reports on the progress made toward meeting the targets and on the impacts to California related to global warming, including impacts to water supply, public health, agriculture, the coastline, and forestry. With regard to impacts, the report shall also prepare and report on mitigation and adaptation plans to combat the impacts. The first Climate Action Team Assessment Report was produced in March 2006, and has been updated every two years.

B-30-15

This EO, issued on April 29, 2015, establishes an interim GHG emission reduction goal for the state of California by 2030 of 40 percent below 1990 levels. This EO also directed all state agencies with jurisdiction over GHG-emitting sources to implement measures designed to achieve the new interim 2030 goal, as well as the pre-existing, long-term 2050 goal identified in EO S-3-05. Additionally, this EO directed CARB to update its Climate Change Scoping Plan to address the 2030 goal. Therefore, in the coming months, CARB is expected to develop statewide inventory projection data for 2030, as well as commence its efforts to identify reduction strategies capable of securing emission reductions that allow for achievement of the EO's new interim goal.

3.2.2.2 Assembly Bill 32—California Global Warming Solutions Act

In response to EO S-3-05, the California Legislature passed Assembly Bill (AB) 32, the California Global Warming Solutions Act of 2006, and thereby enacted Sections 38500–38599 of the California Health and Safety Code. The heart of AB 32 is its requirement that CARB establish an emissions cap and adopt rules and regulations that would reduce GHG emissions to 1990 levels by 2020. AB 32 also required CARB to adopt a plan by January 1, 2009 indicating how emission reductions would be achieved from significant GHG sources via regulations, market mechanisms, and other actions.

3.2.2.3 Senate Bill 32 – California Global Warming Solutions Act: Emissions Limit

In August 2016, the California Legislature approved Senate Bill (SB) 32; and in September 2016, it was signed by the governor. Under SB 32, the state would reduce its GHG emissions to 40 percent below 1990 levels by 2030. SB 32 is tied to AB 197, which would establish a legislative oversight committee to which the chair of CARB would report once a year, and would add two members of the legislature to the air board. Additionally, in implementing the 40 percent reduction target, AB 197 would require CARB to prioritize emissions reductions to consider the social costs of the emissions of GHGs. AB 197 defines "social costs" to mean "an estimate of the economic damages, including, but not limited to, changes in net agricultural productivity; impacts to public health; climate adaptation impacts, such as property damages from increased flood risk; and changes in energy system costs, per metric ton of GHG emission per year."

3.2.2.4 Climate Change Scoping Plan

As directed by the California Global Warming Solutions Act of 2006, in 2008, CARB adopted the *Climate Change Scoping Plan: A Framework* for Change (2008 Scoping Plan). The 2008 Scoping Plan identifies the main strategies the State of California will implement to achieve the GHG reductions necessary to reduce statewide forecasted business as usual (BAU) GHG emissions in 2020 to the state's historic 1990 emissions level.

In 2008, as part of its adoption of the 2008 Scoping Plan, CARB estimated that annual statewide GHG emissions were 427 MMT CO_2E in 1990 and would reach 596 MMT CO_2E by 2020 under a BAU condition (CARB 2008). To achieve the mandate of AB 32, CARB determined that a 169 MMT CO_2E (or approximate 28.3 percent) reduction in BAU emissions was needed by 2020. The 2020 emissions estimate used in the 2008 Scoping Plan was developed using pre-recession data and reflects GHG emissions expected to occur in the absence of any reduction measures in 2010 (CARB 2011a). The majority of reductions are directed at the sectors with the largest GHG emissions contributions—transportation and electricity generation—and involve statutory mandates affecting vehicle or fuel manufacture, public transit, and public utilities.

Most recently, in 2014, CARB adopted the First Update to the Climate Change Scoping Plan: Building on the Framework (2014 Scoping Plan; CARB 2014b). The 2014 Scoping Plan "highlights California's success to date in reducing its GHG emissions and lays the foundation for establishing a broad framework for continued emission reductions beyond 2020, on the path to 80 percent below 1990 levels by 2050" (CARB 2014b). The 2014 Scoping Plan found that California is on track to meet the 2020 emissions reduction mandate established by AB 32, and noted that California could reduce emissions further by 2030 to levels squarely in line with those needed to stay on track to reduce emissions to 80 percent below 1990 levels by 2050 if the State realizes the expected benefits of existing policy goals (CARB 2014b).

In conjunction with the 2014 Scoping Plan, CARB identified "six key focus areas comprising major components of the State's economy to evaluate and describe the larger transformative actions that will be needed to meet the State's more expansive emission reduction needs by 2050" (CARB 2014b). Those six areas are: (1) energy; (2) transportation (vehicles/equipment, sustainable communities, housing, fuels, and infrastructure); (3) agriculture; (4) water; (5) waste management; and (6) natural and working lands. The 2014 Scoping Plan identifies key recommended actions for each sector that will facilitate achievement of the 2050 reduction target.

Based on CARB's research efforts, it has a "strong sense of the mix of technologies needed to reduce emissions through 2050" (CARB 2014b). Those technologies include energy demand reduction through efficiency and activity changes; large-scale electrification of on-road vehicles, buildings, and industrial machinery; decarbonizing electricity and fuel supplies; and, the rapid market penetration of efficient and clean energy technologies.

As part of the 2014 Scoping Plan, CARB recalculated statewide 1990 emissions level using updated GWPs identified by the Intergovernmental Panel on Climate Change. Using the recalculated 1990 emissions level and the revised 2020 emissions level projection identified in the 2011 Final Supplement, CARB determined that achieving the 1990 emissions level by 2020 would require a reduction in GHG emissions of approximately 15 percent (instead of 28.5 percent or 16 percent) from the BAU conditions.

The 2014 Scoping Plan included a strong recommendation from CARB for setting a mid-term statewide GHG emissions reduction target. CARB specifically recommended that the mid-term target be consistent with: (i) the United States' pledge to reduce emissions 42 percent below 2005 levels (which translates to a 35 percent reduction from 1990 levels in California); and (ii) the long-term policy goal of reducing emissions to 80 percent below 1990 levels by 2050. However, to date, there is no legislative authorization for a post-2020 GHG reduction target, and CARB has not established such a target.

The 2014 Scoping Plan discusses new residential and commercial building energy efficiency improvements, specifically identifying progress towards zero net energy buildings by 2020 for residential buildings and 2030 for commercial buildings, as an element of meeting mid-term and long-term GHG reduction goals. The 2014 Scoping Plan expresses CARB's commitment to working with the California Public Utilities Commission and California Energy Commission (CEC) to facilitate further achievements in building energy efficiency.

The 2008 Scoping Plan and the 2014 Scoping Plan represent important milestones in California's efforts to reduce GHG emissions statewide. The law also requires the Scoping Plan to be updated every five years. The Scoping Plan process, as stated, is also thorough and encourages public input and participation.

3.2.2.5 California Advanced Clean Car Program

The Advanced Clean Cars (ACC) program, adopted January 2012, combines the control of smog, soot causing pollutants and greenhouse gas emissions into a single coordinated package of requirements for model years 2015 through 2025. Accordingly, the Advanced Clean Cars program coordinates the goals of the Pavley, low emissions vehicle (LEV), zero emission vehicle (ZEV), and Clean Fuels Outlet (CFO) programs in order to lay the foundation for the commercialization and support of these ultra-clean vehicles.

AB 1493 (Pavley) directed CARB to adopt vehicle standards that lowered GHG emissions from passenger vehicles and light-duty trucks to the maximum extent technologically feasible, beginning with the 2009 model year. CARB has adopted amendments to its regulations that would enforce AB 1493, but provide vehicle manufacturers with new compliance flexibility.

CARB has also adopted a second phase of the Pavley regulations, originally termed "Pavley II" but now called the Low Emission Vehicle III" (LEV III) Standards or Advanced Clean Cars Program, that covers model years 2017 to 2025. CARB estimates that LEV III will reduce vehicle GHGs by an additional 4.0 MMT CO_2E for a 2.4 percent reduction over Pavley I. These reductions come from improved vehicle technologies such as smaller engines with superchargers, continuously variable transmissions, and hybrid electric drives. On August 7, 2012, the final regulation for the adoption of LEV III became effective.

The ZEV regulation affects passenger cars and light-duty trucks and is a critical regulation for achieving California's air quality goals and GHG reduction requirements. ZEV was originally part of the LEV program; however, CARB established the ZEV program as a stand-alone regulation in 1999. The ZEV program will act as the focused technology of the Advanced Clean Cars program by requiring manufacturers to produce increasing numbers of ZEVs and plug-in hybrid electric vehicles in the 2018–2025 model years.

On December 8, 2011, CARB proposed an update to the CFO regulation to facilitate hydrogen fueling stations. The CFO is part of CARB's overall program of promoting clean cars and advanced technology ZEVs.

3.2.2.6 Low Carbon Fuel Standard

EO S-01-07 directed that a statewide goal be established to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020 through a Low Carbon Fuel Standard (LCFS). LCFS promotes the use of GHG-reducing transportation fuels, e.g. liquid biofuels, renewable natural gas, electricity, and hydrogen, through a declining carbon intensity standard. The carbon intensity of a fuel is a measure of the GHG emissions associated with the production, distribution, and consumption of a fuel. CARB approved

LCFS in 2009 and implemented it in 2010 as an early action measure under AB 32. Subsequently CARB approved amendments to the LCFS, which began implementation January 1, 2013. Due to a court ruling that found procedural issues related to the original adoption of the LCFS, CARB re-adopted the LCFS regulation in September 2015, which went into effect on January 1, 2016. The program establishes a strong framework to promote the low carbon fuel adoption necessary to achieve the Governor's 2030 and 2050 greenhouse gas goals (CARB 2016).

3.2.2.7 Regional Emissions Targets – Senate Bill 375

SB 375, the 2008 Sustainable Communities and Climate Protection Act, was signed into law in September 2008 and requires CARB to set regional targets for reducing passenger vehicle GHG emissions in accordance with the Scoping Plan. The purpose of SB 375 is to align regional transportation planning efforts, regional GHG reduction targets, and fair-share housing allocations under state housing law. SB 375 requires Metropolitan Planning Organizations (MPOs) to adopt a Sustainable Communities Strategy or Alternative Planning Strategy to address GHG reduction targets from cars and light-duty trucks in the context of that MPO's Regional Transportation Plan. San Diego Association of Governments (SANDAG) is the San Diego region's MPO. The CARB targets for the SANDAG region require a 7 percent reduction in GHG emissions per capita from automobiles and light duty trucks compared to 2005 levels by 2020, and a 13 percent reduction by 2035.

3.2.2.8 Renewables Portfolio Standard

The Renewables Portfolio Standard (RPS) promotes diversification of the state's electricity supply and decreased reliance on fossil fuel energy sources. Originally adopted in 2002 with a goal to achieve a 20 percent renewable energy mix by 2020 (referred to as the "Initial RPS"), the goal has been accelerated and increased by EOs S-14-08 and S-21-09 to a goal of 33 percent by 2020. In April 2011, SB 2 (1X) codified California's 33 percent RPS goal. In September 2015, the California Legislature passed SB 350, which increases California's renewable energy mix goal to 50 percent by year 2030. Renewable energy includes (but is not limited to) wind, solar, geothermal, small hydroelectric, biomass, anaerobic digestion, and landfill gas.

3.2.2.9 Assembly Bill 341 – Solid Waste Diversion

The Commercial Recycling Requirements mandate that businesses (including public entities) that generate 4 cubic yards or more of commercial solid waste per week and multi-family residential with five units or more arrange for recycling services. Businesses can take one or any combination of the following in order to reuse, recycle, compost, or otherwise divert solid waste from disposal.

Additionally, AB 341 mandates that 75 percent of the solid waste generated be reduced, recycled, or composted by 2020.

3.2.2.10 California Code of Regulations, Title 24 – California Building Code

The California Code of Regulations, Title 24, is referred to as the California Building Code (CBC). It consists of a compilation of several distinct standards and codes related to building construction including plumbing, electrical, interior acoustics, energy efficiency, handicap accessibility, and so on. Of particular relevance to GHG reductions are the CBC's energy efficiency and green building standards.

Part 6 – Energy Efficiency Standards

The California Code of Regulations, Title 24, Part 6 is the Energy Efficiency Standards or California Energy Code. This code, originally enacted in 1978, establishes energy efficiency standards for residential and non-residential buildings in order to reduce California's energy consumption. The Energy Code is updated periodically to incorporate and consider new energy efficiency technologies and methodologies as they become available. New construction and major renovations must demonstrate their compliance with the current Energy Code through submission and approval of a Title 24 Compliance Report to the local building permit review authority and the CEC. By reducing California's energy consumption, emissions of statewide GHGs may also be reduced. The previous Energy Code, known as the 2008 Energy Code, became effective January 1, 2010. The 2008 Energy Code required energy savings of 15 to 35 percent above the former 2005 Energy Code, which is relevant as the original GHG inventory for the state was based on the 2005 Energy Code.

The current version of the Energy Code, known as the 2013 Energy Code, became effective July 1, 2014. The 2013 Energy Code provides mandatory energy-efficiency measures as well as voluntary tiers for increased energy efficiency. Based on an impact analysis prepared by the CEC, the 2013 Energy Code has been estimated to achieve a 36.4 percent increase in electricity efficiencies and a 6.5 percent increase in natural gas efficiencies over the 2008 Energy Code (CEC 2013). The same report estimates increased efficiencies for multi-family residences of 23.3 percent for electricity use and 3.8 percent for natural gas use. Non-residential structures are estimated to achieve a 21.8 and 16.8 percent increase in electricity and natural gas efficiencies, respectively. The 2016 Energy Code becomes effective January 1, 2017. It is estimated that the 2016 Energy Code will achieve up to a 28 percent increase in energy efficiencies over 2013 standards for single-family residential uses.

Part 11 – California Green Building Standards

The California Green Building Standards Code, referred to as CalGreen, was added to Title 24 as Part 11 first in 2009 as a voluntary code, which then became mandatory effective January 1, 2011 (as part of the 2010 CBC). The 2013 CalGreen institutes mandatory minimum environmental performance standards for all ground-up new construction of non-residential and residential structures. It also includes voluntary tiers (I and II) with stricter environmental performance standards for these same categories of residential and

non-residential buildings. Local jurisdictions must enforce the minimum mandatory Green Building Standards and may adopt additional amendments for stricter requirements.

The mandatory standards require:

1. 20 percent reduction in indoor water use relative to specified baseline levels;
2. 50 percent construction/demolition waste diverted from landfills;
3. Inspections of energy systems to ensure optimal working efficiency;
4. Low-pollutant emitting exterior and interior finish materials such as paints, carpets, vinyl flooring, and particleboards;
5. Dedicated circuitry to facilitate installation of electric vehicle charging stations in newly constructed attached garages for single family and duplex dwellings; and
6. Installation of electric vehicle charging stations at least three percent of the parking spaces for all new multi-family developments with 17 or more units.

Similar to the compliance reporting procedure for demonstrating Energy Code compliance in new buildings and major renovations, compliance with the CalGreen water reduction requirements must be demonstrated through completion of water use reporting forms for new low-rise residential and non-residential buildings. The water use compliance form must demonstrate a 20 percent reduction in indoor water use by either showing a 20 percent reduction in the overall baseline water use as identified in CalGreen or a reduced per-plumbing-fixture water use rate.

3.2.3 Local

3.2.3.1 San Marcos General Plan

The General Plan, adopted in 2012, provides a basis for decision-making for land use and development actions. It consists of an organized set of goals, policies, and implementation programs that guide both the distribution of land uses and the way land is used. In regards to climate change, the Conservation and Open Space Element of the General Plan identifies Goal COS-4, to improve regional air quality and reduce GHG emissions that contribute to climate change. To achieve this goal, Policy COS-4.4 directs the City to implement measures to reduce GHG emissions, and includes the following language:

> Quantify community-wide and municipal GHG emissions, set a reduction goal, identify and implement measures to reduce GHG emissions as required to by governing legislation.

The Implementation Plan for the General Plan specifically calls for development of a CAP. Implementation Program COS-4.2 reads:

> Develop a Climate Action Plan for reducing GHG emissions to meet state requirements. Components of the plan should include:
>
> 1. Quantify GHG emissions, both existing and projected, over a specified time period;
>
> 2. Establish a level below which the contributions to GHG emissions from activities covered by the plan would not be cumulatively considerable;
>
> 3. Identify and analysis the GHG emissions resulting from specific actions or categories of actions anticipated within the geographic area;
>
> 4. Specify strategies and measures to be implemented at the project level that would collectively achieve the specified emission level;
>
> 5. Establish a program for monitoring and reporting results.

3.2.3.2 San Marcos Climate Action Plan

The City CAP addresses major sources of GHG emissions in the City and sets forth a detailed and long-term strategy that the City and community can implement to achieve GHG emissions reduction targets. The CAP fulfills General Plan Goal COS-4 and Implementation Program COS-4.2. Implementation of the CAP supports the state's emission reduction targets. The City has adopted a reduction target of 15 percent below 2005 baseline emission levels by the year 2020, and 28 percent below 2005 baseline emission levels by the year 2030. To reach this target, the CAP identifies a comprehensive set of climate action measures associated with local government operations, energy, transportation and land use, off-road equipment, water and wastewater, solid waste, urban greening, community education and outreach, and adaptation. The measures identified in the CAP have the potential to reduce GHG emissions within the City by 64,876 MT CO_2E by 2020 and 148,731 MT CO_2E by 2030 (City of San Marcos 2013).

4.0 Significance Criteria and Analysis Methodologies

4.1 Determining Significance

The California Environmental Quality Act (CEQA) Guidelines, Appendix G Environmental Checklist, includes the following two questions regarding assessment of GHG emissions:

1) Would the project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?

2) Would the project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emission of GHGs?

As stated in the CEQA Guidelines, these questions are "intended to encourage thoughtful assessment of impacts and do not necessarily represent thresholds of significance" (Title 14, Division 6, Chapter 3 Guidelines for Implementation of the CEQA, Appendix G, Environmental Checklist Form).

The CEQA Guidelines require Lead Agencies to adopt GHG thresholds of significance. When adopting these thresholds, the amended Guidelines allow Lead Agencies to develop their own significance thresholds and/or to consider thresholds of significance adopted or recommended by other public agencies, or recommended by experts, provided that the thresholds are supported by substantial evidence.

Appendix E.1 of the City's CAP provides a consistency worksheet that can be used to demonstrate project compliance with the CAP. If it is determined that a project is not consistent with the CAP, further analysis is required to demonstrate that the project's GHG emissions fall below the GHG thresholds provided in Appendix E.2 of the CAP. The project is required to demonstrate that it would not substantially interfere with implementation of the CAP.

To demonstrate that a project does not interfere with the CAP, it must demonstrate that it would achieve a project-level GHG efficiency threshold of 2.76 MT CO_2E per service population (resident and employee) for projects built by 2020 and 1.93 MT CO_2E per service population for projects built after 2020. According to Appendix E.1, emissions rates below these levels indicate that the project's GHG emissions are less than significant and the project would not interfere with the City's CAP. It is important to note that the GHG thresholds would apply only to net new emissions associated with new projects. Though existing development is responsible for some share of the City's GHG emissions, the City has developed measures to reduce emissions from existing development as part of this CAP. Net new emissions include only those emissions attributed to the project and take into account emissions displaced by the project. Depending on the characteristics of the project, net new emissions could be positive, neutral, or negative.

4.2 Methodology and Assumptions

To evaluate the project's net GHG emissions, emissions were calculated using the CalEEMod version 2013.2.2 released in September 2013 by CAPCOA (CAPCOA 2013). CalEEMod was developed with the participation of several state air districts, including the San Diego Air Pollution Control District. CalEEMod can be used to calculate emissions from construction (off-road vehicles), mobile (on-road vehicles), area (fireplaces, consumer products [cleansers, aerosols, solvents], landscape maintenance equipment, architectural coatings), water and wastewater, and solid waste sources. GHG emissions are estimated in terms of total MT CO_2E. Emissions were calculated for project operation in year 2020.

The analysis methodology and input data are described in the following sections. Where project-specific data was not available, model inputs were based on information provided in the CalEEMod User's Guide (CAPCOA 2013). Specific site plans and construction schedules are not available at this time. Thus, the project was modeled with an operational year of 2020 to parallel the year of the City and State GHG reduction goals. GHG emissions associated with the existing use on site were also projected to year 2020 for the calculation of the net increase in emissions.

4.2.1 Construction Emissions

Construction activities emit GHGs primarily though combustion of fuels (mostly diesel) in the engines of off-road construction equipment and through combustion of diesel and gasoline in on-road construction vehicles and the commute vehicles of the construction workers. Smaller amounts of GHGs are also emitted through the energy use embodied in water use for fugitive dust control.

Every phase of the construction process, including demolition, grading, paving, and building, emits GHGs in volumes directly related to the quantity and type of construction equipment used. GHG emissions associated with each phase of project construction are calculated by multiplying the total fuel consumed by the construction equipment and worker trips by applicable emission factors. The number and pieces of construction equipment are calculated based on the project-specific design. In the absence of project-specific construction information, equipment for all phases of construction is estimated based on the size of the land use.

Construction emissions were modeled assuming construction would begin in January 2017 and last for approximately one year. The project would include the demolition of the existing multi-family buildings which total approximately 102,800 square feet. Construction emissions are calculated for construction activity based on the construction equipment profile and other factors determined as needed to complete all phases of construction. Based on guidance from the South Coast Air Quality Management District (SCAQMD), total construction GHG emissions resulting from a project should be amortized over 30 years and added to operational GHG emissions to account for their contribution to GHG emissions over the lifetime of a project (SCAQMD 2009).

4.2.2 Vehicle Emissions

GHG emissions from vehicles come from the combustion of fossil fuels in vehicle engines. The vehicle emissions are calculated based on the vehicle type and the trip rate for each land use. The vehicle emission factors and fleet mix used in CalEEMod are derived from CARB's 2011 Emission Factors model, which includes GHG reducing effects from the implementation of Pavley I (Clean Car Standards) and the Low Carbon Fuel Standard, and are thus considered in the calculation of standards for project emissions. The emissions from mobile sources were reduced by an additional 3 percent to account for implementation of LEV III and the Tire Pressure Program.

Using a weekday trip generation rate of 6 trips per unit (SANDAG 2002), the project would generate 888 average daily trips. Based on regional data compiled by CARB as part of the emission factor model, the average regional trip length for all trips in San Diego County is 5.8 miles (CARB 2011b). The project is near the Sprinter light rail system, which connects Oceanside, Vista, San Marcos, and Escondido along the State Route 78 corridor. The project is located 0.5-mile from the San Marcos Civic Center station. The proximity to this station was taken into account in the calculation of vehicle emissions.

4.2.3 Energy Emissions

GHGs are emitted as a result of activities in buildings for which electricity and natural gas are used as energy sources. GHGs are emitted during the generation of electricity from fossil fuels off-site in power plants. These emissions are considered indirect but are calculated in association with a building's operation. Electric power generation accounts for the second largest sector contributing to both inventoried and projected statewide GHG emissions. Combustion of fossil fuel emits criteria pollutants and GHGs directly into the atmosphere. When this occurs in a building, this is considered a direct emissions source associated with that building. CalEEMod estimates emissions from the direct combustion of natural gas for space and water heating.

CalEEMod estimates GHG emissions from energy use by multiplying average rates of residential and non-residential energy consumption by the quantities of residential units and non-residential square footage entered in the land use module to obtain total projected energy use. This value is then multiplied by electricity and natural gas GHG emission factors applicable to the project location and utility provider.

Building energy use is typically divided into energy consumed by the built environment and energy consumed by uses that are independent of the construction of the building such as plug-in appliances. In California, Title 24 governs energy consumed by the built environment, mechanical systems, and some types of fixed lighting. Non-building energy use, or "plug-in energy use," can be further subdivided by specific end-use (refrigeration, cooking, office equipment, etc.).

Energy consumption values are based on the CEC-sponsored California Commercial End Use Survey and Residential Appliance Saturation Survey studies, which identify energy use by building type and climate zone. Because these studies are based on older buildings, adjustments have been made in CalEEMod to account for changes to Title 24 Building Codes. CalEEMod is based on the 2008 Title 24 energy code (Part 6 of the Building Code).

As identified by the CEC, the Energy Code requires various improvements in the built environment that would achieve a 23.3 percent increase in electricity efficiency and a 3.8 percent increase in natural gas efficiency in multi-family residential buildings (CEC 2013). As discussed, the 2016 Energy Code becomes effective January 1, 2017 and would increase energy efficiencies over 2013 Energy Code standards. However, as a conservative analysis, GHG emissions associated with the project's energy use were calculated using 2013 Energy Code standards.

The project would be served by San Diego Gas & Electric (SDG&E). Therefore, SDG&E's specific energy-intensity factors (i.e., the amount of CO_2, CH_4, and N_2O per kilowatt-hour) are used in the calculations of GHG emissions. As discussed, the state mandate for renewable energy is 33 percent by 2020. However, the energy-intensity factors included in CalEEMod by default only represent a 10.2 percent procurement of renewable energy (SDG&E 2011). To account for the continuing effects of RPS through 2020, the energy-intensity factors included in CalEEMod were reduced by 22.8 percent. SDG&E energy intensity factors are shown in Table 5.

Table 5
San Diego Gas & Electric Intensity Factors

GHG	2009 (lbs/MWh)	2020 (lbs/MWh)
Carbon Dioxide (CO_2)	780.79	556.22
Methane (CH_4)	0.029	0.022
Nitrous Oxide (N_2O)	0.011	0.005

SOURCE: SDG&E 2011.
lbs = pounds
MWh = megawatt hour

4.2.4 Area Source Emissions

Area sources include GHG emissions that would occur from the use of landscaping equipment. The use of landscape equipment emits GHGs associated with the equipment's fuel combustion. The landscaping equipment emission values were derived from the 2011 In-Use Off-Road Equipment Inventory Model (CARB 2011c). Woodstoves and fireplaces are also considered area sources; however, the project would not include woodstoves or fireplaces.

4.2.5 Water and Wastewater Emissions

The amount of water used and wastewater generated by a project has indirect GHG emissions associated with it. These emissions are a result of the energy used to supply, distribute, and treat the water and wastewater. In addition to the indirect GHG emissions associated with energy use, wastewater treatment can directly emit both CH_4 and N_2O.

The indoor and outdoor water use consumption data for each land use subtype comes from the Pacific Institute's *Waste Not, Want Not: The Potential for Urban Water Conservation in California* 2003 (as cited in CAPCOA 2013). Based on that report, a percentage of total water consumption was dedicated to landscape irrigation, which is used to determine outdoor water use. Wastewater generation was similarly based on a reported percentage of total indoor water use (CAPCOA 2013).

The project would be subject to CalGreen, which requires a 20 percent increase in indoor water use efficiency. Thus, in order to demonstrate compliance with CalGreen, a 20 percent

reduction in indoor water use was included in the water consumption calculations for the project.

In addition to water reductions under CalGreen, the GHG emissions from the energy used to transport the water are affected by RPS. As discussed previously, to account for the effects of RPS through 2020, the energy-intensity factors included in CalEEMod were reduced by 22.8 percent (see Table 5).

4.2.6 Solid Waste Emissions

The disposal of solid waste produces GHG emissions from anaerobic decomposition in landfills, incineration, and transportation of waste. To calculate the GHG emissions generated by disposing of solid waste for the project, the total volume of solid waste was calculated using waste disposal rates identified by California Department of Resources Recycling and Recovery. The methods for quantifying GHG emissions from solid waste are based on the Intergovernmental Panel on Climate Change method, using the degradable organic content of waste. GHG emissions associated with the project's waste disposal were calculated using these parameters. According to a California Department of Resources Recycling and Recovery (CalRecycle) report to the Legislature, as of 2013 California has achieved a statewide 50 percent diversion of solid waste from landfills through "reduce/recycle/compost" programs (CalRecycle 2015). However, AB 341 mandates that 75 percent of the solid waste generated be reduced, recycled, or composted by 2020. Therefore, to account for the continuing actions of recycling requirements under state law (i.e., AB 341), a 25 percent solid waste diversion rate was included in the model.

4.2.7 GHG Emissions Modeling Summary

Table 6 provides a summary of the calculation methodology for each emission source calculated.

Table 6
Summary of GHG Emission Calculation Methodology

Source	Project Emission Calculation
Construction	Construction emissions were amortized over 30 years and added to operational emissions.
Vehicles	Vehicle emissions were calculated using vehicle emission factors for year 2020. Calculations also took into account proximity to the Sprinter light-rail system, LEV III, and the Tire Pressure Program.
Energy	Energy calculations include increased energy efficiency (23.3 percent over 2008 Energy Code standards for electricity and 3.8 percent for natural gas for multi-family residential buildings). Additionally, to account for the effects of RPS through 2020, the SDG&E energy-intensity factors included in CalEEMod were reduced by 22.8 percent.
Area	Area-source emissions were calculated based on standard landscaping equipment and quantities and consumer product emission factors. The project would not include woodstoves or fireplaces.

Table 6 Summary of GHG Emission Calculation Methodology	
Source	Project Emission Calculation
Water	A 20 percent increase in indoor water use efficiency was included in the water consumption calculations in accordance with 2013 CalGreen standards. Additionally, to account for the effects of RPS through 2020, the SDG&E energy-intensity factors included in CalEEMod were reduced by 22.8 percent.
Solid Waste	Emissions were calculated using standard generation rates and emission factors, which are based on California Department of Resources Recycling and Recovery waste generation rates. To account for the continuing actions of recycling requirements under state law (i.e., AB 341), a 25 percent solid waste diversion rate was included in the model.

5.0 GHG Impact Analysis

In accordance with CEQA and City GHG guidance, this report evaluates the significance of the project in terms of (1) its contribution of GHGs to cumulative statewide emissions and (2) whether the project would conflict with local and state regulations, plans, and policies aimed at reducing GHG emissions.

5.1 GHG Emissions

5.1.1 Impacts

As discussed, Appendix E.1 of the City's CAP provides a consistency worksheet that can be used to demonstrate project compliance with the CAP. If it is determined that a project is not consistent with the CAP, further analysis is required to demonstrate that the project's GHG emissions fall below the GHG thresholds provided in Appendix E.2 of the CAP. The project is required to demonstrate that it would not substantially interfere with implementation of the CAP.

Table 7 summarizes the project's consistency with CAP measures. Overall, the project would generally be consistent with the measures provided in the CAP consistency worksheet. However, the project proposes a General Plan Amendment and Rezone to change the land-use designation to Specific Plan Area (SPA) with an increased density of 36.5 dwelling units per acre. This increase in density is not consistent with Measure T-1: Smart Growth. Therefore, using the methodology summarized in Section 4.2, Methodology and Assumptions, the primary sources of direct and indirect GHG emissions have been calculated and compared to the CAP significance thresholds. Table 8 summarizes the existing emissions, project emissions, and net increase in emissions. The complete model outputs for the project are included in Attachment 2.

Table 7 Climate Action Plan Consistency Worksheet				
Measure Name	Project Actions	Mandatory or Voluntary	Project Compliance (Yes/No/NA)	Description/Details
E-2: Energy Efficient New Construction	Does the project incorporate all feasible energy efficiency measures identified in General Plan EIR Mitigation Measure GHG-5? (*listed below*) • Install solar water heaters. • Require HVAC duct sealing and periodic inspection. • Install efficient lighting in all buildings (including residential). Also install lighting control systems, where practical. Maximize daylight as an integral part of lighting systems in all buildings. • Install cool roof materials (albedo ≥ 30). • Install light-colored "cool" pavements, and strategically locate shade trees along all bicycle and pedestrian routes.	Mandatory	Yes	Smart Meters, HVAC duct sealing, efficient lighting, solar PV, and shade trees.
	Does the project exceed 2013 Title 24 Building Energy Efficiency Standards?	Voluntary	Yes	The project would be constructed consistent with 2016 Title 24 Building Energy Efficiency Standards. The project would also achieve Leadership in Energy and Environmental Design (LEED) Gold Certification
	Does the project include Zero Net Energy buildings?	Mandatory (for residential projects built after 2020, otherwise voluntary)	No	The project would include solar PV panels to meet energy demand for common area lighting. Buildings would not be zero net energy. Construction is anticipated to be complete prior to 2020.
	Will the project achieve LEED, GreenPoint, or other green building certifications?	Voluntary	Yes	The project would achieve LEED Gold Certification.
E-4: Smart Meters	Will smart meters be installed as part of the project, consistent with General Plan EIR Mitigation Measures GHG-5? (*listed below*) • Encourage the use of smart meters and require programmable thermostats.	Mandatory	Yes	The project would include smart meters.

Table 7 Climate Action Plan Consistency Worksheet				
Measure Name	Project Actions	Mandatory or Voluntary	Project Compliance (Yes/No/NA)	Description/Details
	Will programmable thermostats be installed as part of the project, consistent with General Plan EIR Mitigation Measure GHG-5? (*listed below*) • Encourage the use of smart meters and require programmable thermostats.	Mandatory	Yes	The project would include programmable thermostats.
E-5: On-Site Small-scale Solar Energy	Does the project incorporate all feasible renewable energy measures identified in General Plan Mitigation Measure GHG-5? (*listed below*) If so, what type of and how much renewable energy would be generated? • Install clean alternative energy features to promote energy self-sufficiency (e.g., photovoltaic cells, solar thermal electricity systems, small wind turbines).	Mandatory	Yes	The project would include solar PV panels to meet energy demand for common area lighting. The project would also exceed 2013 Title 24 Building Energy Efficiency Standards, install smart meters, HVAC duct sealing, efficient lighting, and shade trees.
T-1: Smart Growth	Is the project consistent with the land use designation(s) shown on the General Plan Citywide Land Use map (August 2012) and with the applicable General Plan Land Use and Community Design Element policies?	Mandatory	No	The project proposes a General Plan Amendment and Rezone to change the land-use designation to Specific Plan Area (SPA) with a density of 36.5 dwelling units per acre. Although the project would increase the density of the project site over what is specified in the General Plan, as demonstrated in this analysis, the project's GHG emissions fall below the GHG significance thresholds established in the CAP.
	Is the project generally consistent with applicable design guidelines and SANDAG Smart Growth publications, including Designing for Smart Growth, Creating Great Places in the San Diego Region (2009) and Planning and Designing for Pedestrians, Model Guidelines for the San Diego Region (2002)?	Mandatory	Yes	The principles in SANDAG Smart Growth publications promote pedestrian friendly development. The project objectives are to create a pedestrian scaled residential neighborhood. The project is also located in an area served by transit and mixed uses. The project is less than 0.10 mile from the Mission Road and San Marcos Street bus station and within 0.5 mile of the Sprinter light rail transit station at Mission Road and San Marcos Boulevard. These principles are consistent with SANDAG Smart Growth publications.

Table 7 Climate Action Plan Consistency Worksheet				
Measure Name	Project Actions	Mandatory or Voluntary	Project Compliance (Yes/No/NA)	Description/Details
	Does the project provide non-motorized connections to and reduce barriers between neighborhoods, activity centers, and transit corridors contiguous to site, consistent with the General Plan?	Mandatory	Yes	The project is less than 0.10 mile from the Mission Road and San Marcos Street bus station and within 0.5 mile of the Sprinter light rail transit station at Mission Road and San Marcos Boulevard. The project development standards encourage a pedestrian-oriented neighborhood pattern.
	Does the project incorporate any "smart parking" techniques, such as shared parking, collective parking, park once strategies, or in lieu parking fees, as allowed by the Municipal Code?	Voluntary	NA	NA
T-2: Bicycle and Pedestrian Environment	Does the project incorporate bicycle facilities and a connected bicycle network, consistent with the General Plan and as specified in the Municipal Code?	Mandatory	Yes	The project is designed consistent with the bicycle parking requirements from Municipal Code Section 20.340.090. The project is designed consistent with the Municipal Code with respect to bike lanes and bicycle network.
	Does the project meet the City's minimum design criteria for pedestrian circulation?	Mandatory	Yes	The project proposes a multifamily residential development and is therefore subject to requirements from Municipal Code Section 20.215.070; these requirements include provision of pedestrian paths and pedestrian crossings along main drives. The project is designed consistent with the Municipal Code for pedestrian circulation.
	Does the project include fair share payments to mitigate any impacts to pedestrian and bicycle facilities, consistent with the General Plan and General Plan EIR?	Mandatory	NA	The project would not have and impacts to pedestrian or bicycle facilities.
	In areas that have or will have high levels of pedestrian activity, does the project support safe pedestrian travel by providing detached sidewalks, bulb-outs, enhanced pedestrian crossings, pedestrian bridges, medians, and/or other traffic calming features, consistent with the General Plan?	Mandatory	NA	The project would serve future residents and would not have high levels of pedestrian activity.
	Does the project incorporate pedestrian or bicycle facilities and/or amenities beyond those required?	Voluntary	NA	NA

Table 7 Climate Action Plan Consistency Worksheet				
Measure Name	Project Actions	Mandatory or Voluntary	Project Compliance (Yes/No/NA)	Description/Details
T-3: Transit Travel	Does the project provide or pay its fair share of bus turnouts and shelters where transit demand warrants such improvements?	Mandatory	NA	Project traffic demand does not warrant improvements to bus turnouts or shelters.
	Does the project incorporate non-motorized connections to and reduce barriers between transit stops contiguous to the project site?	Mandatory	Yes	The project is less than 0.10 mile from the Mission Road and San Marcos Street bus station and within 0.5 mile of the Sprinter light rail transit station at Mission Road and San Marcos Boulevard. There are existing connections between the project and near-by transit stops.
	Is the project located at a transit node and/or along a transit corridor? If so, does it meet planning and design standards to generate, attract, and facilitate transit ridership?	Mandatory	Yes	The project is less than 0.10 mile from the Mission Road and San Marcos Street bus station and within 0.5 mile of the Sprinter light rail transit station at Mission Road and San Marcos Boulevard.
T-4: Commute Trip Reduction	Will the project implement transportation demand management requirements specified in the Municipal Code?	Mandatory	NA	The project is not a major non-residential development and therefore would not be subject to transportation demand management requirements from Municipal Code Section 20.340.050(D).
	Does the project annex into a Congestion Management Community Facilities District, as required by the General Plan?	Mandatory	Yes	The project would not expand the Congestion Management Facilities District or subdivide project parcels so as to increase the number of parcels within the Congestion Management Facilities District. All requirements of the General Plan would be implemented.
T-5: Traffic Flow and Vehicle Idling	Will the project, as applicable, provide signage at loading and unloading sites regarding vehicle idling limits?	Mandatory	NA	NA
	Does the project incorporate roundabouts as an intersection control device where feasible?	Mandatory	NA	The project does not include signalized intersections.
T-6: Low Carbon/ Alternative Fuel Vehicles	Does the project provide or exceed the minimum number of plug-in electric vehicle recharge stations identified in the Municipal Code?	Mandatory	Yes	All requirements of the Municipal Code would be implemented.
	Does the project include the installation of compressed natural gas or other alternative fueling stations?	Voluntary	No	The project would not include the installation of an alternative fueling station.

Table 7 Climate Action Plan Consistency Worksheet				
Measure Name	Project Actions	Mandatory or Voluntary	Project Compliance (Yes/No/NA)	Description/Details
O-1: Construction Equipment Efficiency and Fuels	Will 15% of construction vehicles and equipment utilize new technologies (repowered engines, electric drive trains), use CARB-approved low carbon fuel, or are electrically-powered by 2020? Note: percentage would increase to 20% for projects built after 2020.	Mandatory	Yes	Per the requirement, at least 15 percent of construction vehicles would meet the requirements of O-1.
	Will the contractor limit idling of construction equipment to three minutes and post clear signs for workers at the entrances to the site?	Mandatory	Yes	The project would meet the requirements of O-1 and will identify these requirements for construction on the grading plan and bid packages so contractors are aware of these requirements.
	If the project involves demolition or exterior construction, does it incorporate all feasible actions required by General Plan EIR Mitigation Measures AQ-1 and GHG-1? (*listed below*) • Improve fuel efficiency of construction equipment: o Reduce unnecessary idling; o Perform equipment maintenance; o train equipment operators in proper use of equipment; o Use the proper size of equipment for the job; and use equipment with new technologies. • Use alternative fuels for electricity generators and welders at construction sites such as propane or solar, or use electrical power. • Use an ARB-approved low-carbon fuel, such as biodiesel or renewable diesel for construction equipment. Emissions of NO_X from the use of low carbon fuel must be reviewed and increases mitigated. Additional information about low-carbon fuels is available from ARB's Low Carbon Fuel Standard Program.	Mandatory	Yes	The project would include demolition and exterior construction. The project would meet the requirements of AQ-1 and GHG-1, and will identify these requirements for construction on the grading plan and bid packages so contractors are aware of these requirements.

Table 7 Climate Action Plan Consistency Worksheet				
Measure Name	Project Actions	Mandatory or Voluntary	Project Compliance (Yes/No/NA)	Description/Details
	• Reduce electricity use in the construction offices by using compact fluorescent bulbs, powering off computers every day, and replacing heating and cooling units with more efficient ones. • Recycle or salvage nonhazardous construction and demolition debris. • Use locally sourced or recycled materials for construction materials. • Develop a plan to efficiently use water for adequate dust control. This may consist of the use of non-potable water from a local source.			
O-2: Lawn and Garden Equipment	Does the project incorporate low-maintenance native landscaping consistent with the Municipal Code?	Mandatory	Yes	The project would be subject to Landscaping Standards from Municipal Code Section 20.330.040; these requirements include even dispersion of landscaped setbacks and parking lots consisting of a combination of trees, shrubs, and ground cover emphasizing drought-tolerant landscaping. The landscape plant list consists of drought tolerant plants.
W-1: Exceed SB X7-7 Water Conservation Target	Does the project incorporate all feasible water conservation and efficiency measures identified in General Plan EIR Mitigation Measure GHG-5? (*listed below*) • With the exception of ornamental shade trees, use water-efficient landscapes with native, drought-resistant species in all public areas and commercial landscaping. Use water-efficient turf in parks and other turf-dependent spaces. • Install water-efficient irrigation systems and devices, such as soil moisture-based irrigation controls. • Design buildings and lots to be water-efficient. Only install water-efficient fixtures and appliances.	Mandatory	Yes	The project landscaping would include drought-resistant species. All interior fixtures and appliances would be water efficient. The project would be subject to Landscaping Standards from Municipal Code Section 20.330.070(F); these requirements include installation of weather-based irrigation controllers or soil moisture-based controllers. The project would comply with applicable municipal code requirements.

Table 7 Climate Action Plan Consistency Worksheet				
Measure Name	Project Actions	Mandatory or Voluntary	Project Compliance (Yes/No/NA)	Description/Details
	Does the project include a finding that all feasible and cost-effective options for conservation and water reuse are incorporated into the project design, consistent with General Plan EIR Mitigation Measure HWQ-4? (*listed below*) • Require low-flow appliances and fixtures in all new development; • Encourage use of drought-tolerant and native vegetation. • Require development project approvals to include a finding that feasible and cost-effective options for conservation and water reuse are incorporated into project design including graywater systems. Implementation of graywater systems are required to meet all DHS, building, plumbing, and SDRWQCB requirements to avoid water quality impacts	Mandatory	Yes	The project landscaping would include drought-resistant species. All interior fixtures and appliances would be water efficient.
	Does the project include drought tolerant landscaping, consistent with General Plan EIR Mitigation Measure HWQ-3? (*listed below*) • Require new development and redevelopment to incorporate drought tolerant landscaping in parks and open spaces within new rights-of-way, in yards, and other appropriate places.	Mandatory	Yes	The project landscaping would include drought-resistant species.
W-2: Recycled Water	Does the project meet the City's dual plumbing requirements identified in the Municipal Code?	Mandatory	Yes	The project plumbing requirements meet the Municipal Code requirements.

Table 7 Climate Action Plan Consistency Worksheet				
Measure Name	Project Actions	Mandatory or Voluntary	Project Compliance (Yes/No/NA)	Description/Details
	Does the project incorporate state-of-the-art irrigation systems that reduce water consumption, including graywater systems, if feasible, and rainwater catchment, consistent with General Plan EIR Mitigation Measure HWQ-4? (*listed below*) • Require new development and landscaped public areas to utilize state-of-the-art irrigation systems that reduce water consumption including graywater systems, where feasible, and rainwater catchment	Mandatory	Yes	The project would be subject to Landscaping Standards from Municipal Code Section 20.330.070; these requirements include installation of weather-based irrigation controllers or soil moisture-based controllers and the installation or irrigation systems that allow for the current or future use of recycled water. The project would comply with applicable Municipal Code requirements.
	If recycled water is unavailable, does the project utilize graywater and/or deep water wells rather than potable water for irrigation and other non-drinking purposes, if feasible, consistent with General Plan EIR Mitigation Measure HWQ-4? (*listed below*) • If recycled water is unavailable, evaluate and if feasible, utilize deep water wells rather than potable water for irrigation and other non-drinking purposes.	Mandatory	NA	NA
S-1: Solid Waste Reduction and Recycling	If the project involves construction or demolition, will the contractor divert more than 50% of non-hazardous construction or demolition debris, to the maximum extent practicable of non-hazardous construction and demolition waste, consistent with General Plan EIR Mitigation Measure GHG-2? (*listed below*) • As a part of a contractor demolition package, require 25% of non-hazardous debris (excluding excavated soil and land-clearing debris) to be recycled or salvaged. Work with contractors to share best practices on building recycling and reuse and demolition techniques to minimize waste, dust generation, water and energy use and other impacts of construction and demolition work.	Mandatory	Yes	Consistent with LEED Gold requirements, the project would include Construction and Demolition Waste Management Planning. The requirement to divert more than 50 percent construction debris will be identifies on the construction plans so that contractors are aware of this requirement.

Table 7 Climate Action Plan Consistency Worksheet				
Measure Name	Project Actions	Mandatory or Voluntary	Project Compliance (Yes/No/NA)	Description/Details
	Will the project provide interior and exterior storage areas for recyclables, consistent with General Plan EIR Mitigation Measure GHG-5? (*listed below*) • Provide interior and exterior storage areas for recyclables, food waste, and green waste at all buildings; create food waste and greenwaste curbside pickup.	Mandatory	Yes	The project would include storage areas for recyclables. The project would comply with applicable Municipal Code requirements.
	Will the project provide adequate recycling containers in public areas, consistent with General Plan EIR Mitigation Measure GHG-5? (*listed below*) • Provide adequate recycling containers in public areas, including parks, school grounds, and pedestrian zones in areas of mixed-use development.	Mandatory	Yes	The project would include storage areas for recyclables in public areas. The project would comply with applicable Municipal Code requirements.
U-1: Community Tree Planting	Does the project incorporate shade trees within 40 feet of the south sides or within 60 feet of the west sides of properties and along bicycle and pedestrian routes, as required by General Plan EIR Mitigation Measure GHG-5? (*listed below*) <u>Energy Efficiency</u> • Site buildings to take advantage of shade and prevailing winds and design landscaping and sun screens to reduce energy use. Plant shade trees within 40 feet of the south sides or within 60 feet of the west sides of properties.	Mandatory	Yes	The project would include a row of shade trees in the setback between Richmar Avenue and the southern building façade. These shade trees would be within 40 feet of proposed buildings.
	Does the project include the planting of native and drought-tolerant trees beyond those required as mitigation for tree removal? If so, how many?	Voluntary	NA	NA

Table 8 Year 2020 GHG Emissions (MT CO_2E per Year)			
Emission Source	Year 2020 GHG Emissions – Existing Use	Year 2020 GHG Emissions – Proposed Project	Net Increase in GHG Emissions
Vehicles	544	592	48
Energy Use	163	171	8
Area Sources	2	2	0
Water Use	56	52	-4
Solid Waste Disposal	28	31	3
Construction	0	50	50
TOTAL	**792**	**897**	**105**
Population (3.06 persons per unit)[1]	*416*	*453*	--
Emissions Per Capita	*1.90*	*1.98*	*0.08*
NOTE: Totals may vary due to independent rounding. [1]U.S. Census Bureau 2016.			

As shown, the existing uses result in a total of 792 MT CO_2E annually and the project would result in a total of 897 MT CO_2E annually. This would be a net increase of 105 MT CO_2E over the existing use. According to the U.S. Census Bureau, the City has an average household population of 3.06 persons per unit (U.S. Census Bureau 2016). Using this household population, it is calculated that the existing use has a service population of 416 and the project would have a service population of 453. The existing uses would therefore emit 1.90 MT CO_2E per person annually and the project would emit 1.98 MT CO_2E per person annually, for a net increase of 0.08 MT CO_2E per person annually. The project-level GHG efficiency thresholds are 2.76 MT CO_2E per service population for projects built by 2020 and 1.93 MT CO_2E per service population for projects built after 2020. As noted, the GHG thresholds apply only to net new emissions associated with new projects. The increase of 0.08 MT CO_2E per person annually is less than the City's significance thresholds.

5.1.2 Significance of Impacts

As demonstrated, the existing uses would emit 1.90 MT CO_2E per person annually and the project would emit 1.98 MT CO_2E per person annually, for a net increase of 0.08 MT CO_2E per person annually. Emissions are projected to be less than the City's significance thresholds. The project's contribution of GHGs to cumulative statewide emissions would be less than cumulatively considerable. Therefore, the project's direct and indirect GHG emissions would have a less than significant impact on the environment.

5.2 Applicable Adopted Plans, Policies, and Regulations Intended to Reduce GHG Emissions

5.2.1 Impacts

5.2.1.1 City of San Marcos Climate Action Plan

As discussed in Section 3.2.3.2, the CAP includes community-wide GHG reduction measures for the energy, transportation and land use, solid waste, and water and wastewater sectors. Appendix E.1 of the City's CAP provides a consistency worksheet that can be used to demonstrate project compliance with the CAP. Table 7 summarizes the project's consistency with CAP measures. As shown, the project would generally be consistent with the measures provided in the CAP consistency worksheet. Although the project would increase the density of the project site over what is specified in the General Plan, as demonstrated in this analysis, the project's GHG emissions fall below the GHG significance thresholds established in the CAP. Therefore, the project would not substantially interfere with implementation of the CAP.

5.2.1.2 State Plans, Policies, and Regulations

EO S-3-05 established GHG emission reduction targets for the state, and AB 32 codified the 2020 goal of EO S-3-05 and launched the Climate Change Scoping Plan that outlined the reduction measures needed to reach these targets. The City's CAP provides the framework for reducing GHG emissions consistent with AB 32 and EO S-3-05. As discussed, the project would result in an increase of 0.08 MT CO_2E per person annually. This is less than the significance threshold of 2.76 MT CO_2E per service population for projects built by 2020 and less than the significance threshold of 1.93 MT CO_2E per service population for projects built after 2020. Therefore, the project would not interfere with implementation of the CAP and would not conflict with the AB 32 mandate for reducing GHG emissions at the state level.

As discussed in Section 3.2.2.1, EO S-3-05 establishes an executive policy of reducing GHG emissions to 80 percent below 1990 levels by 2050. Additionally, EO B-30-15 establishes an interim GHG emission reduction policy by the executive branch for the state of California to reduce GHG emissions 40 percent below 1990 levels by 2030. The 2020 GHG emission policy of EO S-3-05, to reduce GHG emissions to 1990 levels by 2020, was codified by the Legislature's adoption of AB 32. As discussed above, the project would be consistent with the reduction goals of AB 32. The 2030 GHG emission policy of EO B-30-15, to reduce statewide GHG emissions to 40 percent below 1990 levels by 2030, was codified by the adopted of SB 32. The 2050 goal of EO S-3-05 was not codified by the Legislature. As illustrated above, the project would emit less than the significance thresholds established in the CAP and would not interfere with the City achieving the GHG reduction goals outlined in the CAP. Further, the project's 2020 emissions represent the maximum emissions

inventory for the project; as project emissions would continue to decline from 2020 through at least 2050 based on regulatory forecasting. Emission reductions beyond 2020 would occur because of continuing implementation of regulations that further increase vehicle fuel efficiency and reduce GHG emissions from mobile sources, and the continuing procurement of renewable energy sources to meet RPS goals through year 2030. Given the reasonably anticipated decline in project emissions, due to existing regulatory programs once fully constructed and operational, the project emissions would continue to decline in line with the GHG reductions needed to achieve the 2030 goals and the EO S-3-05 horizon-year (2050) goals. Therefore, the project would not conflict with the long-term GHG policy goals of the State. As such, the project's impacts with respect to the state's post-2020 GHG emissions goals under EO B-30-15 and EO S-3-05 would be less than significant.

5.2.2 Significance of Impacts

The project would not conflict with any local or state plan, policy, or regulation aimed at reducing GHG emissions from land use and development. Thus, impacts would be less than significant.

6.0 Conclusions

Appendix E.1 of the City's CAP provides a consistency worksheet that can be used to demonstrate project compliance with the CAP. If it is determined that a project is not consistent with the CAP, further analysis is required to demonstrate that the project's GHG emissions fall below the GHG thresholds provided in Appendix E.2 of the CAP. The project is also required to demonstrate that it would not substantially interfere with implementation of the CAP. To demonstrate a project does not interfere with the CAP, a project must demonstrate it would achieve a project-level GHG efficiency threshold of 2.76 MT CO_2E per service population for projects built by 2020 and 1.93 MT CO_2E per service population for projects built after 2020.

As summarized in Table 7, the project would generally be consistent with the measures provided in the CAP consistency worksheet. However, the project proposes a General Plan Amendment and Rezone to change the land-use designation to SPA with an increased density of 36.5 dwelling units per acre. This increase in density is not consistent with Measure T-1: Smart Growth. Therefore, the primary sources of direct and indirect GHG emissions have been calculated and compared to the CAP significance thresholds.

As calculated in this analysis, the existing uses result in a total of 792 MT CO_2E annually and the project would result in a total of 897 MT CO_2E annually. This would be a net increase of 105 MT CO_2E over the existing use. Using a household population of 3.06 persons per unit, it is calculated that the existing use has a service population of 416 and the project would have a service population of 453. The existing uses would therefore emit 1.90 MT CO_2E per person annually and the project would emit 1.98 MT CO_2E per person annually, for a net increase of 0.08 MT CO_2E per person annually. The project-level GHG efficiency thresholds are 2.76 MT CO_2E per service population for projects built by 2020 and 1.93 MT CO_2E per service population for projects built after 2020. As noted, the GHG

thresholds apply only to net new emissions associated with new projects. The increase of 0.08 MT CO_2E per person annually is less than the City's significance thresholds. Therefore, the level of impacts associated with contribution of GHGs to cumulative emissions would be less than cumulatively considerable. The project would not conflict with the goals and strategies of local and state plans, policies, and regulations adopted to reduce GHG emissions including the City's CAP. Thus, impacts on applicable policies, plans, and regulations would be less than significant.

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ATTACHMENTS

ATTACHMENT 1

CalEEMod Output – Existing Emissions

8458 National Community Renaissance - Existing Use 2016

San Diego County APCD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Mid Rise	136.00	Dwelling Unit	4.06	136,000.00	389

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2016
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	566.31	**CH4 Intensity (lb/MWhr)**	0.023	**N2O Intensity (lb/MWhr)**	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics - RPS - SDG&E currently at 31.6%
CalEEMod accounts for 10.2%
Additional 21.4% reduction applied
(566.31, 0.023, 0.005)

Land Use - 136 units on 4.06 acres

Construction Phase - Existing use - no construction

Vehicle Trips - 6 trips/du
5.8 mile trip length

Woodstoves - No woodstoves or fireplaces

Area Coating - SDAPCD Rule 67

Energy Use - Historical data

Mobile Land Use Mitigation -

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	150
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	150	250
tblFireplaces	FireplaceDayYear	82.00	0.00
tblFireplaces	FireplaceHourDay	3.00	0.00
tblFireplaces	FireplaceWoodMass	3,078.40	0.00
tblFireplaces	NumberGas	74.80	0.00
tblFireplaces	NumberNoFireplace	13.60	136.00
tblFireplaces	NumberWood	47.60	0.00
tblLandUse	LotAcreage	3.58	4.06
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.023
tblProjectCharacteristics	CO2IntensityFactor	720.49	566.31
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblProjectCharacteristics	OperationalYear	2014	2016
tblVehicleTrips	HO_TL	7.50	5.80
tblVehicleTrips	HS_TL	7.30	5.80
tblVehicleTrips	HW_TL	10.80	5.80
tblVehicleTrips	WD_TR	6.59	6.00
tblWoodstoves	NumberCatalytic	6.80	0.00
tblWoodstoves	NumberNoncatalytic	6.80	0.00
tblWoodstoves	WoodstoveDayYear	82.00	0.00
tblWoodstoves	WoodstoveWoodMass	3,019.20	0.00

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					
2017	0.4716	3.8929	3.2597	5.1900e-003	0.1737	0.2413	0.4150	0.0657	0.2261	0.2918	0.0000	446.4042	446.4042	0.0875	0.0000	448.2425
2018	2.1485	0.1855	0.1740	2.9000e-004	4.2100e-003	0.0111	0.0153	1.1200e-003	0.0104	0.0115	0.0000	24.8883	24.8883	5.8200e-003	0.0000	25.0106
Total	**2.6201**	**4.0784**	**3.4337**	**5.4800e-003**	**0.1779**	**0.2524**	**0.4303**	**0.0668**	**0.2365**	**0.3033**	**0.0000**	**471.2925**	**471.2925**	**0.0934**	**0.0000**	**473.2531**

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					
2017	0.4716	3.8929	3.2597	5.1900e-003	0.1737	0.2413	0.4150	0.0657	0.2261	0.2918	0.0000	446.4038	446.4038	0.0875	0.0000	448.2421
2018	2.1485	0.1855	0.1740	2.9000e-004	4.2100e-003	0.0111	0.0153	1.1200e-003	0.0104	0.0115	0.0000	24.8883	24.8883	5.8200e-003	0.0000	25.0106
Total	**2.6201**	**4.0784**	**3.4337**	**5.4800e-003**	**0.1779**	**0.2524**	**0.4303**	**0.0668**	**0.2365**	**0.3033**	**0.0000**	**471.2921**	**471.2921**	**0.0934**	**0.0000**	**473.2527**

	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**

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	0.7761	0.0120	1.0239	5.0000e-005		5.5200e-003	5.5200e-003		5.5200e-003	5.5200e-003	0.0000	1.6495	1.6495	1.6800e-003	0.0000	1.6848
Energy	4.2300e-003	0.0362	0.0154	2.3000e-004		2.9200e-003	2.9200e-003		2.9200e-003	2.9200e-003	0.0000	163.9910	163.9910	5.7600e-003	1.8500e-003	164.6842
Mobile	0.5146	1.0028	4.7647	8.7300e-003	0.5921	0.0121	0.6042	0.1584	0.0112	0.1695	0.0000	690.7099	690.7099	0.0312	0.0000	691.3650
Waste						0.0000	0.0000		0.0000	0.0000	12.6991	0.0000	12.6991	0.7505	0.0000	28.4595
Water						0.0000	0.0000		0.0000	0.0000	2.8112	45.5801	48.3913	0.2906	7.2200e-003	56.7318
Total	**1.2950**	**1.0509**	**5.8040**	**9.0100e-003**	**0.5921**	**0.0206**	**0.6126**	**0.1584**	**0.0196**	**0.1780**	**15.5103**	**901.9305**	**917.4408**	**1.0797**	**9.0700e-003**	**942.9253**

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	0.7761	0.0120	1.0239	5.0000e-005		5.5200e-003	5.5200e-003		5.5200e-003	5.5200e-003	0.0000	1.6495	1.6495	1.6800e-003	0.0000	1.6848
Energy	4.2300e-003	0.0362	0.0154	2.3000e-004		2.9200e-003	2.9200e-003		2.9200e-003	2.9200e-003	0.0000	163.9910	163.9910	5.7600e-003	1.8500e-003	164.6842
Mobile	0.5039	0.9408	4.5358	8.0800e-003	0.5457	0.0113	0.5569	0.1459	0.0104	0.1563	0.0000	638.8464	638.8464	0.0291	0.0000	639.4580
Waste						0.0000	0.0000		0.0000	0.0000	12.6991	0.0000	12.6991	0.7505	0.0000	28.4595
Water						0.0000	0.0000		0.0000	0.0000	2.8112	45.5801	48.3913	0.2905	7.2100e-003	56.7281
Total	**1.2843**	**0.9890**	**5.5751**	**8.3600e-003**	**0.5457**	**0.0197**	**0.5654**	**0.1459**	**0.0188**	**0.1648**	**15.5103**	**850.0671**	**865.5773**	**1.0776**	**9.0600e-003**	**891.0147**

	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	**0.82**	**5.90**	**3.94**	**7.21**	**7.84**	**4.18**	**7.71**	**7.84**	**4.03**	**7.42**	**0.00**	**5.75**	**5.65**	**0.20**	**0.11**	**5.51**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2017	1/27/2017	5	20	
2	Site Preparation	Site Preparation	1/28/2017	2/3/2017	5	5	
3	Grading	Grading	2/4/2017	2/15/2017	5	8	
4	Building Construction	Building Construction	2/16/2017	1/3/2018	5	230	
5	Paving	Paving	1/4/2018	1/29/2018	5	18	
6	Architectural Coating	Architectural Coating	1/30/2018	2/22/2018	5	18	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 4

Acres of Paving: 0

Residential Indoor: 275,400; Residential Outdoor: 91,800; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	2	8.00	255	0.40
Demolition	Excavators	3	8.00	162	0.38
Grading	Excavators	1	8.00	162	0.38
Site Preparation	Rubber Tired Dozers	3	8.00	255	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Graders	1	8.00	174	0.41
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	226	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Paving	Pavers	1	8.00	125	0.42
Paving	Paving Equipment	2	6.00	130	0.36
Paving	Rollers	2	6.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

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	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	98.00	15.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2017

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	0.0405	0.4270	0.3389	4.0000e-004		0.0213	0.0213		0.0198	0.0198	0.0000	36.6182	36.6182	0.0101	0.0000	36.8292
Total	**0.0405**	**0.4270**	**0.3389**	**4.0000e-004**		**0.0213**	**0.0213**		**0.0198**	**0.0198**	**0.0000**	**36.6182**	**36.6182**	**0.0101**	**0.0000**	**36.8292**

3.2 Demolition - 2017

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	4.7000e-004	6.2000e-004	5.8400e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	1.0777	1.0777	5.0000e-005	0.0000	1.0788
Total	**4.7000e-004**	**6.2000e-004**	**5.8400e-003**	**1.0000e-005**	**1.2000e-003**	**1.0000e-005**	**1.2100e-003**	**3.2000e-004**	**1.0000e-005**	**3.3000e-004**	**0.0000**	**1.0777**	**1.0777**	**5.0000e-005**	**0.0000**	**1.0788**

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	0.0405	0.4270	0.3389	4.0000e-004		0.0213	0.0213		0.0198	0.0198	0.0000	36.6182	36.6182	0.0101	0.0000	36.8291
Total	**0.0405**	**0.4270**	**0.3389**	**4.0000e-004**		**0.0213**	**0.0213**		**0.0198**	**0.0198**	**0.0000**	**36.6182**	**36.6182**	**0.0101**	**0.0000**	**36.8291**

3.2 Demolition - 2017

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	4.7000e-004	6.2000e-004	5.8400e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	1.0777	1.0777	5.0000e-005	0.0000	1.0788
Total	**4.7000e-004**	**6.2000e-004**	**5.8400e-003**	**1.0000e-005**	**1.2000e-003**	**1.0000e-005**	**1.2100e-003**	**3.2000e-004**	**1.0000e-005**	**3.3000e-004**	**0.0000**	**1.0777**	**1.0777**	**5.0000e-005**	**0.0000**	**1.0788**

3.3 Site Preparation - 2017

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	0.0121	0.1294	0.0985	1.0000e-004		6.8900e-003	6.8900e-003		6.3300e-003	6.3300e-003	0.0000	9.0789	9.0789	2.7800e-003	0.0000	9.1373
Total	**0.0121**	**0.1294**	**0.0985**	**1.0000e-004**	**0.0452**	**6.8900e-003**	**0.0521**	**0.0248**	**6.3300e-003**	**0.0312**	**0.0000**	**9.0789**	**9.0789**	**2.7800e-003**	**0.0000**	**9.1373**

3.3 Site Preparation - 2017

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	1.4000e-004	1.9000e-004	1.7500e-003	0.0000	3.6000e-004	0.0000	3.6000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.3233	0.3233	2.0000e-005	0.0000	0.3236
Total	**1.4000e-004**	**1.9000e-004**	**1.7500e-003**	**0.0000**	**3.6000e-004**	**0.0000**	**3.6000e-004**	**1.0000e-004**	**0.0000**	**1.0000e-004**	**0.0000**	**0.3233**	**0.3233**	**2.0000e-005**	**0.0000**	**0.3236**

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	0.0121	0.1294	0.0985	1.0000e-004		6.8900e-003	6.8900e-003		6.3300e-003	6.3300e-003	0.0000	9.0788	9.0788	2.7800e-003	0.0000	9.1373
Total	**0.0121**	**0.1294**	**0.0985**	**1.0000e-004**	**0.0452**	**6.8900e-003**	**0.0521**	**0.0248**	**6.3300e-003**	**0.0312**	**0.0000**	**9.0788**	**9.0788**	**2.7800e-003**	**0.0000**	**9.1373**

3.3 Site Preparation - 2017

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	1.4000e-004	1.9000e-004	1.7500e-003	0.0000	3.6000e-004	0.0000	3.6000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.3233	0.3233	2.0000e-005	0.0000	0.3236
Total	**1.4000e-004**	**1.9000e-004**	**1.7500e-003**	**0.0000**	**3.6000e-004**	**0.0000**	**3.6000e-004**	**1.0000e-004**	**0.0000**	**1.0000e-004**	**0.0000**	**0.3233**	**0.3233**	**2.0000e-005**	**0.0000**	**0.3236**

3.4 Grading - 2017

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	0.0138	0.1439	0.1015	1.2000e-004		8.1600e-003	8.1600e-003		7.5000e-003	7.5000e-003	0.0000	11.0447	11.0447	3.3800e-003	0.0000	11.1157
Total	**0.0138**	**0.1439**	**0.1015**	**1.2000e-004**	**0.0262**	**8.1600e-003**	**0.0344**	**0.0135**	**7.5000e-003**	**0.0210**	**0.0000**	**11.0447**	**11.0447**	**3.3800e-003**	**0.0000**	**11.1157**

3.4 Grading - 2017

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	1.9000e-004	2.5000e-004	2.3400e-003	1.0000e-005	4.8000e-004	0.0000	4.8000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.4311	0.4311	2.0000e-005	0.0000	0.4315
Total	**1.9000e-004**	**2.5000e-004**	**2.3400e-003**	**1.0000e-005**	**4.8000e-004**	**0.0000**	**4.8000e-004**	**1.3000e-004**	**0.0000**	**1.3000e-004**	**0.0000**	**0.4311**	**0.4311**	**2.0000e-005**	**0.0000**	**0.4315**

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	0.0138	0.1439	0.1015	1.2000e-004		8.1600e-003	8.1600e-003		7.5000e-003	7.5000e-003	0.0000	11.0447	11.0447	3.3800e-003	0.0000	11.1157
Total	**0.0138**	**0.1439**	**0.1015**	**1.2000e-004**	**0.0262**	**8.1600e-003**	**0.0344**	**0.0135**	**7.5000e-003**	**0.0210**	**0.0000**	**11.0447**	**11.0447**	**3.3800e-003**	**0.0000**	**11.1157**

3.4 Grading - 2017

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	1.9000e-004	2.5000e-004	2.3400e-003	1.0000e-005	4.8000e-004	0.0000	4.8000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.4311	0.4311	2.0000e-005	0.0000	0.4315
Total	**1.9000e-004**	**2.5000e-004**	**2.3400e-003**	**1.0000e-005**	**4.8000e-004**	**0.0000**	**4.8000e-004**	**1.3000e-004**	**0.0000**	**1.3000e-004**	**0.0000**	**0.4311**	**0.4311**	**2.0000e-005**	**0.0000**	**0.4315**

3.5 Building Construction - 2017

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	0.3521	2.9970	2.0577	3.0400e-003		0.2022	0.2022		0.1899	0.1899	0.0000	271.8088	271.8088	0.0669	0.0000	273.2136
Total	**0.3521**	**2.9970**	**2.0577**	**3.0400e-003**		**0.2022**	**0.2022**		**0.1899**	**0.1899**	**0.0000**	**271.8088**	**271.8088**	**0.0669**	**0.0000**	**273.2136**

3.5 Building Construction - 2017

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	0.0177	0.1487	0.2202	4.0000e-004	0.0111	2.1300e-003	0.0132	3.1700e-003	1.9600e-003	5.1300e-003	0.0000	36.1100	36.1100	2.7000e-004	0.0000	36.1157
Worker	0.0346	0.0458	0.4330	1.1000e-003	0.0892	6.6000e-004	0.0899	0.0237	6.1000e-004	0.0243	0.0000	79.9117	79.9117	4.0600e-003	0.0000	79.9970
Total	**0.0523**	**0.1945**	**0.6532**	**1.5000e-003**	**0.1003**	**2.7900e-003**	**0.1031**	**0.0269**	**2.5700e-003**	**0.0295**	**0.0000**	**116.0217**	**116.0217**	**4.3300e-003**	**0.0000**	**116.1127**

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	0.3521	2.9970	2.0577	3.0400e-003		0.2022	0.2022		0.1899	0.1899	0.0000	271.8085	271.8085	0.0669	0.0000	273.2133
Total	**0.3521**	**2.9970**	**2.0577**	**3.0400e-003**		**0.2022**	**0.2022**		**0.1899**	**0.1899**	**0.0000**	**271.8085**	**271.8085**	**0.0669**	**0.0000**	**273.2133**

3.5 Building Construction - 2017

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	0.0177	0.1487	0.2202	4.0000e-004	0.0111	2.1300e-003	0.0132	3.1700e-003	1.9600e-003	5.1300e-003	0.0000	36.1100	36.1100	2.7000e-004	0.0000	36.1157
Worker	0.0346	0.0458	0.4330	1.1000e-003	0.0892	6.6000e-004	0.0899	0.0237	6.1000e-004	0.0243	0.0000	79.9117	79.9117	4.0600e-003	0.0000	79.9970
Total	**0.0523**	**0.1945**	**0.6532**	**1.5000e-003**	**0.1003**	**2.7900e-003**	**0.1031**	**0.0269**	**2.5700e-003**	**0.0295**	**0.0000**	**116.0217**	**116.0217**	**4.3300e-003**	**0.0000**	**116.1127**

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	4.0000e-003	0.0349	0.0263	4.0000e-005		2.2400e-003	2.2400e-003		2.1100e-003	2.1100e-003	0.0000	3.5516	3.5516	8.7000e-004	0.0000	3.5698
Total	**4.0000e-003**	**0.0349**	**0.0263**	**4.0000e-005**		**2.2400e-003**	**2.2400e-003**		**2.1100e-003**	**2.1100e-003**	**0.0000**	**3.5516**	**3.5516**	**8.7000e-004**	**0.0000**	**3.5698**

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	2.2000e-004	1.7700e-003	2.7800e-003	1.0000e-005	1.5000e-004	3.0000e-005	1.7000e-004	4.0000e-005	2.0000e-005	7.0000e-005	0.0000	0.4690	0.4690	0.0000	0.0000	0.4691
Worker	4.2000e-004	5.5000e-004	5.1800e-003	1.0000e-005	1.1800e-003	1.0000e-005	1.1900e-003	3.1000e-004	1.0000e-005	3.2000e-004	0.0000	1.0164	1.0164	5.0000e-005	0.0000	1.0175
Total	**6.4000e-004**	**2.3200e-003**	**7.9600e-003**	**2.0000e-005**	**1.3300e-003**	**4.0000e-005**	**1.3600e-003**	**3.5000e-004**	**3.0000e-005**	**3.9000e-004**	**0.0000**	**1.4855**	**1.4855**	**5.0000e-005**	**0.0000**	**1.4866**

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	4.0000e-003	0.0349	0.0263	4.0000e-005		2.2400e-003	2.2400e-003		2.1100e-003	2.1100e-003	0.0000	3.5515	3.5515	8.7000e-004	0.0000	3.5698
Total	**4.0000e-003**	**0.0349**	**0.0263**	**4.0000e-005**		**2.2400e-003**	**2.2400e-003**		**2.1100e-003**	**2.1100e-003**	**0.0000**	**3.5515**	**3.5515**	**8.7000e-004**	**0.0000**	**3.5698**

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	2.2000e-004	1.7700e-003	2.7800e-003	1.0000e-005	1.5000e-004	3.0000e-005	1.7000e-004	4.0000e-005	2.0000e-005	7.0000e-005	0.0000	0.4690	0.4690	0.0000	0.0000	0.4691
Worker	4.2000e-004	5.5000e-004	5.1800e-003	1.0000e-005	1.1800e-003	1.0000e-005	1.1900e-003	3.1000e-004	1.0000e-005	3.2000e-004	0.0000	1.0164	1.0164	5.0000e-005	0.0000	1.0175
Total	**6.4000e-004**	**2.3200e-003**	**7.9600e-003**	**2.0000e-005**	**1.3300e-003**	**4.0000e-005**	**1.3600e-003**	**3.5000e-004**	**3.0000e-005**	**3.9000e-004**	**0.0000**	**1.4855**	**1.4855**	**5.0000e-005**	**0.0000**	**1.4866**

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	0.0127	0.1289	0.1104	1.7000e-004		7.4500e-003	7.4500e-003		6.8700e-003	6.8700e-003	0.0000	15.0641	15.0641	4.5600e-003	0.0000	15.1599
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0127**	**0.1289**	**0.1104**	**1.7000e-004**		**7.4500e-003**	**7.4500e-003**		**6.8700e-003**	**6.8700e-003**	**0.0000**	**15.0641**	**15.0641**	**4.5600e-003**	**0.0000**	**15.1599**

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	5.1000e-004	6.8000e-004	6.3400e-003	2.0000e-005	1.4400e-003	1.0000e-005	1.4500e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.2446	1.2446	6.0000e-005	0.0000	1.2459
Total	**5.1000e-004**	**6.8000e-004**	**6.3400e-003**	**2.0000e-005**	**1.4400e-003**	**1.0000e-005**	**1.4500e-003**	**3.8000e-004**	**1.0000e-005**	**3.9000e-004**	**0.0000**	**1.2446**	**1.2446**	**6.0000e-005**	**0.0000**	**1.2459**

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	0.0127	0.1289	0.1104	1.7000e-004		7.4500e-003	7.4500e-003		6.8700e-003	6.8700e-003	0.0000	15.0641	15.0641	4.5600e-003	0.0000	15.1599
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0127**	**0.1289**	**0.1104**	**1.7000e-004**		**7.4500e-003**	**7.4500e-003**		**6.8700e-003**	**6.8700e-003**	**0.0000**	**15.0641**	**15.0641**	**4.5600e-003**	**0.0000**	**15.1599**

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	5.1000e-004	6.8000e-004	6.3400e-003	2.0000e-005	1.4400e-003	1.0000e-005	1.4500e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.2446	1.2446	6.0000e-005	0.0000	1.2459
Total	**5.1000e-004**	**6.8000e-004**	**6.3400e-003**	**2.0000e-005**	**1.4400e-003**	**1.0000e-005**	**1.4500e-003**	**3.8000e-004**	**1.0000e-005**	**3.9000e-004**	**0.0000**	**1.2446**	**1.2446**	**6.0000e-005**	**0.0000**	**1.2459**

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	2.1275					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.6900e-003	0.0181	0.0167	3.0000e-005		1.3500e-003	1.3500e-003		1.3500e-003	1.3500e-003	0.0000	2.2979	2.2979	2.2000e-004	0.0000	2.3025
Total	**2.1302**	**0.0181**	**0.0167**	**3.0000e-005**		**1.3500e-003**	**1.3500e-003**		**1.3500e-003**	**1.3500e-003**	**0.0000**	**2.2979**	**2.2979**	**2.2000e-004**	**0.0000**	**2.3025**

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	5.1000e-004	6.8000e-004	6.3400e-003	2.0000e-005	1.4400e-003	1.0000e-005	1.4500e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.2446	1.2446	6.0000e-005	0.0000	1.2459
Total	**5.1000e-004**	**6.8000e-004**	**6.3400e-003**	**2.0000e-005**	**1.4400e-003**	**1.0000e-005**	**1.4500e-003**	**3.8000e-004**	**1.0000e-005**	**3.9000e-004**	**0.0000**	**1.2446**	**1.2446**	**6.0000e-005**	**0.0000**	**1.2459**

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	2.1275					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.6900e-003	0.0181	0.0167	3.0000e-005		1.3500e-003	1.3500e-003		1.3500e-003	1.3500e-003	0.0000	2.2979	2.2979	2.2000e-004	0.0000	2.3025
Total	**2.1302**	**0.0181**	**0.0167**	**3.0000e-005**		**1.3500e-003**	**1.3500e-003**		**1.3500e-003**	**1.3500e-003**	**0.0000**	**2.2979**	**2.2979**	**2.2000e-004**	**0.0000**	**2.3025**

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	5.1000e-004	6.8000e-004	6.3400e-003	2.0000e-005	1.4400e-003	1.0000e-005	1.4500e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.2446	1.2446	6.0000e-005	0.0000	1.2459
Total	**5.1000e-004**	**6.8000e-004**	**6.3400e-003**	**2.0000e-005**	**1.4400e-003**	**1.0000e-005**	**1.4500e-003**	**3.8000e-004**	**1.0000e-005**	**3.9000e-004**	**0.0000**	**1.2446**	**1.2446**	**6.0000e-005**	**0.0000**	**1.2459**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Transit Accessibility

	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	0.5039	0.9408	4.5358	8.0800e-003	0.5457	0.0113	0.5569	0.1459	0.0104	0.1563	0.0000	638.8464	638.8464	0.0291	0.0000	639.4580
Unmitigated	0.5146	1.0028	4.7647	8.7300e-003	0.5921	0.0121	0.6042	0.1584	0.0112	0.1695	0.0000	690.7099	690.7099	0.0312	0.0000	691.3650

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	816.00	973.76	825.52	1,574,624	1,451,189
Total	816.00	973.76	825.52	1,574,624	1,451,189

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	5.80	5.80	5.80	41.60	18.80	39.60	86	11	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.510118	0.073510	0.192396	0.133166	0.036737	0.005265	0.012605	0.021642	0.001847	0.002083	0.006548	0.000610	0.003471

4.4 Fleet Mix

5.0 Energy Detail

Historical Energy Use: Y

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	122.1151	122.1151	4.9600e-003	1.0800e-003	122.5535
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	122.1151	122.1151	4.9600e-003	1.0800e-003	122.5535
NaturalGas Mitigated	4.2300e-003	0.0362	0.0154	2.3000e-004		2.9200e-003	2.9200e-003		2.9200e-003	2.9200e-003	0.0000	41.8759	41.8759	8.0000e-004	7.7000e-004	42.1307
NaturalGas Unmitigated	4.2300e-003	0.0362	0.0154	2.3000e-004		2.9200e-003	2.9200e-003		2.9200e-003	2.9200e-003	0.0000	41.8759	41.8759	8.0000e-004	7.7000e-004	42.1307

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	784724	4.2300e-003	0.0362	0.0154	2.3000e-004		2.9200e-003	2.9200e-003		2.9200e-003	2.9200e-003	0.0000	41.8759	41.8759	8.0000e-004	7.7000e-004	42.1307
Total		**4.2300e-003**	**0.0362**	**0.0154**	**2.3000e-004**		**2.9200e-003**	**2.9200e-003**		**2.9200e-003**	**2.9200e-003**	**0.0000**	**41.8759**	**41.8759**	**8.0000e-004**	**7.7000e-004**	**42.1307**

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	784724	4.2300e-003	0.0362	0.0154	2.3000e-004		2.9200e-003	2.9200e-003		2.9200e-003	2.9200e-003	0.0000	41.8759	41.8759	8.0000e-004	7.7000e-004	42.1307
Total		**4.2300e-003**	**0.0362**	**0.0154**	**2.3000e-004**		**2.9200e-003**	**2.9200e-003**		**2.9200e-003**	**2.9200e-003**	**0.0000**	**41.8759**	**41.8759**	**8.0000e-004**	**7.7000e-004**	**42.1307**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	475389	122.1151	4.9600e-003	1.0800e-003	122.5535
Total		**122.1151**	**4.9600e-003**	**1.0800e-003**	**122.5535**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	475389	122.1151	4.9600e-003	1.0800e-003	122.5535
Total		**122.1151**	**4.9600e-003**	**1.0800e-003**	**122.5535**

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	0.7761	0.0120	1.0239	5.0000e-005		5.5200e-003	5.5200e-003		5.5200e-003	5.5200e-003	0.0000	1.6495	1.6495	1.6800e-003	0.0000	1.6848
Unmitigated	0.7761	0.0120	1.0239	5.0000e-005		5.5200e-003	5.5200e-003		5.5200e-003	5.5200e-003	0.0000	1.6495	1.6495	1.6800e-003	0.0000	1.6848

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	0.2128					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.5312					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0322	0.0120	1.0239	5.0000e-005		5.5200e-003	5.5200e-003		5.5200e-003	5.5200e-003	0.0000	1.6495	1.6495	1.6800e-003	0.0000	1.6848
Total	**0.7761**	**0.0120**	**1.0239**	**5.0000e-005**		**5.5200e-003**	**5.5200e-003**		**5.5200e-003**	**5.5200e-003**	**0.0000**	**1.6495**	**1.6495**	**1.6800e-003**	**0.0000**	**1.6848**

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	0.2128					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.5312					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0322	0.0120	1.0239	5.0000e-005		5.5200e-003	5.5200e-003		5.5200e-003	5.5200e-003	0.0000	1.6495	1.6495	1.6800e-003	0.0000	1.6848
Total	**0.7761**	**0.0120**	**1.0239**	**5.0000e-005**		**5.5200e-003**	**5.5200e-003**		**5.5200e-003**	**5.5200e-003**	**0.0000**	**1.6495**	**1.6495**	**1.6800e-003**	**0.0000**	**1.6848**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	48.3913	0.2905	7.2100e-003	56.7281
Unmitigated	48.3913	0.2906	7.2200e-003	56.7318

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	8.86095 / 5.58625	48.3913	0.2906	7.2200e-003	56.7318
Total		**48.3913**	**0.2906**	**7.2200e-003**	**56.7318**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	8.86095 / 5.58625	48.3913	0.2905	7.2100e-003	56.7281
Total		**48.3913**	**0.2905**	**7.2100e-003**	**56.7281**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	12.6991	0.7505	0.0000	28.4595
Unmitigated	12.6991	0.7505	0.0000	28.4595

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	62.56	12.6991	0.7505	0.0000	28.4595
Total		**12.6991**	**0.7505**	**0.0000**	**28.4595**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	62.56	12.6991	0.7505	0.0000	28.4595
Total		**12.6991**	**0.7505**	**0.0000**	**28.4595**

9.0 Operational Offroad

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

10.0 Vegetation

8458 National Community Renaissance - Existing Use 2020

San Diego County APCD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Mid Rise	136.00	Dwelling Unit	4.06	136,000.00	389

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2020
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	556.22	**CH4 Intensity (lb/MWhr)**	0.022	**N2O Intensity (lb/MWhr)**	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics - RPS 2020 goal 33%
CalEEMod accounts for 10.2%
Additional 22.8% reduction applied
(556.22, 0.022, 0.005)

Land Use - 136 units on 4.06 acres

Construction Phase - Existing use - no construction

Architectural Coating -

Vehicle Trips - 6 trips/du
5.8 mile trip length

Woodstoves - No woodstoves or fireplaces

Area Coating - SDAPCD Rule 67

Energy Use - Historical data

Water And Wastewater -

Mobile Land Use Mitigation -

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	150
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	150	250
tblFireplaces	FireplaceDayYear	82.00	0.00
tblFireplaces	FireplaceHourDay	3.00	0.00
tblFireplaces	FireplaceWoodMass	3,078.40	0.00
tblFireplaces	NumberGas	74.80	0.00
tblFireplaces	NumberNoFireplace	13.60	136.00
tblFireplaces	NumberWood	47.60	0.00
tblLandUse	LotAcreage	3.58	4.06
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.022
tblProjectCharacteristics	CO2IntensityFactor	720.49	556.22
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblProjectCharacteristics	OperationalYear	2014	2020
tblVehicleTrips	HO_TL	7.50	5.80
tblVehicleTrips	HS_TL	7.30	5.80
tblVehicleTrips	HW_TL	10.80	5.80
tblVehicleTrips	WD_TR	6.59	6.00
tblWoodstoves	NumberCatalytic	6.80	0.00
tblWoodstoves	NumberNoncatalytic	6.80	0.00
tblWoodstoves	WoodstoveDayYear	82.00	0.00
tblWoodstoves	WoodstoveWoodMass	3,019.20	0.00

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					
2017	0.4716	3.8929	3.2597	5.1900e-003	0.1737	0.2413	0.4150	0.0657	0.2261	0.2918	0.0000	446.4042	446.4042	0.0875	0.0000	448.2425
2018	2.1485	0.1855	0.1740	2.9000e-004	4.2100e-003	0.0111	0.0153	1.1200e-003	0.0104	0.0115	0.0000	24.8883	24.8883	5.8200e-003	0.0000	25.0106
Total	**2.6201**	**4.0784**	**3.4337**	**5.4800e-003**	**0.1779**	**0.2524**	**0.4303**	**0.0668**	**0.2365**	**0.3033**	**0.0000**	**471.2925**	**471.2925**	**0.0934**	**0.0000**	**473.2531**

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					
2017	0.4716	3.8929	3.2597	5.1900e-003	0.1737	0.2413	0.4150	0.0657	0.2261	0.2918	0.0000	446.4038	446.4038	0.0875	0.0000	448.2421
2018	2.1485	0.1855	0.1740	2.9000e-004	4.2100e-003	0.0111	0.0153	1.1200e-003	0.0104	0.0115	0.0000	24.8883	24.8883	5.8200e-003	0.0000	25.0106
Total	**2.6201**	**4.0784**	**3.4337**	**5.4800e-003**	**0.1779**	**0.2524**	**0.4303**	**0.0668**	**0.2365**	**0.3033**	**0.0000**	**471.2921**	**471.2921**	**0.0934**	**0.0000**	**473.2527**

	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**

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	0.7748	0.0117	1.0132	5.0000e-005		5.5700e-003	5.5700e-003		5.5700e-003	5.5700e-003	0.0000	1.6495	1.6495	1.6100e-003	0.0000	1.6833
Energy	4.2300e-003	0.0362	0.0154	2.3000e-004		2.9200e-003	2.9200e-003		2.9200e-003	2.9200e-003	0.0000	161.8153	161.8153	5.5500e-003	1.8500e-003	162.5040
Mobile	0.4043	0.7230	3.6185	8.7300e-003	0.5921	0.0103	0.6024	0.1584	9.4900e-003	0.1679	0.0000	605.6506	605.6506	0.0242	0.0000	606.1588
Waste						0.0000	0.0000		0.0000	0.0000	12.6991	0.0000	12.6991	0.7505	0.0000	28.4595
Water						0.0000	0.0000		0.0000	0.0000	2.8112	44.7680	47.5792	0.2905	7.2200e-003	55.9180
Total	**1.1833**	**0.7708**	**4.6470**	**9.0100e-003**	**0.5921**	**0.0188**	**0.6109**	**0.1584**	**0.0180**	**0.1763**	**15.5103**	**813.8834**	**829.3937**	**1.0724**	**9.0700e-003**	**854.7236**

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	0.7748	0.0117	1.0132	5.0000e-005		5.5700e-003	5.5700e-003		5.5700e-003	5.5700e-003	0.0000	1.6495	1.6495	1.6100e-003	0.0000	1.6833
Energy	4.2300e-003	0.0362	0.0154	2.3000e-004		2.9200e-003	2.9200e-003		2.9200e-003	2.9200e-003	0.0000	161.8153	161.8153	5.5500e-003	1.8500e-003	162.5040
Mobile	0.3963	0.6794	3.4501	8.0700e-003	0.5457	9.5800e-003	0.5553	0.1459	8.8400e-003	0.1548	0.0000	560.1969	560.1969	0.0226	0.0000	560.6708
Waste						0.0000	0.0000		0.0000	0.0000	12.6991	0.0000	12.6991	0.7505	0.0000	28.4595
Water						0.0000	0.0000		0.0000	0.0000	2.8112	44.7680	47.5792	0.2905	7.2100e-003	55.9144
Total	**1.1752**	**0.7273**	**4.4787**	**8.3500e-003**	**0.5457**	**0.0181**	**0.5638**	**0.1459**	**0.0173**	**0.1633**	**15.5103**	**768.4297**	**783.9400**	**1.0707**	**9.0600e-003**	**809.2320**

	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	**0.68**	**5.65**	**3.62**	**7.33**	**7.84**	**3.73**	**7.71**	**7.84**	**3.62**	**7.41**	**0.00**	**5.58**	**5.48**	**0.16**	**0.11**	**5.32**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2017	1/27/2017	5	20	
2	Site Preparation	Site Preparation	1/28/2017	2/3/2017	5	5	
3	Grading	Grading	2/4/2017	2/15/2017	5	8	
4	Building Construction	Building Construction	2/16/2017	1/3/2018	5	230	
5	Paving	Paving	1/4/2018	1/29/2018	5	18	
6	Architectural Coating	Architectural Coating	1/30/2018	2/22/2018	5	18	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 4

Acres of Paving: 0

Residential Indoor: 275,400; Residential Outdoor: 91,800; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	2	8.00	255	0.40
Demolition	Excavators	3	8.00	162	0.38
Grading	Excavators	1	8.00	162	0.38
Site Preparation	Rubber Tired Dozers	3	8.00	255	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Graders	1	8.00	174	0.41
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	226	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Paving	Pavers	1	8.00	125	0.42
Paving	Paving Equipment	2	6.00	130	0.36
Paving	Rollers	2	6.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

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	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	98.00	15.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2017

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	0.0405	0.4270	0.3389	4.0000e-004		0.0213	0.0213		0.0198	0.0198	0.0000	36.6182	36.6182	0.0101	0.0000	36.8292
Total	**0.0405**	**0.4270**	**0.3389**	**4.0000e-004**		**0.0213**	**0.0213**		**0.0198**	**0.0198**	**0.0000**	**36.6182**	**36.6182**	**0.0101**	**0.0000**	**36.8292**

3.2 Demolition - 2017

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	4.7000e-004	6.2000e-004	5.8400e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	1.0777	1.0777	5.0000e-005	0.0000	1.0788
Total	**4.7000e-004**	**6.2000e-004**	**5.8400e-003**	**1.0000e-005**	**1.2000e-003**	**1.0000e-005**	**1.2100e-003**	**3.2000e-004**	**1.0000e-005**	**3.3000e-004**	**0.0000**	**1.0777**	**1.0777**	**5.0000e-005**	**0.0000**	**1.0788**

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	0.0405	0.4270	0.3389	4.0000e-004		0.0213	0.0213		0.0198	0.0198	0.0000	36.6182	36.6182	0.0101	0.0000	36.8291
Total	**0.0405**	**0.4270**	**0.3389**	**4.0000e-004**		**0.0213**	**0.0213**		**0.0198**	**0.0198**	**0.0000**	**36.6182**	**36.6182**	**0.0101**	**0.0000**	**36.8291**

3.2 Demolition - 2017

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	4.7000e-004	6.2000e-004	5.8400e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	1.0777	1.0777	5.0000e-005	0.0000	1.0788
Total	**4.7000e-004**	**6.2000e-004**	**5.8400e-003**	**1.0000e-005**	**1.2000e-003**	**1.0000e-005**	**1.2100e-003**	**3.2000e-004**	**1.0000e-005**	**3.3000e-004**	**0.0000**	**1.0777**	**1.0777**	**5.0000e-005**	**0.0000**	**1.0788**

3.3 Site Preparation - 2017

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	0.0121	0.1294	0.0985	1.0000e-004		6.8900e-003	6.8900e-003		6.3300e-003	6.3300e-003	0.0000	9.0789	9.0789	2.7800e-003	0.0000	9.1373
Total	**0.0121**	**0.1294**	**0.0985**	**1.0000e-004**	**0.0452**	**6.8900e-003**	**0.0521**	**0.0248**	**6.3300e-003**	**0.0312**	**0.0000**	**9.0789**	**9.0789**	**2.7800e-003**	**0.0000**	**9.1373**

3.3 Site Preparation - 2017

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	1.4000e-004	1.9000e-004	1.7500e-003	0.0000	3.6000e-004	0.0000	3.6000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.3233	0.3233	2.0000e-005	0.0000	0.3236
Total	**1.4000e-004**	**1.9000e-004**	**1.7500e-003**	**0.0000**	**3.6000e-004**	**0.0000**	**3.6000e-004**	**1.0000e-004**	**0.0000**	**1.0000e-004**	**0.0000**	**0.3233**	**0.3233**	**2.0000e-005**	**0.0000**	**0.3236**

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	0.0121	0.1294	0.0985	1.0000e-004		6.8900e-003	6.8900e-003		6.3300e-003	6.3300e-003	0.0000	9.0788	9.0788	2.7800e-003	0.0000	9.1373
Total	**0.0121**	**0.1294**	**0.0985**	**1.0000e-004**	**0.0452**	**6.8900e-003**	**0.0521**	**0.0248**	**6.3300e-003**	**0.0312**	**0.0000**	**9.0788**	**9.0788**	**2.7800e-003**	**0.0000**	**9.1373**

3.3 Site Preparation - 2017

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	1.4000e-004	1.9000e-004	1.7500e-003	0.0000	3.6000e-004	0.0000	3.6000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.3233	0.3233	2.0000e-005	0.0000	0.3236
Total	**1.4000e-004**	**1.9000e-004**	**1.7500e-003**	**0.0000**	**3.6000e-004**	**0.0000**	**3.6000e-004**	**1.0000e-004**	**0.0000**	**1.0000e-004**	**0.0000**	**0.3233**	**0.3233**	**2.0000e-005**	**0.0000**	**0.3236**

3.4 Grading - 2017

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	0.0138	0.1439	0.1015	1.2000e-004		8.1600e-003	8.1600e-003		7.5000e-003	7.5000e-003	0.0000	11.0447	11.0447	3.3800e-003	0.0000	11.1157
Total	**0.0138**	**0.1439**	**0.1015**	**1.2000e-004**	**0.0262**	**8.1600e-003**	**0.0344**	**0.0135**	**7.5000e-003**	**0.0210**	**0.0000**	**11.0447**	**11.0447**	**3.3800e-003**	**0.0000**	**11.1157**

3.4 Grading - 2017

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	1.9000e-004	2.5000e-004	2.3400e-003	1.0000e-005	4.8000e-004	0.0000	4.8000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.4311	0.4311	2.0000e-005	0.0000	0.4315
Total	**1.9000e-004**	**2.5000e-004**	**2.3400e-003**	**1.0000e-005**	**4.8000e-004**	**0.0000**	**4.8000e-004**	**1.3000e-004**	**0.0000**	**1.3000e-004**	**0.0000**	**0.4311**	**0.4311**	**2.0000e-005**	**0.0000**	**0.4315**

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	0.0138	0.1439	0.1015	1.2000e-004		8.1600e-003	8.1600e-003		7.5000e-003	7.5000e-003	0.0000	11.0447	11.0447	3.3800e-003	0.0000	11.1157
Total	**0.0138**	**0.1439**	**0.1015**	**1.2000e-004**	**0.0262**	**8.1600e-003**	**0.0344**	**0.0135**	**7.5000e-003**	**0.0210**	**0.0000**	**11.0447**	**11.0447**	**3.3800e-003**	**0.0000**	**11.1157**

3.4 Grading - 2017

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	1.9000e-004	2.5000e-004	2.3400e-003	1.0000e-005	4.8000e-004	0.0000	4.8000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.4311	0.4311	2.0000e-005	0.0000	0.4315
Total	**1.9000e-004**	**2.5000e-004**	**2.3400e-003**	**1.0000e-005**	**4.8000e-004**	**0.0000**	**4.8000e-004**	**1.3000e-004**	**0.0000**	**1.3000e-004**	**0.0000**	**0.4311**	**0.4311**	**2.0000e-005**	**0.0000**	**0.4315**

3.5 Building Construction - 2017

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	0.3521	2.9970	2.0577	3.0400e-003		0.2022	0.2022		0.1899	0.1899	0.0000	271.8088	271.8088	0.0669	0.0000	273.2136
Total	**0.3521**	**2.9970**	**2.0577**	**3.0400e-003**		**0.2022**	**0.2022**		**0.1899**	**0.1899**	**0.0000**	**271.8088**	**271.8088**	**0.0669**	**0.0000**	**273.2136**

3.5 Building Construction - 2017

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	0.0177	0.1487	0.2202	4.0000e-004	0.0111	2.1300e-003	0.0132	3.1700e-003	1.9600e-003	5.1300e-003	0.0000	36.1100	36.1100	2.7000e-004	0.0000	36.1157
Worker	0.0346	0.0458	0.4330	1.1000e-003	0.0892	6.6000e-004	0.0899	0.0237	6.1000e-004	0.0243	0.0000	79.9117	79.9117	4.0600e-003	0.0000	79.9970
Total	**0.0523**	**0.1945**	**0.6532**	**1.5000e-003**	**0.1003**	**2.7900e-003**	**0.1031**	**0.0269**	**2.5700e-003**	**0.0295**	**0.0000**	**116.0217**	**116.0217**	**4.3300e-003**	**0.0000**	**116.1127**

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	0.3521	2.9970	2.0577	3.0400e-003		0.2022	0.2022		0.1899	0.1899	0.0000	271.8085	271.8085	0.0669	0.0000	273.2133
Total	**0.3521**	**2.9970**	**2.0577**	**3.0400e-003**		**0.2022**	**0.2022**		**0.1899**	**0.1899**	**0.0000**	**271.8085**	**271.8085**	**0.0669**	**0.0000**	**273.2133**

3.5 Building Construction - 2017

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	0.0177	0.1487	0.2202	4.0000e-004	0.0111	2.1300e-003	0.0132	3.1700e-003	1.9600e-003	5.1300e-003	0.0000	36.1100	36.1100	2.7000e-004	0.0000	36.1157
Worker	0.0346	0.0458	0.4330	1.1000e-003	0.0892	6.6000e-004	0.0899	0.0237	6.1000e-004	0.0243	0.0000	79.9117	79.9117	4.0600e-003	0.0000	79.9970
Total	**0.0523**	**0.1945**	**0.6532**	**1.5000e-003**	**0.1003**	**2.7900e-003**	**0.1031**	**0.0269**	**2.5700e-003**	**0.0295**	**0.0000**	**116.0217**	**116.0217**	**4.3300e-003**	**0.0000**	**116.1127**

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	4.0000e-003	0.0349	0.0263	4.0000e-005		2.2400e-003	2.2400e-003		2.1100e-003	2.1100e-003	0.0000	3.5516	3.5516	8.7000e-004	0.0000	3.5698
Total	**4.0000e-003**	**0.0349**	**0.0263**	**4.0000e-005**		**2.2400e-003**	**2.2400e-003**		**2.1100e-003**	**2.1100e-003**	**0.0000**	**3.5516**	**3.5516**	**8.7000e-004**	**0.0000**	**3.5698**

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	2.2000e-004	1.7700e-003	2.7800e-003	1.0000e-005	1.5000e-004	3.0000e-005	1.7000e-004	4.0000e-005	2.0000e-005	7.0000e-005	0.0000	0.4690	0.4690	0.0000	0.0000	0.4691
Worker	4.2000e-004	5.5000e-004	5.1800e-003	1.0000e-005	1.1800e-003	1.0000e-005	1.1900e-003	3.1000e-004	1.0000e-005	3.2000e-004	0.0000	1.0164	1.0164	5.0000e-005	0.0000	1.0175
Total	**6.4000e-004**	**2.3200e-003**	**7.9600e-003**	**2.0000e-005**	**1.3300e-003**	**4.0000e-005**	**1.3600e-003**	**3.5000e-004**	**3.0000e-005**	**3.9000e-004**	**0.0000**	**1.4855**	**1.4855**	**5.0000e-005**	**0.0000**	**1.4866**

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	4.0000e-003	0.0349	0.0263	4.0000e-005		2.2400e-003	2.2400e-003		2.1100e-003	2.1100e-003	0.0000	3.5515	3.5515	8.7000e-004	0.0000	3.5698
Total	**4.0000e-003**	**0.0349**	**0.0263**	**4.0000e-005**		**2.2400e-003**	**2.2400e-003**		**2.1100e-003**	**2.1100e-003**	**0.0000**	**3.5515**	**3.5515**	**8.7000e-004**	**0.0000**	**3.5698**

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	2.2000e-004	1.7700e-003	2.7800e-003	1.0000e-005	1.5000e-004	3.0000e-005	1.7000e-004	4.0000e-005	2.0000e-005	7.0000e-005	0.0000	0.4690	0.4690	0.0000	0.0000	0.4691
Worker	4.2000e-004	5.5000e-004	5.1800e-003	1.0000e-005	1.1800e-003	1.0000e-005	1.1900e-003	3.1000e-004	1.0000e-005	3.2000e-004	0.0000	1.0164	1.0164	5.0000e-005	0.0000	1.0175
Total	**6.4000e-004**	**2.3200e-003**	**7.9600e-003**	**2.0000e-005**	**1.3300e-003**	**4.0000e-005**	**1.3600e-003**	**3.5000e-004**	**3.0000e-005**	**3.9000e-004**	**0.0000**	**1.4855**	**1.4855**	**5.0000e-005**	**0.0000**	**1.4866**

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	0.0127	0.1289	0.1104	1.7000e-004		7.4500e-003	7.4500e-003		6.8700e-003	6.8700e-003	0.0000	15.0641	15.0641	4.5600e-003	0.0000	15.1599
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0127**	**0.1289**	**0.1104**	**1.7000e-004**		**7.4500e-003**	**7.4500e-003**		**6.8700e-003**	**6.8700e-003**	**0.0000**	**15.0641**	**15.0641**	**4.5600e-003**	**0.0000**	**15.1599**

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	5.1000e-004	6.8000e-004	6.3400e-003	2.0000e-005	1.4400e-003	1.0000e-005	1.4500e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.2446	1.2446	6.0000e-005	0.0000	1.2459
Total	**5.1000e-004**	**6.8000e-004**	**6.3400e-003**	**2.0000e-005**	**1.4400e-003**	**1.0000e-005**	**1.4500e-003**	**3.8000e-004**	**1.0000e-005**	**3.9000e-004**	**0.0000**	**1.2446**	**1.2446**	**6.0000e-005**	**0.0000**	**1.2459**

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	0.0127	0.1289	0.1104	1.7000e-004		7.4500e-003	7.4500e-003		6.8700e-003	6.8700e-003	0.0000	15.0641	15.0641	4.5600e-003	0.0000	15.1599
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0127**	**0.1289**	**0.1104**	**1.7000e-004**		**7.4500e-003**	**7.4500e-003**		**6.8700e-003**	**6.8700e-003**	**0.0000**	**15.0641**	**15.0641**	**4.5600e-003**	**0.0000**	**15.1599**

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	5.1000e-004	6.8000e-004	6.3400e-003	2.0000e-005	1.4400e-003	1.0000e-005	1.4500e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.2446	1.2446	6.0000e-005	0.0000	1.2459
Total	**5.1000e-004**	**6.8000e-004**	**6.3400e-003**	**2.0000e-005**	**1.4400e-003**	**1.0000e-005**	**1.4500e-003**	**3.8000e-004**	**1.0000e-005**	**3.9000e-004**	**0.0000**	**1.2446**	**1.2446**	**6.0000e-005**	**0.0000**	**1.2459**

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	2.1275					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.6900e-003	0.0181	0.0167	3.0000e-005		1.3500e-003	1.3500e-003		1.3500e-003	1.3500e-003	0.0000	2.2979	2.2979	2.2000e-004	0.0000	2.3025
Total	**2.1302**	**0.0181**	**0.0167**	**3.0000e-005**		**1.3500e-003**	**1.3500e-003**		**1.3500e-003**	**1.3500e-003**	**0.0000**	**2.2979**	**2.2979**	**2.2000e-004**	**0.0000**	**2.3025**

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	5.1000e-004	6.8000e-004	6.3400e-003	2.0000e-005	1.4400e-003	1.0000e-005	1.4500e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.2446	1.2446	6.0000e-005	0.0000	1.2459
Total	**5.1000e-004**	**6.8000e-004**	**6.3400e-003**	**2.0000e-005**	**1.4400e-003**	**1.0000e-005**	**1.4500e-003**	**3.8000e-004**	**1.0000e-005**	**3.9000e-004**	**0.0000**	**1.2446**	**1.2446**	**6.0000e-005**	**0.0000**	**1.2459**

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	2.1275					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.6900e-003	0.0181	0.0167	3.0000e-005		1.3500e-003	1.3500e-003		1.3500e-003	1.3500e-003	0.0000	2.2979	2.2979	2.2000e-004	0.0000	2.3025
Total	**2.1302**	**0.0181**	**0.0167**	**3.0000e-005**		**1.3500e-003**	**1.3500e-003**		**1.3500e-003**	**1.3500e-003**	**0.0000**	**2.2979**	**2.2979**	**2.2000e-004**	**0.0000**	**2.3025**

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	5.1000e-004	6.8000e-004	6.3400e-003	2.0000e-005	1.4400e-003	1.0000e-005	1.4500e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.2446	1.2446	6.0000e-005	0.0000	1.2459
Total	**5.1000e-004**	**6.8000e-004**	**6.3400e-003**	**2.0000e-005**	**1.4400e-003**	**1.0000e-005**	**1.4500e-003**	**3.8000e-004**	**1.0000e-005**	**3.9000e-004**	**0.0000**	**1.2446**	**1.2446**	**6.0000e-005**	**0.0000**	**1.2459**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Transit Accessibility

	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	0.3963	0.6794	3.4501	8.0700e-003	0.5457	9.5800e-003	0.5553	0.1459	8.8400e-003	0.1548	0.0000	560.1969	560.1969	0.0226	0.0000	560.6708
Unmitigated	0.4043	0.7230	3.6185	8.7300e-003	0.5921	0.0103	0.6024	0.1584	9.4900e-003	0.1679	0.0000	605.6506	605.6506	0.0242	0.0000	606.1588

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	816.00	973.76	825.52	1,574,624	1,451,189
Total	816.00	973.76	825.52	1,574,624	1,451,189

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	5.80	5.80	5.80	41.60	18.80	39.60	86	11	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.513300	0.073549	0.191092	0.130830	0.036094	0.005140	0.012550	0.022916	0.001871	0.002062	0.006564	0.000586	0.003446

4.4 Fleet Mix

5.0 Energy Detail

Historical Energy Use: Y

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	119.9394	119.9394	4.7400e-003	1.0800e-003	120.3732
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	119.9394	119.9394	4.7400e-003	1.0800e-003	120.3732
NaturalGas Mitigated	4.2300e-003	0.0362	0.0154	2.3000e-004		2.9200e-003	2.9200e-003		2.9200e-003	2.9200e-003	0.0000	41.8759	41.8759	8.0000e-004	7.7000e-004	42.1307
NaturalGas Unmitigated	4.2300e-003	0.0362	0.0154	2.3000e-004		2.9200e-003	2.9200e-003		2.9200e-003	2.9200e-003	0.0000	41.8759	41.8759	8.0000e-004	7.7000e-004	42.1307

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	784724	4.2300e-003	0.0362	0.0154	2.3000e-004		2.9200e-003	2.9200e-003		2.9200e-003	2.9200e-003	0.0000	41.8759	41.8759	8.0000e-004	7.7000e-004	42.1307
Total		**4.2300e-003**	**0.0362**	**0.0154**	**2.3000e-004**		**2.9200e-003**	**2.9200e-003**		**2.9200e-003**	**2.9200e-003**	**0.0000**	**41.8759**	**41.8759**	**8.0000e-004**	**7.7000e-004**	**42.1307**

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	784724	4.2300e-003	0.0362	0.0154	2.3000e-004		2.9200e-003	2.9200e-003		2.9200e-003	2.9200e-003	0.0000	41.8759	41.8759	8.0000e-004	7.7000e-004	42.1307
Total		**4.2300e-003**	**0.0362**	**0.0154**	**2.3000e-004**		**2.9200e-003**	**2.9200e-003**		**2.9200e-003**	**2.9200e-003**	**0.0000**	**41.8759**	**41.8759**	**8.0000e-004**	**7.7000e-004**	**42.1307**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	475389	119.9394	4.7400e-003	1.0800e-003	120.3732
Total		**119.9394**	**4.7400e-003**	**1.0800e-003**	**120.3732**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	475389	119.9394	4.7400e-003	1.0800e-003	120.3732
Total		**119.9394**	**4.7400e-003**	**1.0800e-003**	**120.3732**

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	0.7748	0.0117	1.0132	5.0000e-005		5.5700e-003	5.5700e-003		5.5700e-003	5.5700e-003	0.0000	1.6495	1.6495	1.6100e-003	0.0000	1.6833
Unmitigated	0.7748	0.0117	1.0132	5.0000e-005		5.5700e-003	5.5700e-003		5.5700e-003	5.5700e-003	0.0000	1.6495	1.6495	1.6100e-003	0.0000	1.6833

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	0.2128					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.5312					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0309	0.0117	1.0132	5.0000e-005		5.5700e-003	5.5700e-003		5.5700e-003	5.5700e-003	0.0000	1.6495	1.6495	1.6100e-003	0.0000	1.6833
Total	**0.7748**	**0.0117**	**1.0132**	**5.0000e-005**		**5.5700e-003**	**5.5700e-003**		**5.5700e-003**	**5.5700e-003**	**0.0000**	**1.6495**	**1.6495**	**1.6100e-003**	**0.0000**	**1.6833**

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	0.2128					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.5312					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0309	0.0117	1.0132	5.0000e-005		5.5700e-003	5.5700e-003		5.5700e-003	5.5700e-003	0.0000	1.6495	1.6495	1.6100e-003	0.0000	1.6833
Total	**0.7748**	**0.0117**	**1.0132**	**5.0000e-005**		**5.5700e-003**	**5.5700e-003**		**5.5700e-003**	**5.5700e-003**	**0.0000**	**1.6495**	**1.6495**	**1.6100e-003**	**0.0000**	**1.6833**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	47.5792	0.2905	7.2100e-003	55.9144
Unmitigated	47.5792	0.2905	7.2200e-003	55.9180

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	8.86095 / 5.58625	47.5792	0.2905	7.2200e-003	55.9180
Total		**47.5792**	**0.2905**	**7.2200e-003**	**55.9180**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	8.86095 / 5.58625	47.5792	0.2905	7.2100e-003	55.9144
Total		**47.5792**	**0.2905**	**7.2100e-003**	**55.9144**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	12.6991	0.7505	0.0000	28.4595
Unmitigated	12.6991	0.7505	0.0000	28.4595

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	62.56	12.6991	0.7505	0.0000	28.4595
Total		**12.6991**	**0.7505**	**0.0000**	**28.4595**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	62.56	12.6991	0.7505	0.0000	28.4595
Total		**12.6991**	**0.7505**	**0.0000**	**28.4595**

9.0 Operational Offroad

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

10.0 Vegetation

ATTACHMENT 2

CalEEMod Output – Project Emissions

8458 National Community Renaissance - Project 2020

San Diego County APCD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Mid Rise	148.00	Dwelling Unit	4.06	148,000.00	423

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2020
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	556.22	**CH4 Intensity (lb/MWhr)**	0.022	**N2O Intensity (lb/MWhr)**	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics - RPS 2020 goal 33%
CalEEMod accounts for 10.2%
Additional 22.8% reduction applied
(556.22, 0.022, 0.005)

Land Use - 148 units on 4.06 acres

Construction Phase - Demo/grading - 3 months per phase
Construction - 16 months per phase

Demolition -

Architectural Coating - SDAPCD Rule 67

Vehicle Trips - 6 trips/du
5.8 mile trip length

Woodstoves - No woodstoves or fireplaces

Area Coating - SDAPCD Rule 67

Energy Use - 2013 Title 24
23.3% increase in electricity efficiency (123.31)
3.8% increase in natural gas efficiency (3,675.29)

Water And Wastewater - CalGreen 20% reduction in indoor water use (7,714,236.632)

Mobile Land Use Mitigation -

Grading -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	150.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	100.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	150.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	100.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	150
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	150	250
tblConstructionPhase	NumDays	230.00	717.00
tblConstructionPhase	NumDays	20.00	42.00
tblConstructionPhase	NumDays	8.00	45.00
tblConstructionPhase	NumDays	5.00	43.00

tblConstructionPhase	PhaseEndDate	4/24/2020	3/5/2020
tblConstructionPhase	PhaseStartDate	7/1/2017	7/3/2017
tblConstructionPhase	PhaseStartDate	4/29/2017	5/1/2017
tblConstructionPhase	PhaseStartDate	4/1/2020	2/11/2020
tblEnergyUse	T24E	160.77	123.31
tblEnergyUse	T24NG	3,820.47	3,675.29
tblFireplaces	FireplaceDayYear	82.00	0.00
tblFireplaces	FireplaceHourDay	3.00	0.00
tblFireplaces	FireplaceWoodMass	3,078.40	0.00
tblFireplaces	NumberGas	81.40	0.00
tblFireplaces	NumberNoFireplace	14.80	148.00
tblFireplaces	NumberWood	51.80	0.00
tblLandUse	LotAcreage	3.89	4.06
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.022
tblProjectCharacteristics	CO2IntensityFactor	720.49	556.22
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblProjectCharacteristics	OperationalYear	2014	2020
tblVehicleTrips	HO_TL	7.50	5.80
tblVehicleTrips	HS_TL	7.30	5.80
tblVehicleTrips	HW_TL	10.80	5.80
tblVehicleTrips	WD_TR	6.59	6.00
tblWater	IndoorWaterUseRate	9,642,795.79	7,714,236.63
tblWoodstoves	NumberCatalytic	7.40	0.00
tblWoodstoves	NumberNoncatalytic	7.40	0.00
tblWoodstoves	WoodstoveDayYear	82.00	0.00
tblWoodstoves	WoodstoveWoodMass	3,019.20	0.00

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					
2017	0.5087	4.7196	3.8076	5.3000e-003	0.6620	0.2681	0.9300	0.3171	0.2494	0.5665	0.0000	467.9690	467.9690	0.1056	0.0000	470.1858
2018	0.4081	3.2527	3.0379	5.3700e-003	0.1256	0.1982	0.3238	0.0336	0.1863	0.2200	0.0000	449.0618	449.0618	0.0807	0.0000	450.7562
2019	0.3626	2.9343	2.9329	5.3700e-003	0.1256	0.1708	0.2963	0.0336	0.1605	0.1942	0.0000	441.3647	441.3647	0.0791	0.0000	443.0262
2020	1.1372	0.7844	0.8475	1.5700e-003	0.0342	0.0437	0.0779	9.1600e-003	0.0410	0.0502	0.0000	126.7889	126.7889	0.0243	0.0000	127.2981
Total	**2.4165**	**11.6910**	**10.6258**	**0.0176**	**0.9473**	**0.6807**	**1.6280**	**0.3935**	**0.6372**	**1.0307**	**0.0000**	**1,485.1844**	**1,485.1844**	**0.2896**	**0.0000**	**1,491.2663**

2.1 Overall Construction

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					
2017	0.5087	4.7196	3.8076	5.3000e-003	0.6620	0.2681	0.9300	0.3171	0.2494	0.5665	0.0000	467.9685	467.9685	0.1056	0.0000	470.1853
2018	0.4081	3.2527	3.0379	5.3700e-003	0.1256	0.1982	0.3238	0.0336	0.1863	0.2200	0.0000	449.0615	449.0615	0.0807	0.0000	450.7559
2019	0.3626	2.9343	2.9329	5.3700e-003	0.1256	0.1708	0.2963	0.0336	0.1605	0.1942	0.0000	441.3644	441.3644	0.0791	0.0000	443.0258
2020	1.1372	0.7844	0.8475	1.5700e-003	0.0342	0.0437	0.0779	9.1600e-003	0.0410	0.0502	0.0000	126.7888	126.7888	0.0243	0.0000	127.2980
Total	**2.4165**	**11.6910**	**10.6258**	**0.0176**	**0.9473**	**0.6807**	**1.6280**	**0.3935**	**0.6372**	**1.0307**	**0.0000**	**1,485.1831**	**1,485.1831**	**0.2896**	**0.0000**	**1,491.2650**

	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**

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	0.8431	0.0128	1.1026	6.0000e-005		6.0600e-003	6.0600e-003		6.0600e-003	6.0600e-003	0.0000	1.7951	1.7951	1.7500e-003	0.0000	1.8318
Energy	4.2600e-003	0.0364	0.0155	2.3000e-004		2.9400e-003	2.9400e-003		2.9400e-003	2.9400e-003	0.0000	169.8039	169.8039	5.8600e-003	1.9200e-003	170.5222
Mobile	0.4400	0.7867	3.9378	9.5000e-003	0.6443	0.0112	0.6555	0.1723	0.0103	0.1827	0.0000	659.0904	659.0904	0.0263	0.0000	659.6434
Waste						0.0000	0.0000		0.0000	0.0000	13.8196	0.0000	13.8196	0.8167	0.0000	30.9707
Water						0.0000	0.0000		0.0000	0.0000	2.4474	42.3825	44.8299	0.2530	6.3200e-003	52.1019
Total	**1.2873**	**0.8359**	**5.0558**	**9.7900e-003**	**0.6443**	**0.0202**	**0.6645**	**0.1723**	**0.0193**	**0.1917**	**16.2670**	**873.0719**	**889.3388**	**1.1037**	**8.2400e-003**	**915.0700**

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	0.8431	0.0128	1.1026	6.0000e-005		6.0600e-003	6.0600e-003		6.0600e-003	6.0600e-003	0.0000	1.7951	1.7951	1.7500e-003	0.0000	1.8318
Energy	4.2600e-003	0.0364	0.0155	2.3000e-004		2.9400e-003	2.9400e-003		2.9400e-003	2.9400e-003	0.0000	169.8039	169.8039	5.8600e-003	1.9200e-003	170.5222
Mobile	0.4312	0.7394	3.7545	8.7900e-003	0.5938	0.0104	0.6043	0.1588	9.6200e-003	0.1684	0.0000	609.6260	609.6260	0.0246	0.0000	610.1418
Waste						0.0000	0.0000		0.0000	0.0000	13.8196	0.0000	13.8196	0.8167	0.0000	30.9707
Water						0.0000	0.0000		0.0000	0.0000	2.4474	42.3825	44.8299	0.2530	6.3100e-003	52.0987
Total	**1.2786**	**0.7885**	**4.8726**	**9.0800e-003**	**0.5938**	**0.0194**	**0.6133**	**0.1588**	**0.0186**	**0.1774**	**16.2670**	**823.6075**	**839.8745**	**1.1019**	**8.2300e-003**	**865.5652**

	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	**0.68**	**5.67**	**3.62**	**7.25**	**7.84**	**3.81**	**7.72**	**7.84**	**3.67**	**7.42**	**0.00**	**5.67**	**5.56**	**0.16**	**0.12**	**5.41**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/2/2017	2/28/2017	5	42	
2	Site Preparation	Site Preparation	3/1/2017	4/28/2017	5	43	
3	Grading	Grading	5/1/2017	6/30/2017	5	45	
4	Building Construction	Building Construction	7/3/2017	3/31/2020	5	717	
5	Paving	Paving	2/11/2020	3/5/2020	5	18	
6	Architectural Coating	Architectural Coating	3/6/2020	3/31/2020	5	18	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 22.5

Acres of Paving: 0

Residential Indoor: 299,700; Residential Outdoor: 99,900; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	2	8.00	255	0.40
Demolition	Excavators	3	8.00	162	0.38
Grading	Excavators	1	8.00	162	0.38
Site Preparation	Rubber Tired Dozers	3	8.00	255	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Graders	1	8.00	174	0.41
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	226	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Paving	Pavers	1	8.00	125	0.42
Paving	Paving Equipment	2	6.00	130	0.36
Paving	Rollers	2	6.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

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	468.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	107.00	16.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	21.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2017

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					0.0512	0.0000	0.0512	7.7600e-003	0.0000	7.7600e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0850	0.8966	0.7118	8.4000e-004		0.0446	0.0446		0.0416	0.0416	0.0000	76.8983	76.8983	0.0211	0.0000	77.3413
Total	**0.0850**	**0.8966**	**0.7118**	**8.4000e-004**	**0.0512**	**0.0446**	**0.0959**	**7.7600e-003**	**0.0416**	**0.0493**	**0.0000**	**76.8983**	**76.8983**	**0.0211**	**0.0000**	**77.3413**

3.2 Demolition - 2017

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	4.5800e-003	0.0606	0.0536	1.7000e-004	3.9900e-003	7.9000e-004	4.7800e-003	1.1000e-003	7.3000e-004	1.8200e-003	0.0000	15.7112	15.7112	1.1000e-004	0.0000	15.7135
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	9.8000e-004	1.3000e-003	0.0123	3.0000e-005	2.5300e-003	2.0000e-005	2.5400e-003	6.7000e-004	2.0000e-005	6.9000e-004	0.0000	2.2631	2.2631	1.2000e-004	0.0000	2.2655
Total	**5.5600e-003**	**0.0619**	**0.0659**	**2.0000e-004**	**6.5200e-003**	**8.1000e-004**	**7.3200e-003**	**1.7700e-003**	**7.5000e-004**	**2.5100e-003**	**0.0000**	**17.9742**	**17.9742**	**2.3000e-004**	**0.0000**	**17.9790**

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					0.0512	0.0000	0.0512	7.7600e-003	0.0000	7.7600e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0850	0.8966	0.7118	8.4000e-004		0.0446	0.0446		0.0416	0.0416	0.0000	76.8982	76.8982	0.0211	0.0000	77.3412
Total	**0.0850**	**0.8966**	**0.7118**	**8.4000e-004**	**0.0512**	**0.0446**	**0.0959**	**7.7600e-003**	**0.0416**	**0.0493**	**0.0000**	**76.8982**	**76.8982**	**0.0211**	**0.0000**	**77.3412**

3.2 Demolition - 2017

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	4.5800e-003	0.0606	0.0536	1.7000e-004	3.9900e-003	7.9000e-004	4.7800e-003	1.1000e-003	7.3000e-004	1.8200e-003	0.0000	15.7112	15.7112	1.1000e-004	0.0000	15.7135
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	9.8000e-004	1.3000e-003	0.0123	3.0000e-005	2.5300e-003	2.0000e-005	2.5400e-003	6.7000e-004	2.0000e-005	6.9000e-004	0.0000	2.2631	2.2631	1.2000e-004	0.0000	2.2655
Total	**5.5600e-003**	**0.0619**	**0.0659**	**2.0000e-004**	**6.5200e-003**	**8.1000e-004**	**7.3200e-003**	**1.7700e-003**	**7.5000e-004**	**2.5100e-003**	**0.0000**	**17.9742**	**17.9742**	**2.3000e-004**	**0.0000**	**17.9790**

3.3 Site Preparation - 2017

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					0.3884	0.0000	0.3884	0.2135	0.0000	0.2135	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1040	1.1127	0.8470	8.4000e-004		0.0592	0.0592		0.0545	0.0545	0.0000	78.0781	78.0781	0.0239	0.0000	78.5805
Total	**0.1040**	**1.1127**	**0.8470**	**8.4000e-004**	**0.3884**	**0.0592**	**0.4476**	**0.2135**	**0.0545**	**0.2680**	**0.0000**	**78.0781**	**78.0781**	**0.0239**	**0.0000**	**78.5805**

3.3 Site Preparation - 2017

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	1.2000e-003	1.5900e-003	0.0151	4.0000e-005	3.1000e-003	2.0000e-005	3.1300e-003	8.2000e-004	2.0000e-005	8.5000e-004	0.0000	2.7804	2.7804	1.4000e-004	0.0000	2.7833
Total	**1.2000e-003**	**1.5900e-003**	**0.0151**	**4.0000e-005**	**3.1000e-003**	**2.0000e-005**	**3.1300e-003**	**8.2000e-004**	**2.0000e-005**	**8.5000e-004**	**0.0000**	**2.7804**	**2.7804**	**1.4000e-004**	**0.0000**	**2.7833**

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					0.3884	0.0000	0.3884	0.2135	0.0000	0.2135	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1040	1.1127	0.8470	8.4000e-004		0.0592	0.0592		0.0545	0.0545	0.0000	78.0780	78.0780	0.0239	0.0000	78.5804
Total	**0.1040**	**1.1127**	**0.8470**	**8.4000e-004**	**0.3884**	**0.0592**	**0.4476**	**0.2135**	**0.0545**	**0.2680**	**0.0000**	**78.0780**	**78.0780**	**0.0239**	**0.0000**	**78.5804**

3.3 Site Preparation - 2017

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	1.2000e-003	1.5900e-003	0.0151	4.0000e-005	3.1000e-003	2.0000e-005	3.1300e-003	8.2000e-004	2.0000e-005	8.5000e-004	0.0000	2.7804	2.7804	1.4000e-004	0.0000	2.7833
Total	**1.2000e-003**	**1.5900e-003**	**0.0151**	**4.0000e-005**	**3.1000e-003**	**2.0000e-005**	**3.1300e-003**	**8.2000e-004**	**2.0000e-005**	**8.5000e-004**	**0.0000**	**2.7804**	**2.7804**	**1.4000e-004**	**0.0000**	**2.7833**

3.4 Grading - 2017

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					0.1474	0.0000	0.1474	0.0758	0.0000	0.0758	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0778	0.8096	0.5711	6.7000e-004		0.0459	0.0459		0.0422	0.0422	0.0000	62.1263	62.1263	0.0190	0.0000	62.5260
Total	**0.0778**	**0.8096**	**0.5711**	**6.7000e-004**	**0.1474**	**0.0459**	**0.1933**	**0.0758**	**0.0422**	**0.1180**	**0.0000**	**62.1263**	**62.1263**	**0.0190**	**0.0000**	**62.5260**

3.4 Grading - 2017

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	1.0500e-003	1.3900e-003	0.0131	3.0000e-005	2.7100e-003	2.0000e-005	2.7300e-003	7.2000e-004	2.0000e-005	7.4000e-004	0.0000	2.4247	2.4247	1.2000e-004	0.0000	2.4273
Total	**1.0500e-003**	**1.3900e-003**	**0.0131**	**3.0000e-005**	**2.7100e-003**	**2.0000e-005**	**2.7300e-003**	**7.2000e-004**	**2.0000e-005**	**7.4000e-004**	**0.0000**	**2.4247**	**2.4247**	**1.2000e-004**	**0.0000**	**2.4273**

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					0.1474	0.0000	0.1474	0.0758	0.0000	0.0758	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0778	0.8096	0.5711	6.7000e-004		0.0459	0.0459		0.0422	0.0422	0.0000	62.1262	62.1262	0.0190	0.0000	62.5260
Total	**0.0778**	**0.8096**	**0.5711**	**6.7000e-004**	**0.1474**	**0.0459**	**0.1933**	**0.0758**	**0.0422**	**0.1180**	**0.0000**	**62.1262**	**62.1262**	**0.0190**	**0.0000**	**62.5260**

3.4 Grading - 2017

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	1.0500e-003	1.3900e-003	0.0131	3.0000e-005	2.7100e-003	2.0000e-005	2.7300e-003	7.2000e-004	2.0000e-005	7.4000e-004	0.0000	2.4247	2.4247	1.2000e-004	0.0000	2.4273
Total	**1.0500e-003**	**1.3900e-003**	**0.0131**	**3.0000e-005**	**2.7100e-003**	**2.0000e-005**	**2.7300e-003**	**7.2000e-004**	**2.0000e-005**	**7.4000e-004**	**0.0000**	**2.4247**	**2.4247**	**1.2000e-004**	**0.0000**	**2.4273**

3.5 Building Construction - 2017

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	0.2017	1.7164	1.1784	1.7400e-003		0.1158	0.1158		0.1087	0.1087	0.0000	155.6614	155.6614	0.0383	0.0000	156.4660
Total	**0.2017**	**1.7164**	**1.1784**	**1.7400e-003**		**0.1158**	**0.1158**		**0.1087**	**0.1087**	**0.0000**	**155.6614**	**155.6614**	**0.0383**	**0.0000**	**156.4660**

3.5 Building Construction - 2017

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	0.0108	0.0908	0.1345	2.5000e-004	6.7700e-003	1.3000e-003	8.0700e-003	1.9400e-003	1.1900e-003	3.1300e-003	0.0000	22.0584	22.0584	1.7000e-004	0.0000	22.0619
Worker	0.0216	0.0286	0.2708	6.9000e-004	0.0558	4.2000e-004	0.0562	0.0148	3.8000e-004	0.0152	0.0000	49.9672	49.9672	2.5400e-003	0.0000	50.0206
Total	**0.0325**	**0.1195**	**0.4053**	**9.4000e-004**	**0.0625**	**1.7200e-003**	**0.0643**	**0.0168**	**1.5700e-003**	**0.0183**	**0.0000**	**72.0256**	**72.0256**	**2.7100e-003**	**0.0000**	**72.0825**

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	0.2017	1.7164	1.1784	1.7400e-003		0.1158	0.1158		0.1087	0.1087	0.0000	155.6612	155.6612	0.0383	0.0000	156.4658
Total	**0.2017**	**1.7164**	**1.1784**	**1.7400e-003**		**0.1158**	**0.1158**		**0.1087**	**0.1087**	**0.0000**	**155.6612**	**155.6612**	**0.0383**	**0.0000**	**156.4658**

3.5 Building Construction - 2017

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	0.0108	0.0908	0.1345	2.5000e-004	6.7700e-003	1.3000e-003	8.0700e-003	1.9400e-003	1.1900e-003	3.1300e-003	0.0000	22.0584	22.0584	1.7000e-004	0.0000	22.0619
Worker	0.0216	0.0286	0.2708	6.9000e-004	0.0558	4.2000e-004	0.0562	0.0148	3.8000e-004	0.0152	0.0000	49.9672	49.9672	2.5400e-003	0.0000	50.0206
Total	**0.0325**	**0.1195**	**0.4053**	**9.4000e-004**	**0.0625**	**1.7200e-003**	**0.0643**	**0.0168**	**1.5700e-003**	**0.0183**	**0.0000**	**72.0256**	**72.0256**	**2.7100e-003**	**0.0000**	**72.0825**

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	0.3483	3.0355	2.2880	3.5000e-003		0.1950	0.1950		0.1833	0.1833	0.0000	308.9844	308.9844	0.0756	0.0000	310.5723
Total	**0.3483**	**3.0355**	**2.2880**	**3.5000e-003**		**0.1950**	**0.1950**		**0.1833**	**0.1833**	**0.0000**	**308.9844**	**308.9844**	**0.0756**	**0.0000**	**310.5723**

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	0.0204	0.1647	0.2581	4.9000e-004	0.0136	2.4200e-003	0.0160	3.8900e-003	2.2300e-003	6.1100e-003	0.0000	43.5257	43.5257	3.3000e-004	0.0000	43.5325
Worker	0.0394	0.0525	0.4917	1.3800e-003	0.1120	8.2000e-004	0.1128	0.0298	7.6000e-004	0.0305	0.0000	96.5517	96.5517	4.7400e-003	0.0000	96.6514
Total	**0.0599**	**0.2171**	**0.7499**	**1.8700e-003**	**0.1256**	**3.2400e-003**	**0.1288**	**0.0337**	**2.9900e-003**	**0.0366**	**0.0000**	**140.0774**	**140.0774**	**5.0700e-003**	**0.0000**	**140.1839**

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	0.3483	3.0355	2.2880	3.5000e-003		0.1950	0.1950		0.1833	0.1833	0.0000	308.9841	308.9841	0.0756	0.0000	310.5720
Total	**0.3483**	**3.0355**	**2.2880**	**3.5000e-003**		**0.1950**	**0.1950**		**0.1833**	**0.1833**	**0.0000**	**308.9841**	**308.9841**	**0.0756**	**0.0000**	**310.5720**

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	0.0204	0.1647	0.2581	4.9000e-004	0.0136	2.4200e-003	0.0160	3.8900e-003	2.2300e-003	6.1100e-003	0.0000	43.5257	43.5257	3.3000e-004	0.0000	43.5325
Worker	0.0394	0.0525	0.4917	1.3800e-003	0.1120	8.2000e-004	0.1128	0.0298	7.6000e-004	0.0305	0.0000	96.5517	96.5517	4.7400e-003	0.0000	96.6514
Total	**0.0599**	**0.2171**	**0.7499**	**1.8700e-003**	**0.1256**	**3.2400e-003**	**0.1288**	**0.0337**	**2.9900e-003**	**0.0366**	**0.0000**	**140.0774**	**140.0774**	**5.0700e-003**	**0.0000**	**140.1839**

3.5 Building Construction - 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					
Off-Road	0.3069	2.7359	2.2342	3.5000e-003		0.1677	0.1677		0.1577	0.1577	0.0000	305.5302	305.5302	0.0743	0.0000	307.0913
Total	**0.3069**	**2.7359**	**2.2342**	**3.5000e-003**		**0.1677**	**0.1677**		**0.1577**	**0.1577**	**0.0000**	**305.5302**	**305.5302**	**0.0743**	**0.0000**	**307.0913**

3.5 Building Construction - 2019

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	0.0191	0.1498	0.2464	4.9000e-004	0.0136	2.2500e-003	0.0158	3.8800e-003	2.0700e-003	5.9600e-003	0.0000	42.7757	42.7757	3.2000e-004	0.0000	42.7824
Worker	0.0366	0.0485	0.4523	1.3800e-003	0.1120	8.1000e-004	0.1128	0.0298	7.5000e-004	0.0305	0.0000	93.0588	93.0588	4.4600e-003	0.0000	93.1525
Total	**0.0557**	**0.1983**	**0.6986**	**1.8700e-003**	**0.1256**	**3.0600e-003**	**0.1286**	**0.0336**	**2.8200e-003**	**0.0365**	**0.0000**	**135.8345**	**135.8345**	**4.7800e-003**	**0.0000**	**135.9349**

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	0.3069	2.7359	2.2342	3.5000e-003		0.1677	0.1677		0.1577	0.1577	0.0000	305.5299	305.5299	0.0743	0.0000	307.0909
Total	**0.3069**	**2.7359**	**2.2342**	**3.5000e-003**		**0.1677**	**0.1677**		**0.1577**	**0.1577**	**0.0000**	**305.5299**	**305.5299**	**0.0743**	**0.0000**	**307.0909**

3.5 Building Construction - 2019

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	0.0191	0.1498	0.2464	4.9000e-004	0.0136	2.2500e-003	0.0158	3.8800e-003	2.0700e-003	5.9600e-003	0.0000	42.7757	42.7757	3.2000e-004	0.0000	42.7824
Worker	0.0366	0.0485	0.4523	1.3800e-003	0.1120	8.1000e-004	0.1128	0.0298	7.5000e-004	0.0305	0.0000	93.0588	93.0588	4.4600e-003	0.0000	93.1525
Total	**0.0557**	**0.1983**	**0.6986**	**1.8700e-003**	**0.1256**	**3.0600e-003**	**0.1286**	**0.0336**	**2.8200e-003**	**0.0365**	**0.0000**	**135.8345**	**135.8345**	**4.7800e-003**	**0.0000**	**135.9349**

3.5 Building Construction - 2020

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	0.0686	0.6202	0.5463	8.7000e-004		0.0362	0.0362		0.0340	0.0340	0.0000	74.9612	74.9612	0.0183	0.0000	75.3447
Total	**0.0686**	**0.6202**	**0.5463**	**8.7000e-004**		**0.0362**	**0.0362**		**0.0340**	**0.0340**	**0.0000**	**74.9612**	**74.9612**	**0.0183**	**0.0000**	**75.3447**

3.5 Building Construction - 2020

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	4.4900e-003	0.0318	0.0593	1.2000e-004	3.3800e-003	5.0000e-004	3.8800e-003	9.7000e-004	4.6000e-004	1.4300e-003	0.0000	10.4093	10.4093	8.0000e-005	0.0000	10.4110
Worker	8.6200e-003	0.0113	0.1053	3.4000e-004	0.0279	2.0000e-004	0.0281	7.4100e-003	1.9000e-004	7.6000e-003	0.0000	22.2417	22.2417	1.0600e-003	0.0000	22.2639
Total	**0.0131**	**0.0431**	**0.1645**	**4.6000e-004**	**0.0313**	**7.0000e-004**	**0.0320**	**8.3800e-003**	**6.5000e-004**	**9.0300e-003**	**0.0000**	**32.6510**	**32.6510**	**1.1400e-003**	**0.0000**	**32.6748**

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	0.0686	0.6202	0.5463	8.7000e-004		0.0362	0.0362		0.0340	0.0340	0.0000	74.9611	74.9611	0.0183	0.0000	75.3447
Total	**0.0686**	**0.6202**	**0.5463**	**8.7000e-004**		**0.0362**	**0.0362**		**0.0340**	**0.0340**	**0.0000**	**74.9611**	**74.9611**	**0.0183**	**0.0000**	**75.3447**

3.5 Building Construction - 2020

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	4.4900e-003	0.0318	0.0593	1.2000e-004	3.3800e-003	5.0000e-004	3.8800e-003	9.7000e-004	4.6000e-004	1.4300e-003	0.0000	10.4093	10.4093	8.0000e-005	0.0000	10.4110
Worker	8.6200e-003	0.0113	0.1053	3.4000e-004	0.0279	2.0000e-004	0.0281	7.4100e-003	1.9000e-004	7.6000e-003	0.0000	22.2417	22.2417	1.0600e-003	0.0000	22.2639
Total	**0.0131**	**0.0431**	**0.1645**	**4.6000e-004**	**0.0313**	**7.0000e-004**	**0.0320**	**8.3800e-003**	**6.5000e-004**	**9.0300e-003**	**0.0000**	**32.6510**	**32.6510**	**1.1400e-003**	**0.0000**	**32.6748**

3.6 Paving - 2020

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	0.0105	0.1048	0.1090	1.7000e-004		5.7900e-003	5.7900e-003		5.3400e-003	5.3400e-003	0.0000	14.5187	14.5187	4.5600e-003	0.0000	14.6144
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0105**	**0.1048**	**0.1090**	**1.7000e-004**		**5.7900e-003**	**5.7900e-003**		**5.3400e-003**	**5.3400e-003**	**0.0000**	**14.5187**	**14.5187**	**4.5600e-003**	**0.0000**	**14.6144**

3.6 Paving - 2020

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	4.5000e-004	5.8000e-004	5.4500e-003	2.0000e-005	1.4400e-003	1.0000e-005	1.4500e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.1513	1.1513	5.0000e-005	0.0000	1.1524
Total	**4.5000e-004**	**5.8000e-004**	**5.4500e-003**	**2.0000e-005**	**1.4400e-003**	**1.0000e-005**	**1.4500e-003**	**3.8000e-004**	**1.0000e-005**	**3.9000e-004**	**0.0000**	**1.1513**	**1.1513**	**5.0000e-005**	**0.0000**	**1.1524**

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	0.0105	0.1048	0.1090	1.7000e-004		5.7900e-003	5.7900e-003		5.3400e-003	5.3400e-003	0.0000	14.5186	14.5186	4.5600e-003	0.0000	14.6144
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0105**	**0.1048**	**0.1090**	**1.7000e-004**		**5.7900e-003**	**5.7900e-003**		**5.3400e-003**	**5.3400e-003**	**0.0000**	**14.5186**	**14.5186**	**4.5600e-003**	**0.0000**	**14.6144**

3.6 Paving - 2020

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	4.5000e-004	5.8000e-004	5.4500e-003	2.0000e-005	1.4400e-003	1.0000e-005	1.4500e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.1513	1.1513	5.0000e-005	0.0000	1.1524
Total	**4.5000e-004**	**5.8000e-004**	**5.4500e-003**	**2.0000e-005**	**1.4400e-003**	**1.0000e-005**	**1.4500e-003**	**3.8000e-004**	**1.0000e-005**	**3.9000e-004**	**0.0000**	**1.1513**	**1.1513**	**5.0000e-005**	**0.0000**	**1.1524**

3.7 Architectural Coating - 2020

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	1.0418					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.1800e-003	0.0152	0.0165	3.0000e-005		1.0000e-003	1.0000e-003		1.0000e-003	1.0000e-003	0.0000	2.2979	2.2979	1.8000e-004	0.0000	2.3017
Total	**1.0440**	**0.0152**	**0.0165**	**3.0000e-005**		**1.0000e-003**	**1.0000e-003**		**1.0000e-003**	**1.0000e-003**	**0.0000**	**2.2979**	**2.2979**	**1.8000e-004**	**0.0000**	**2.3017**

3.7 Architectural Coating - 2020

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	4.7000e-004	6.1000e-004	5.7200e-003	2.0000e-005	1.5200e-003	1.0000e-005	1.5300e-003	4.0000e-004	1.0000e-005	4.1000e-004	0.0000	1.2088	1.2088	6.0000e-005	0.0000	1.2100
Total	**4.7000e-004**	**6.1000e-004**	**5.7200e-003**	**2.0000e-005**	**1.5200e-003**	**1.0000e-005**	**1.5300e-003**	**4.0000e-004**	**1.0000e-005**	**4.1000e-004**	**0.0000**	**1.2088**	**1.2088**	**6.0000e-005**	**0.0000**	**1.2100**

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	1.0418					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.1800e-003	0.0152	0.0165	3.0000e-005		1.0000e-003	1.0000e-003		1.0000e-003	1.0000e-003	0.0000	2.2979	2.2979	1.8000e-004	0.0000	2.3017
Total	**1.0440**	**0.0152**	**0.0165**	**3.0000e-005**		**1.0000e-003**	**1.0000e-003**		**1.0000e-003**	**1.0000e-003**	**0.0000**	**2.2979**	**2.2979**	**1.8000e-004**	**0.0000**	**2.3017**

3.7 Architectural Coating - 2020

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	4.7000e-004	6.1000e-004	5.7200e-003	2.0000e-005	1.5200e-003	1.0000e-005	1.5300e-003	4.0000e-004	1.0000e-005	4.1000e-004	0.0000	1.2088	1.2088	6.0000e-005	0.0000	1.2100
Total	**4.7000e-004**	**6.1000e-004**	**5.7200e-003**	**2.0000e-005**	**1.5200e-003**	**1.0000e-005**	**1.5300e-003**	**4.0000e-004**	**1.0000e-005**	**4.1000e-004**	**0.0000**	**1.2088**	**1.2088**	**6.0000e-005**	**0.0000**	**1.2100**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Transit Accessibility

	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	0.4312	0.7394	3.7545	8.7900e-003	0.5938	0.0104	0.6043	0.1588	9.6200e-003	0.1684	0.0000	609.6260	609.6260	0.0246	0.0000	610.1418
Unmitigated	0.4400	0.7867	3.9378	9.5000e-003	0.6443	0.0112	0.6555	0.1723	0.0103	0.1827	0.0000	659.0904	659.0904	0.0263	0.0000	659.6434

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	888.00	1,059.68	898.36	1,713,561	1,579,235
Total	888.00	1,059.68	898.36	1,713,561	1,579,235

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	5.80	5.80	5.80	41.60	18.80	39.60	86	11	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.513300	0.073549	0.191092	0.130830	0.036094	0.005140	0.012550	0.022916	0.001871	0.002062	0.006564	0.000586	0.003446

5.0 Energy Detail

4.4 Fleet Mix

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	127.6508	127.6508	5.0500e-003	1.1500e-003	128.1126
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	127.6508	127.6508	5.0500e-003	1.1500e-003	128.1126
NaturalGas Mitigated	4.2600e-003	0.0364	0.0155	2.3000e-004		2.9400e-003	2.9400e-003		2.9400e-003	2.9400e-003	0.0000	42.1531	42.1531	8.1000e-004	7.7000e-004	42.4096
NaturalGas Unmitigated	4.2600e-003	0.0364	0.0155	2.3000e-004		2.9400e-003	2.9400e-003		2.9400e-003	2.9400e-003	0.0000	42.1531	42.1531	8.1000e-004	7.7000e-004	42.4096

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	789919	4.2600e-003	0.0364	0.0155	2.3000e-004		2.9400e-003	2.9400e-003		2.9400e-003	2.9400e-003	0.0000	42.1531	42.1531	8.1000e-004	7.7000e-004	42.4096
Total		**4.2600e-003**	**0.0364**	**0.0155**	**2.3000e-004**		**2.9400e-003**	**2.9400e-003**		**2.9400e-003**	**2.9400e-003**	**0.0000**	**42.1531**	**42.1531**	**8.1000e-004**	**7.7000e-004**	**42.4096**

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	789919	4.2600e-003	0.0364	0.0155	2.3000e-004		2.9400e-003	2.9400e-003		2.9400e-003	2.9400e-003	0.0000	42.1531	42.1531	8.1000e-004	7.7000e-004	42.4096
Total		**4.2600e-003**	**0.0364**	**0.0155**	**2.3000e-004**		**2.9400e-003**	**2.9400e-003**		**2.9400e-003**	**2.9400e-003**	**0.0000**	**42.1531**	**42.1531**	**8.1000e-004**	**7.7000e-004**	**42.4096**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	505954	127.6508	5.0500e-003	1.1500e-003	128.1126
Total		**127.6508**	**5.0500e-003**	**1.1500e-003**	**128.1126**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	505954	127.6508	5.0500e-003	1.1500e-003	128.1126
Total		**127.6508**	**5.0500e-003**	**1.1500e-003**	**128.1126**

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	0.8431	0.0128	1.1026	6.0000e-005		6.0600e-003	6.0600e-003		6.0600e-003	6.0600e-003	0.0000	1.7951	1.7951	1.7500e-003	0.0000	1.8318
Unmitigated	0.8431	0.0128	1.1026	6.0000e-005		6.0600e-003	6.0600e-003		6.0600e-003	6.0600e-003	0.0000	1.7951	1.7951	1.7500e-003	0.0000	1.8318

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	0.2315					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.5780					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0336	0.0128	1.1026	6.0000e-005		6.0600e-003	6.0600e-003		6.0600e-003	6.0600e-003	0.0000	1.7951	1.7951	1.7500e-003	0.0000	1.8318
Total	**0.8431**	**0.0128**	**1.1026**	**6.0000e-005**		**6.0600e-003**	**6.0600e-003**		**6.0600e-003**	**6.0600e-003**	**0.0000**	**1.7951**	**1.7951**	**1.7500e-003**	**0.0000**	**1.8318**

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	0.2315					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.5780					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0336	0.0128	1.1026	6.0000e-005		6.0600e-003	6.0600e-003		6.0600e-003	6.0600e-003	0.0000	1.7951	1.7951	1.7500e-003	0.0000	1.8318
Total	**0.8431**	**0.0128**	**1.1026**	**6.0000e-005**		**6.0600e-003**	**6.0600e-003**		**6.0600e-003**	**6.0600e-003**	**0.0000**	**1.7951**	**1.7951**	**1.7500e-003**	**0.0000**	**1.8318**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	44.8299	0.2530	6.3100e-003	52.0987
Unmitigated	44.8299	0.2530	6.3200e-003	52.1019

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	7.71424 / 6.07915	44.8299	0.2530	6.3200e-003	52.1019
Total		**44.8299**	**0.2530**	**6.3200e-003**	**52.1019**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	7.71424 / 6.07915	44.8299	0.2530	6.3100e-003	52.0987
Total		**44.8299**	**0.2530**	**6.3100e-003**	**52.0987**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	13.8196	0.8167	0.0000	30.9707
Unmitigated	13.8196	0.8167	0.0000	30.9707

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	68.08	13.8196	0.8167	0.0000	30.9707
Total		**13.8196**	**0.8167**	**0.0000**	**30.9707**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	68.08	13.8196	0.8167	0.0000	30.9707
Total		**13.8196**	**0.8167**	**0.0000**	**30.9707**

9.0 Operational Offroad

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

10.0 Vegetation