Appendix F. Energy Analysis Report

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ENERGY ANALYSIS REPORT

FANITA RANCH PROJECT

CITY OF SANTEE

SAN DIEGO COUNTY, CALIFORNIA

LSA

May 2020

ENERGY ANALYSIS REPORT

FANITA RANCH PROJECT

CITY OF SANTEE

SAN DIEGO COUNTY, CALIFORNIA

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Project No. HRS1601

LSA

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LIST OF ABBREVIATIONS AND ACRONYMS

AFV	alternative fuel vehicle
ARB	California Air Resources Board
Btu	British thermal units
CalEEMod	California Emissions Estimator Model
CEC	California Energy Commission
City	City of Santee
CO_2	carbon dioxide
DOE	United States Department of Energy
EIA	Energy Information Administration
EPA	United States Environmental Protection Agency
GHG	greenhouse gas
HID	high-intensity discharge
kBtu	thousand British thermal units
kWh	kilowatt hours
LED	light emitting diode
LNG	liquefied natural gas
LPG	liquefied petroleum gas
MMBtu	million British thermal units
MT CO_2e	metric tons of carbon dioxide equivalent
MWh	megawatt hour
NEV	Neighborhood Electric Vehicle
project	Fanita Ranch Specific Plan
PV	photovoltaic
SDG&E	San Diego Gas & Electric Company
SR	State Route
TDM	Transportation Demand Management
TIA	Transportation Impact Analysis
VMT	vehicle miles traveled
ZEV	zero-emission vehicle

ZNE	zero net energy

PROJECT DESCRIPTION

INTRODUCTION

This Energy Analysis has been prepared to evaluate the potential energy impacts and mitigation measures associated with the proposed Fanita Ranch Project (project) in the City of Santee, San Diego County, California. This report provides a project-specific energy analysis by examining the impacts of the proposed project on regional energy use. Mitigation measures required to reduce criteria air pollutants and greenhouse gas (GHG) emissions would also reduce electricity and petroleum consumption. Mitigation measures summarized in the Energy and Transportation Mitigation Measures section are consistent with the *Air Quality Analysis Report* (LSA 2020a) and *Greenhouse Gas Analysis Report* (LSA 2020b).

PROJECT LOCATION AND DESCRIPTION

The project site consists of approximately 2,638 acres located in the northwest quadrant of the City of Santee (City) in eastern San Diego County. The project lies north of State Route (SR) 52 and west of SR-67 and would be accessed from the future northerly extensions of Fanita Parkway and Cuyamaca Street via Mast Boulevard and the future extension of Magnolia Avenue to Cuyamaca Street. Figure 1 shows the project location.

The proposed project would be a master planned community. The Preferred Land Use Plan with School would consist of up to 2,949 housing units with a K-8 school, up to 80,000 square feet of commercial uses, parks, open space, and agriculture uses. Should the Santee School District not acquire the proposed school site, the school site would be developed with an additional 59 units, for a total of 3,008 residential units. This plan is referred to as the "Land Use Plan without School". Development within the proposed project would be clustered, preserving more than 63 percent of the site as Habitat Preserve. The bulk of the preserve area, approximately 900 acres, would be located in the southern portion of the site and include a network of trails. The existing project site is currently vacant. Figure 2 illustrates the conceptual site plan.

Construction of the proposed project would be divided into four phases and is anticipated to begin in summer 2021 with a buildout of approximately 10-15 years.

PROJECT ENERGY SUPPLY

San Diego Gas & Electric Company (SDG&E) provides electricity and natural gas for San Diego County, including the City. These utilities will extend into Fanita Ranch from existing local distribution systems in the region. An existing SDG&E electrical transmission easement traverses east to west through the southern half of the project site. New electric and natural gas facilities will be installed in joint utility trenches within the public street rights-of-way as required by the City and energy provider. In conjunction with gas and electric facilities, telephone and cable television/internet facilities also will be constructed.

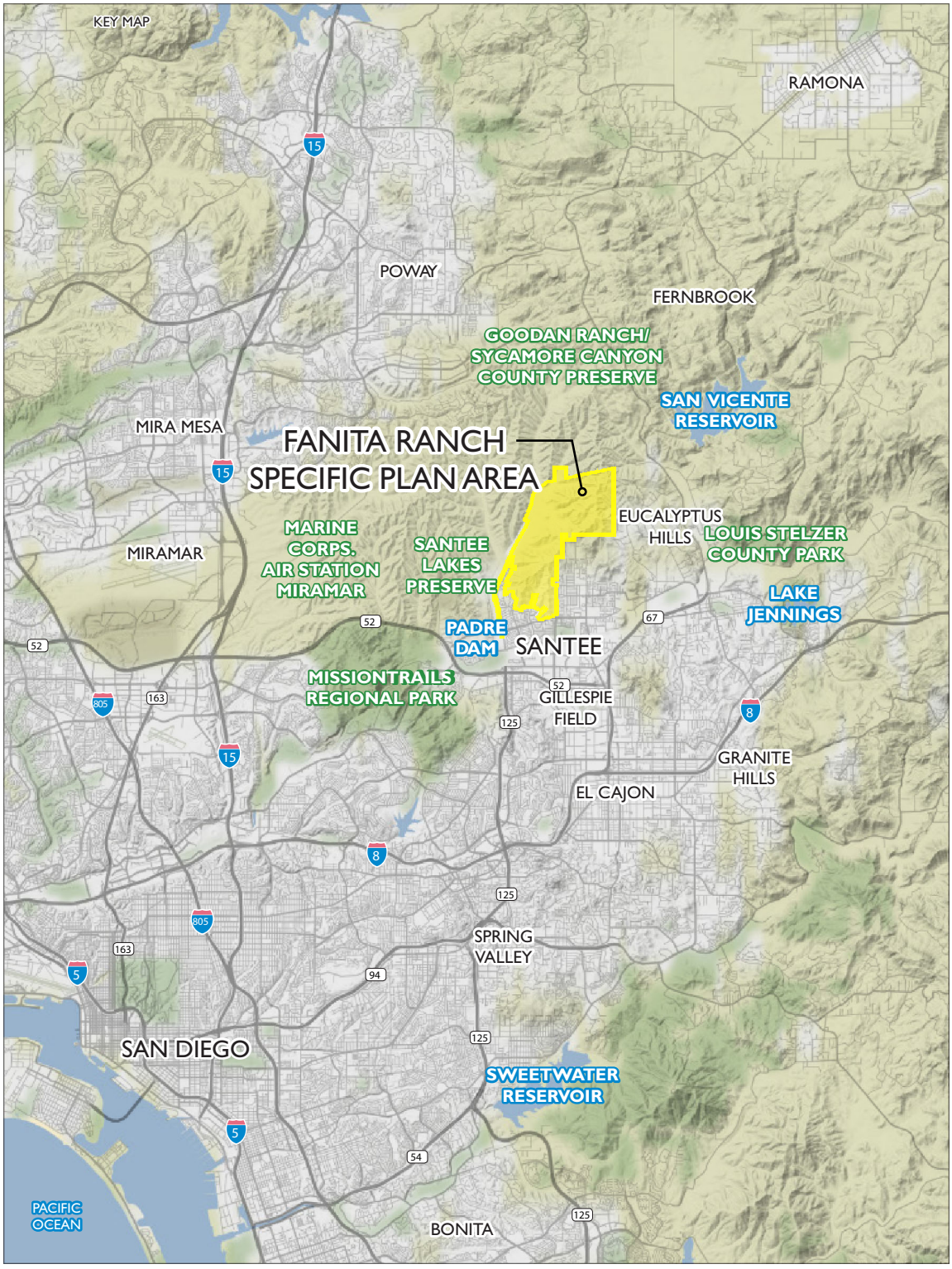

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FIGURE 1

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Fanita Ranch Specific Plan
Energy Analysis Report
Project Location

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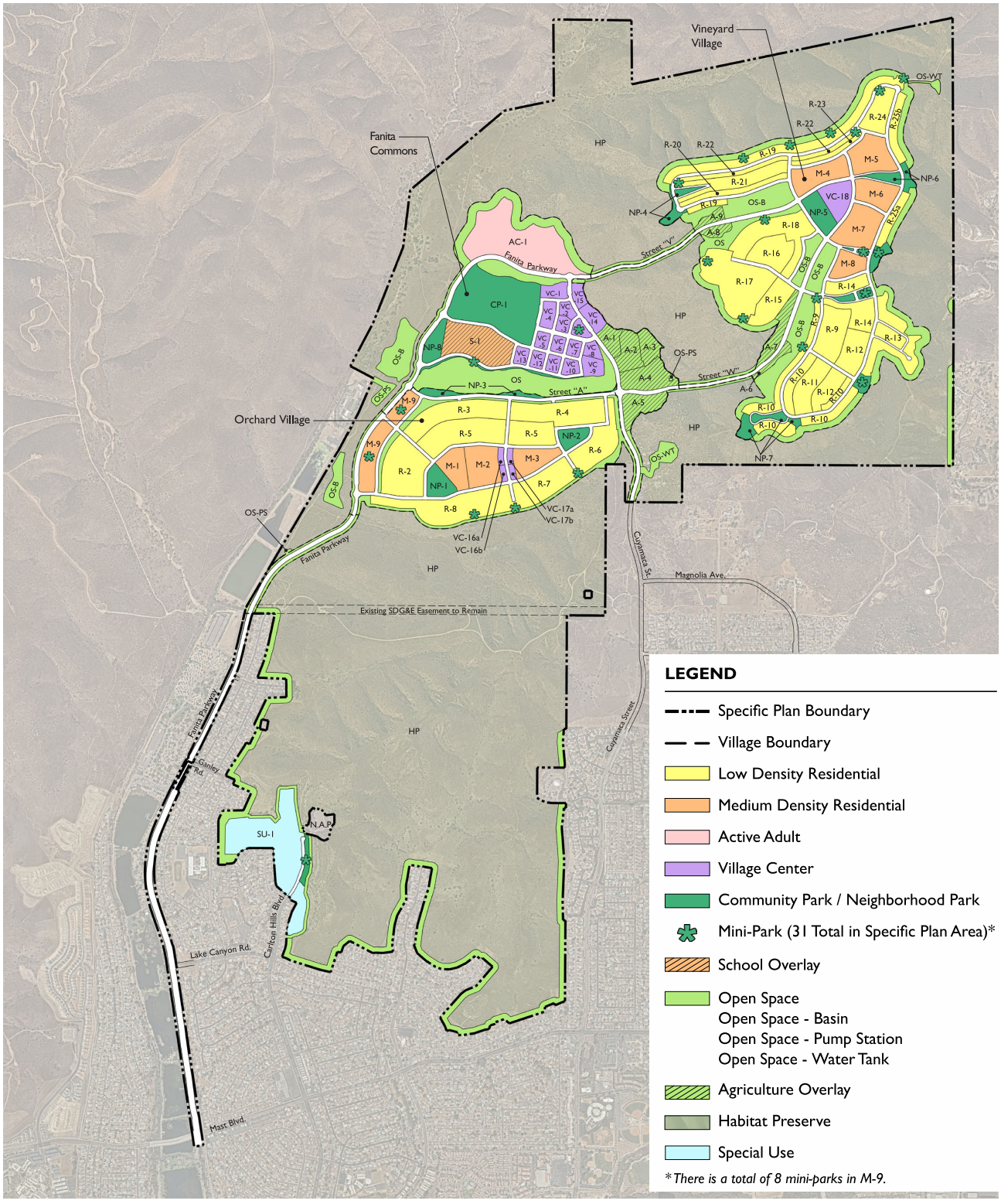

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FIGURE 2

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Fanita Ranch Specific Plan
Energy Analysis Report
Project Site Plan

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PROJECT SETTING

REGULATORY SETTINGS

This section summarizes the State and local measures that reduce energy consumption or increase renewable energy sources available to the proposed project.

California Energy Code

The California Energy Code (California Code of Regulations Title 24, Part 6), which is incorporated into the Building Energy Efficiency Standards, was first established in 1978 in response to a legislative mandate to reduce California's energy consumption. The efficiency standards apply to new construction of both residential and nonresidential buildings, and regulate energy consumed for heating, cooling, ventilation, water heating, and lighting. The building efficiency standards are enforced through the local building permit process. Local government agencies may adopt and enforce energy standards for new buildings, provided these standards meet or exceed those provided in Title 24 guidelines. The standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods.

The 2019 Title 24 standards, which will become effective on January 1, 2020, are estimated to result in new buildings that use 7 percent less energy for lighting, heating, cooling, ventilation, and water heating than the previous 2016 Standards. The 2019 updates to Title 24 are focused on moving closer to zero net energy (ZNE) homes by increasing energy efficiency and requiring solar photovoltaic (PV) systems for new homes. The 2019 Title 24 standards also encourage demand responsive technologies including battery storage and heat pump water heaters and improve the building's thermal envelope through high performance attics, walls and windows to improve comfort and energy savings (California Energy Commission [CEC] 2018a).

California Green Building Standards Code

The purpose of the California Green Building Standards Code (California Code of Regulations Title 24, Part 11) is to improve public health, safety, and general welfare by enhancing the design and construction of buildings through the use of building concepts that either reduce negative environmental impact or enhance positive environmental impact. The Green Building Standards code encourages sustainable construction practices in the following categories: 1) planning and design; 2) energy efficiency; 3) water efficiency and conservation; 4) material conservation and resource efficiency; and 5) environmental quality. The California Green Building Standards, which became effective on January 1, 2011, instituted mandatory minimum environmental performance standards for all ground-up new construction of commercial, low-rise residential uses, and state-owned buildings, as well as schools and hospitals.

Specific to energy conservation, the mandatory standards require inspections of energy systems to ensure optimal working efficiency. The voluntary standards are divided into two tiers and require the following:

- Tier I: 15-percent improvement in energy requirements compared to mandatory standards; and

- Tier II: 30-percent improvement in energy requirements compared to mandatory standards.

California Renewables Portfolio Standard

Senate Bill 1078 (SB 1078), which was enacted on September 12, 2002, established the Renewables Portfolio Standard program that requires retail sellers of electricity—including electrical corporations, community choice aggregators, and electric service providers—to purchase a specified minimum percentage of electricity generated by eligible renewable energy resources, such as wind, solar, geothermal, small hydroelectric, biomass, anaerobic digestion, and landfill gas. Senate Bill 107 (SB 107), which was enacted on September 26, 2006, accelerated the Renewables Portfolio Standard to require that at least 20 percent of electricity retail sales be served by renewable energy resources by year 2010.

In response to Executive Order S-21-09 (described below), the Renewables Portfolio Standard was expanded in 2011 to require investor-owned utilities, electric service providers, and community choice aggregators to increase procurement from eligible renewable energy resources to 33 percent of total procurement by the year 2020. In 2018, the State Legislature passed and Governor Jerry Brown signed SB 100, which requires energy providers to derive 60 percent of their electricity from qualified renewable sources by 2030 and 100 percent by 2045. The Renewables Portfolio Standard is included as a reduction measure in the California Air Resources Board (ARB) Climate Change Scoping Plan. Increased use of renewable energy would decrease California's reliance on fossil fuels, thus reducing emissions of GHGs from the electricity sector. The ARB estimates that full achievement of the Renewables Portfolio Standard would decrease statewide GHG emissions by 21.3 million metric tons of carbon dioxide equivalent (MT CO_2e).

Senate Bill 100 California Renewables Portfolio Standard Program: emissions of greenhouse gases

Senate Bill (SB) 100 established a landmark policy requiring renewable energy and zero-carbon resources supply 100 percent of electric retail sales to end-use customers by 2045. It requires the California Energy Commission (CEC), California Public Utilities Commission (CPUC), and California Air Resources Board (CARB) to prepare a report documenting progress in achieving 100 percent renewable energy generation by 2045..

Executive Order B-16-12

Executive Order B-16-12 (issued March 23, 2012) directed state government to accelerate the market for zero-emission vehicles (ZEV) in California through fleet replacement and electric vehicle infrastructure. The Executive Order set the following targets:

- By 2015, all major cities in California will have adequate infrastructure and be "ZEV ready";
- By 2020, the state will have established adequate infrastructure to support 1 million ZEVs in California;
- By 2025, there will be 1.5 million ZEVs on the road in California; and

- By 2050, virtually all personal transportation in the State will be based on ZEVs, and greenhouse gas emissions from the transportation sector will be reduced by 80 percent below 1990 levels.

Executive Order S-14-08

Executive Order S-14-08 (issued November 17, 2008) directed several state agencies to expedite the process of creating renewable energy generation facilities and proposing to expand California's Renewables Portfolio Standard. The Governor's proposed Renewables Portfolio Standard of 33 percent renewable generation by 2020 would build on the SB 1078 target of producing 20 percent by 2010.

Executive Order S-21-09

Executive Order S-21-09 (issued September 15, 2009) required that the ARB, under its AB 32 authority, adopt a regulation consistent with the 33 percent renewable energy target established in Executive Order S-14-08 by July 31, 2010. Under Executive Order S-21-09, the ARB is directed to work with the California Public Utilities Commission and California Energy Commission to encourage the creation and use of renewable energy sources. The ARB will consult with the Independent System Operator and other load-balancing authorities on, among other aspects, impacts on reliability, renewable integration requirements, and interactions with wholesale power markets in carrying out the provisions of Executive Order S-21-09. The ARB also will establish the highest priority for those resources that provide the greatest environmental benefits with the least environmental costs and impacts on public health; that can be developed most quickly; and that support reliable, efficient, cost-effective electricity system operations.

Senate Bill 350, Clean Energy and Pollution Reduction Act of 2015

Senate Bill 350 (issued October 7, 2015) builds upon EO S-14-08 by increasing the renewable energy target to 50 percent by 2030. In addition, SB 350 increases the energy efficiency in buildings by 50 percent by 2030.

Senate Bill 1368

On September 29, 2006, Governor Arnold Schwarzenegger signed into law Senate Bill 1368 (Perata, Chapter 598, Statutes of 2006). The law limits long-term investments in baseload generation by the state's utilities to power plants that meet an emissions performance standard jointly established by the California Energy Commission (CEC) and the California Public Utilities Commission. The CEC has designed regulations that:

- Establish a standard for baseload generation owned by, or under long-term contract to publicly owned utilities, of 1,100 pounds of carbon dioxide (CO_2) per megawatt-hour (MWh). This will encourage the development of power plants that meet California's growing energy needs while minimizing their emissions of GHGs;
- Require posting of notices of public deliberations by publicly owned utilities on long-term investments on the CEC website. This will facilitate public awareness of utility efforts to meet customer needs for energy over the long-term while meeting the state's standards for environmental impact; and

- Establish a public process for determining the compliance of proposed investments with the EPS [emissions performance standard] (Perata, Chapter 598, Statutes of 2006).

Assembly Bill 1493

Adopted in 2002 by the state legislature, Assembly Bill 1493 ("Pavley" regulations) required that the ARB develop and adopt, no later than January 1, 2005, regulations to achieve the maximum feasible and cost-effective reduction of GHG emissions from motor vehicles.

The first California request to implement GHG standards for passenger vehicles, known as a waiver request, was made in December 2005 and was denied by the United States Environmental Protection Agency (EPA) in March 2008. That decision was based on a finding that California's request to reduce GHG emissions from passenger vehicles did not meet the Clean Air Act requirement of showing that the waiver was needed to meet "compelling and extraordinary conditions."

The EPA granted California the authority to implement GHG emission reduction standards for new passenger cars, pickup trucks, and sport utility vehicles on June 30, 2009. On September 24, 2009, ARB adopted amendments to the Pavley regulations that reduce GHG emissions in new passenger vehicles from 2009 through 2016. These amendments are part of California's commitment to a nationwide program to reduce new passenger vehicle GHGs from 2012 through 2016. The California Air Resources Board's September 2009 amendments will allow for California's enforcement of the Pavley rule while providing vehicle manufacturers with new compliance flexibility. The amendments also prepare California to harmonize its rules with the federal rules for passenger vehicles.

It was estimated that the Pavley regulations would reduce GHG emissions from California passenger vehicles by about 22 percent in 2012 and about 30 percent in 2016, all while improving fuel efficiency and reducing motorists' costs. The California Air Resources Board has adopted a new approach to passenger vehicles—cars and light trucks—by combining the control of smog-causing pollutants and GHG emissions into a single coordinated package of standards. The new approach also includes efforts to support and accelerate the numbers of plugin hybrids and zero-emission vehicles in California.

Sustainable Santee Plan: The City's Roadmap to Greenhouse Gas Reductions

The City adopted the Sustainable Santee Plan on January 8, 2020. The Sustainable Santee Plan provides GHG emissions reduction goals and strategies focused on reducing resource consumption, improving alternative modes of transportation, and reducing overall emissions throughout Santee. The final Sustainable Santee Plan is expected to be adopted in 2020. The Final Sustainable Santee Plan (City of Santee 2020) presents the following goals that would improve energy efficiency, reduce energy or fuel demand, and increase clean energy use:

- Goal 1: Increase Energy Efficiency in Existing Residential Units.
- Goal 2: Increase Energy Efficiency in New Residential Units.
- Goal 3: Increase Energy Efficiency in Existing Commercial Units.
- Goal 4: Increase Energy Efficiency in New Commercial Units.

- Goal 5: Decrease Energy Demand through Reducing Urban Heat Island Effect.
- Goal 6: Decrease Greenhouse Gas emissions through Reducing Vehicle Miles Traveled (reduced fuel use).
- Goal 7: Increase Use of Electric Vehicles (fuel switching to cleaner sources of energy).
- Goal 8: Improve Traffic Flow (Improves fuel efficacy of roadway traffic).
- Goal 9: Decrease Greenhouse Gas Emissions through Reducing Solid Waste Generation.
- Goal 10: Decrease Greenhouse Gas Emissions through Increasing Clean Energy Use.

ENERGY CONSUMPTION IN CALIFORNIA AND SAN DIEGO COUNTY

The following statistics have been provided by CEC (CEC 2018b) and are current through 2017.

Electricity

Fueled by population growth, the demand for electricity in California is increasing. At the same time, the mandate to decrease GHG emissions will only increase in the future. California's electricity mix is generated by natural gas (33.7 percent); coal (4.13 percent); large hydroelectric (14.7 percent); nuclear (9.08 percent); and renewable (29.0 percent) sources in 2017.

In 2017, California produced 71 percent of the electricity it consumed; the rest was imported from the Pacific Northwest (14 percent) and the United States Desert Southwest (16 percent). Natural gas is the main source for electricity, contributing 34 percent of the total system power. According to the United States Department of Energy (DOE), Energy Information Administration (EIA) *Annual Electric Power Industry Report* (EIA 2018), Californians spent almost $41 billion for their electricity in 2017. Table A shows the total electricity consumed in San Diego County for 2017.

Table A: Annual Electricity Consumption in San Diego County (2017)

Type of Consumer	Millions of Kilowatt-Hours[1]
Residential	6,854
Non-Residential	12,492
Total	**19,346**

Source: California Energy Commission. Energy Consumption Data Management System (2019).

[1] A kilowatt-hour is a unit of power equal to 1,000 watts of electricity consumed in 1 hour.

Natural Gas

Electricity generation has the largest consumption of natural gas, consuming approximately half of all natural gas in the State. The residential sector uses 38 percent of the available natural gas. Of that amount, 88 percent is used for space and water heating. Table B shows the total natural gas consumption in San Diego County for 2017.

Table B: Annual Natural Gas Consumption in San Diego County (2017)

Land Use	Millions of Therms[1]
Residential	273
Non-Residential	207
Total	**480**

Source: California Energy Commission. Energy Consumption Data Management System (2019).
[1] A therm is a unit of heat containing 100,000 British thermal units (Btu).

Liquid Petroleum Gas (Propane)

Liquefied petroleum gas (LPG) is a mixture of gaseous hydrocarbons, mainly propane and butane that change into liquid form under moderate pressure. LPG (usually called propane) is commonly used as a fuel for rural homes for space and water heating, as a fuel for barbecues and recreational vehicles, and as a transportation fuel. It is normally created as a by-product of petroleum refining and from natural gas production.

LPG is generally an unregulated fuel in California (except for storage and safety issues, which are regulated), because it is an unregulated commodity, the State does not collect data on LPG sales or usage. The statistics for LPG in the Alternatives to Traditional Transportation Fuels section below were provided by the DOE, EIA, Office of Coal, Nuclear, Electric, and Alternate Fuels. As such, statistics are unavailable for LPG as a fuel for rural homes, for space and water heating, or for barbecues, and therefore not included in this section.

Traditional Transportation Fuels (Fossil Fuels)

Fossil fuels are energy resources that come from the remains of plants and animals that are millions of years old. The three fossil fuels—petroleum oil, natural gas and coal—are overwhelmingly responsible for providing the energy that powers our lifestyles and economy, and fuels our transportation systems. They are the bedrock we base our energy mix on, but they are a limited resource. Once they are consumed, they will no longer be part of our energy mix.

There are public concerns associated with the use of fossil fuels. In addition to their unsustainability, fossil fuels are linked to various negative environmental impacts. The burning of fossil fuels is responsible for emissions that contribute to global climate change, acid rain, ozone problems, and unhealthy air. The research and development of alternatives to traditional transportation fuels is required to improve sustainability and reduce impacts of fossil fuel consumption.

In 2018, approximately 16,897,667,000 gallons of gasoline and 5,954,371,000 gallons of diesel were consumed in California (CEC), which is equivalent to approximately 2.9 billion MMBtu.

Alternatives to Traditional Transportation Fuels

Alternatives to traditional transportation fuels are being developed and introduced into the consumer marketplace. Alternative fuels currently in use in the United States include:

- Compressed natural gas;
- Electric;

- Ethanol, 85 percent;
- Hydrogen;
- Liquefied Natural Gas (LNG); and
- LPG.

The following information was prepared by the EIA, the independent statistical and analytical agency within the DOE. Each year, the EIA collects data on the number of alternative fuel vehicles (AFVs) supplied, and for a limited set of fleet user groups, the number of AFVs in use and the amount of alternative transportation fuel consumed. The user groups surveyed are federal and State governments, alternative fuel providers, and transit companies.

Alternative Fuel Vehicles in Use

An estimated 431,545 AFVs were in use in the United States in the year 2016, with 45,208 in use in California (Table C).

Table C: Alternative Fuel Vehicles In Use by Fuel Type (2016)

Fuel Type	United States	California
Compressed Natural Gas	25,539	8,164
Electric	10,180	3,761
Ethanol, 85%	388,432	31,862
Hydrogen	49	46
Liquefied Natural Gas	379	324
Liquefied Petroleum Gas	6,966	1,051
Total	**431,545**	**45,208**

Source: Energy Information Administration. Alternative Fuels Data Center. Website: http://www.eia.gov/renewable/afv/users.cfm?fs=a (accessed April 2019).

Alternative Fuel Consumption

The estimated consumption of alternative fuels (in thousand gasoline-equivalent gallons) in California during the year 2016 is shown in Table D.

Table D: Estimated Consumption of Alternative Fuels in California by Fuel Type (2016) (thousand gasoline-equivalent gallons)

CNG	Electric	E85	Hydrogen	LNG	LPG	Total
71,990	231	1,528	121	3,422	1,341	78,633

Source: Energy Information Administration. Alternative Fuels Data Center. Website: http://www.eia.gov/renewable/afv/users.cfm?fs=a (accessed April 2019).

CNG = compressed natural gas
E85 = Ethanol, 85%
LNG = liquefied natural gas
LPG = liquefied petroleum gas

THRESHOLDS OF SIGNIFICANCE

State CEQA Guidelines Section 15064(b)(1) provides that the "determination of whether a project may have a significant effect on the environment calls for careful judgment on the part of the public agency involved, based to the extent possible on scientific and factual data," and further states that an "ironclad definition of significant effect is not always possible because the significance of an activity may vary with the setting."

A project would normally have a significant energy effect on the environment if it would:

- Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation; or
- Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

PROJECT ENERGY DEMAND AND GENERATION

TEMPORARY ENERGY DEMAND

Construction of the project would require temporary energy demand. Construction energy impacts involve the one-time, non-recoverable energy costs associated with construction of structures and roadways. Construction of the project would require the use of off-road construction equipment and on-road vehicles for worker commuting, and vendors.

As discussed in the project description, the project construction would last approximately 10-15 years and would include four phases. For modeling purposes, the analysis assumed a 12-year construction period with the four phases overlapping. The tentative equipment list for each phase, number of equipment, horsepower, and load factor assumptions are detailed in the *Air Quality Analysis Report* (LSA 2020).

All construction equipment was assumed to be powered by diesel and the fuel consumption was calculated based on the equation:

Fuel Consumption = Horsepower × Load Factor × Specific Fuel Consumption

For the analysis, the specific fuel consumption was assumed as 0.22 kilogram per kilowatt hour for diesel engine (Klanfar et al. 2016). Table E shows the daily fuel and energy consumption of each construction phase. Use of trucks on site to move soil to balance cut and full activities totaling approximately 27 million cubic yards is included in the vehicle calculations. Calculation details are included in Appendix A.

Table E: Construction Off-Road Fuel and Energy Consumption

Construction Phase	Fuel Consumption (gallons/day)	Energy Consumption (MMBtu/day)
Phase 1	1,536	211
Phase 2	2,935	403
Phase 3	1,607	221
Phase 4	1,610	221

Source: Compiled by LSA Associates, Inc. (July 2019). Calculation details are included in Appendix A.

The on-road vehicle trips, including soil hauling in the construction area, worker commuting, and water and cement trucks would also consume fuel. It was assumed that light duty trucks would be used for worker commuting, while soil hauling and water and cement trucks would be heavy-heavy duty diesel trucks. Table F shows the daily vehicle miles traveled (VMT), fuel consumption, and energy consumption for each phase. Calculation details are included in Appendix A.

As shown in Tables E and F, the total construction related off-road and on-road peak daily energy consumption would be approximately 1,855 MMBtu (211 MMBtu + 1,644 MMBtu = 1,855 MMBtu) per day and would occur during Phase 1. The transportation fuel consumption is only available at the State level. As discussed in the Project Setting section, the transportation fuel consumption in California is approximately 2.9 billion MMBtu per year, or 7,819,735 MMBtu per day. Therefore,

compared to the State-wide fuel consumption, even though the project would have an increase in temporary indirect energy consumption compared to energy consumption without the project construction, this level of energy consumption would be negligible at the regional level.

Table F: Construction On-Road Fuel, and Energy Consumption

Construction Phase	Diesel Consumption (gallons/day)	Gasoline Consumption (gallons/day)	Energy Consumption (MMBtu/day)
Phase 1	11,368	677	1,644
Phase 2	5,798	384	843
Phase 3	8,422	408	1,207
Phase 4	3,917	445	592

Source: Compiled by LSA Associates, Inc. (May 2020). Calculation details are included in Appendix A.
MMBtu = million British Thermal Units

Total construction related on-road fuel use is small (approximately 0.03 percent of State-wide transportation fuel consumption) and would only last for a short period of time during project construction. Therefore, construction of the proposed project would not cause a significant temporary energy impact during construction.

PERMANENT ENERGY DEMAND AND GENERATION

The California Emissions Estimator Model (CalEEMod), Version 2016.3.2 was used to estimate electricity and natural gas consumption and renewable energy generation during the operation of the proposed project. Mitigation measures required to reduce criteria air pollutants and greenhouse gas emissions would also reduce electricity consumption. The petroleum consumption from project-related on-road transportation was calculated from VMT and fuel efficiency from EMFAC2017 (ARB 2018). The Transportation Demand Management (TDM) measures identified in the *Traffic Impact Analysis* (LLG 2020) and Statewide EV ownership projection would reduce petroleum consumption. Mitigation measures are consistent with the *Air Quality Analysis Report* (LSA 2020a) and *Greenhouse Gas Analysis Report* (LSA 2020b), and are summarized in the Energy and Transportation Mitigation Measures section below. CalEEMod emission modeling output files for the operational phase of the proposed project are provided in Appendix B of this report.

Electricity

Table G shows the annual electricity consumption of the proposed project and the percent of the County's total electricity consumption of 19,346 million kWh in 2017 (Table A) at full buildout before and after mitigation measures. The annual electricity consumption is presented for the Preferred Land Use Plan with School and the Land Use Plan without School, respectively. The annual electricity consumption of the proposed project with mitigation measures would be higher than without mitigation measures, due to the electricity consumption by EVs and all electric homes. However, mitigation also includes onsite renewable electricity generation that offsets the higher electricity consumption of the project. The regional electricity consumption is available at County level. As shown in Table G, the proposed project would consume less than 0.2 percent of the County's total electricity consumption with or without the implementation of mitigation measures. The U.S. Census Bureau reported that in 2017, the total population in San Diego County was 3,325,468 (U.S.

Census Bureau 2019). The proposed project is anticipated to generate a service population of approximately 8,424 people under the Preferred Land Use Plan with School, or 8,345 people under the Land Use Plan without school, which is equivalent to approximately 0.3 percent of the County's total population but with mitigation will consume approximately 0.06 percent of electricity consumption when onsite renewable generation is included. Therefore, the project's electricity consumption per person would be less than the County per capita average, and would not result in significant environmental impacts due to wasteful, inefficient, or unnecessary consumption of energy resources with or without the mitigation measures identified in the *Air Quality Analysis Report* (LSA 2020a) and *Greenhouse Gas Analysis Report* (LSA 2020b).

Table G: Annual Electricity Consumption of the Proposed Project

Scenario		With School	Without School
Buildout Without Mitigation Measures	**Project Electricity Consumption (kWh)**	**29,773,470**	**29,820,624**
	Percent of County 2017 Consumption	**0.15**	**0.15**
Buildout With Mitigation Measures (MM AIR-6, AIR-7, AIR-8, GHG-1, and GHG-4)	*Project Electricity Consumption (kWh)* [1]	28,806,132	28,911,714
	EV Electricity Consumption (kWh)[2]	*3,279,101*	*3,435,943*
	Total Electricity Consumption (kWh)	32,085,233	32,347,657
	Onsite PV Renewable Generation (kWh)	20,472,039	20,378,877
	Total Net Electricity Consumption (kWh)	**11,613,194**	**11,968,780**
	Change from Buildout Without Mitigation Measures (kWh)	-18,160,2763	-17,851,844
	Percent of County 2017 Consumption	**0.06**	**0.06**

Source: CalEEMod 2016.3.2. Compiled by LSA (May 2020).
Note: [1] All electric homes with energy efficiency improvements.
[2] Average fuel efficiency of electric vehicle is 35 kWh per 100 miles.
kWh = kilowatt hours
EV = electric vehicle

As identified in the *Greenhouse Gas Analysis Report* (LSA 2020b) mitigation measure **MM GHG-1** and detailed in the Energy and Transportation Mitigation Measures section below, the proposed project would generate renewable energy on-site. By buildout, the proposed project would generate approximately 20,472,039 and 20,378,877 kWh of electricity per year from distributed photovoltaic (PV) solar electric generation on site, under the Preferred Land Use Plan with School and Land Use Plan without School, respectively, which is equivalent to approximately 63 percent of the total electricity demand.

Natural Gas

Table H shows the annual natural gas consumption of the proposed project and the percent of the County's total natural gas consumption of the 480 million therms (48,000,000 MMBtu) in 2017 (Table B) at full buildout before and after mitigation measures. The annual electricity consumption is presented for the Preferred Land Use Plan with School and the Land Use Plan without School, respectively.

Table H: Annual Natural Gas Consumption of the Proposed Project

Scenario		With School	Without School
Buildout Without Mitigation Measures	Project Natural Gas Consumption (MMBtu)	60,899	62,329
	Percent of County 2017 Consumption	0.13	0.13
Buildout With Mitigation Measures (MM AIR-8, GHG-1, and GHG-4)	*Project Natural Gas Consumption (MMBtu)*	18,031	15,773
	Change from Buildout Without Mitigation Measures (MMBtu)	-42,868	-46,556
	Percent of County 2017 Consumption	**0.04**	**0.03**

Source: CalEEMod 2016.3.2. Compiled by LSA (May 2020).
Note: [1] All electric homes with energy efficiency improvements.
[2] Average fuel efficiency of electric vehicle is 35 kWh per 100 miles.
kWh = kilowatt hours
EV = electric vehicle

As identified in the *Greenhouse Gas Analysis Report* (LSA 2020b) mitigation measure **MM GHG-4**, and detailed in the Energy Related Air Quality and GHG Mitigation Measures section below, the proposed project would include all electric homes that substantially reduced natural gas consumption. With mitigation at full buildout, the proposed project would result in an annual natural gas consumption of approximately 18,031 and 15,773 MMBtu under the Preferred Land Use Plan with School and Land Use Plan without School, respectively, which is equivalent to approximately 0.04 percent or less of the County's total natural gas consumption of 480 million therms (48,000,000 MMBtu) in 2017 (Table B). The regional natural gas consumption is available at County level. The proposed project would consume less than 0.04 percent of the County's total natural gas consumption with or without the implementation of mitigation measures, and because the proposed project would generate a population of approximately 0.3 percent of the County's total population, the project's natural gas consumption per person would be less than the County per capita average. Therefore, the project would not result in significant environmental impacts due to wasteful, inefficient, or unnecessary consumption of energy resources with or without the mitigation measures identified in the *Air Quality Analysis Report* (LSA 2020a) and *Greenhouse Gas Analysis Report* (LSA 2020b).

Petroleum

Based on the VMT provided in the *Transportation Impact Analysis (TIA)* prepared for the proposed project (LLG 2020), the project would generate 243,266 miles per day and 249,124 miles per day under the Preferred Land Use Plan with School and Land Use Plan without School, respectively. The TDM measures identified in the TIA and detailed in the Energy and Transportation Mitigation Measures section would reduce VMT by approximately 15 percent and 13 percent under the Preferred Land Use Plan with School and Land Use Plan without School, respectively. Based on California Department of Motor Vehicles registration statistics and projections based on EO B-16-12, approximately 13 percent of passenger vehicles in California will be EVs by 2035 (California Department of Motor Vehicles 2015a, 2015b). The proposed project would incorporate mitigation measures (i.e., implement Neighborhood Electric Vehicle [NEV] network and EV infrastructure) to support the achievement of the 13 percent EV ownership rate.

The average fuel efficiencies for this analysis were obtained from EMFAC2017. Table H shows the annual petroleum demand at full buildout of the proposed project before and after mitigation measures under the Preferred Land Use Plan with School and Land Use Plan without School, respectively. The regional petroleum consumption is available at State level. As shown in Table H, the proposed project would consume approximately 0.01 percent of the State's total petroleum consumption. The U.S. Census Bureau reported that in 2018, the total population in California was 39,557,045 (U.S. Census Bureau 2019). The proposed project is anticipated to generate a service population of approximately 8,424 people under the Preferred Land Use Plan with School, or 8,345 people under the Land Use Plan without School, which is equivalent to approximately 0.02 percent of the State's total population. Therefore, the project's petroleum consumption per person would be less than the State per capita average, and would not result in significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources with or without the mitigation measures identified in the *Air Quality Analysis Report* (LSA 2020a) and *Greenhouse Gas Analysis Report* (LSA 2020b).

Table H: Annual Petroleum Demand of the Proposed Project

Scenario		With School	Without School
Buildout Without Mitigation Measures	Gasoline (gallons)[1]	2,251,276	2,305,488
	Diesel (gallons)[2]	427,600	437,897
	Energy (MMBtu)	329,999	337,946
	Percent of State 2018 Consumption	0.01	0.01
Buildout With Mitigation Measures (MM AIR-5, AIR-6, and AIR-7, AIR-10)	Gasoline (gallons)[1]	1,672,163	1,752,144
	Diesel (gallons)[2]	317,605	332,796
	Energy (MMBtu)	245,111	256,835
	Percent of State 2018 Consumption	0.01	0.01
	Energy Reduction from Buildout Without Mitigation Measures (MMBtu)	84,888	81,111

Source: EMFAC2017. Compiled by LSA (May 2020).
Note: [1] One gallon of gasoline is equivalent to 120,476 Btu.
[2] One gallon of diesel is equivalent to 137,452 Btu.
MMBtu = million British Thermal Units

ENERGY PLAN CONSISTENCY

In 2002, the Legislature passed SB 1389, which required the CEC to develop an integrated energy plan every 2 years for electricity, natural gas, and transportation fuels, for the California Energy Policy Report. The plan calls for the State to assist in the transformation of the transportation system to improve air quality, reduce congestion, and increase the efficient use of fuel supplies with the least environmental and energy costs. To further this policy, the plan identifies a number of strategies, including assistance to public agencies and fleet operators in implementing incentive

programs for zero-emission vehicles and their infrastructure needs, and encouragement of urban designs that reduce VMT and accommodate pedestrian and bicycle access.

The CEC recently adopted the 2019 Integrated Energy Policy Report (CEC 2019). The 2019 Integrated Energy Policy Report provides the results of the CEC's assessments of a variety of energy issues facing California. Many of these issues will require action if the State is to meet its climate, energy, air quality, and other environmental goals while maintaining energy reliability and controlling costs. The 2019 Integrated Energy Policy Report covers a broad range of topics, including implementation of SB 100, integrated resource planning, distributed energy resources, transportation electrification, solutions to increase resiliency in the electricity sector, energy efficiency, transportation electrification, barriers faced by disadvantaged communities, demand response, transmission, and landscape-scale planning, the California Energy Demand Preliminary Forecast, the preliminary transportation energy demand forecast, renewable gas (in response to SB 1383), updates on Southern California's electricity reliability, natural gas outlook, and climate adaptation and resiliency.

As indicated above, energy usage on the project site during construction would be temporary in nature. In addition, onsite renewable energy generation combined with all electric homes significantly reduces the energy usage associated with operation of the proposed project and would be relatively small in comparison to the State's and County's available energy sources and energy impacts would be negligible at the regional level. Because California's energy conservation planning actions are conducted at a regional level, and because the project's per capita energy consumption is less than the regional (State or County) level, the proposed project would not conflict with California's energy conservation plans as described in the CEC's 2019 Integrated Energy Policy Report. Therefore, the proposed project would not conflict with or obstruct a State or local plan for renewable energy or energy efficiency, and no mitigation measures would be necessary.

ENERGY-RELATED AIR QUALITY AND GHG MITIGATION MEASURES

As described in this report, project energy impacts would be less than significant, requiring no further mitigation. However, mitigation measures identified in the *Air Quality Analysis Report* (LSA 2020a) and *Greenhouse Gas Analysis Report* (LSA 2020b) for impacts related to criteria pollutants and GHG emissions would also reduce the project's energy consumption Mitigation Measures that are relevant to energy use and fuel consumption address building and lighting standards, use of energy renewable technologies and high efficiency appliances, and transportation and pedestrian programs to reduce vehicle miles travelled. These measures are summarized below for informational purposes and are cross-referenced (e.g., MM AIR-6 through AIR-8, AIR10, GHG-1, and GHG-4):

Exceed Title 24 Standards (MM AIR-8)

California's energy efficiency standards for buildings, the Title 24 Standards, were updated in 2019 and went into effect on January 1, 2020. Title 24 Standards are scheduled for updates and improvements every three years with the ultimate goal of (zero net energy) ZNE for new homes by 2020 and new commercial buildings by 2030. The proposed project would take steps toward this advanced energy-efficiency goal by requiring all new buildings within the project area to exceed 2019 Title 24 standards, enforced through project's Conditions of Approval and verified through plan check and building inspection prior to Certificates of Occupancy being issued.

Install High Efficiency Lighting (MM AIR-8)

The proposed project would install high efficiency lighting throughout the project area, including light emitting diode (LED) street, path, emergency, maintenance, and building lighting. No fluorescent, incandescent, or high-intensity discharge (HID) light sources would be used. The proposed project plans to achieve a 25 percent reduction in energy use for lighting in comparison to existing 2016 Title 24 standards, which is equivalent to approximately 18 percent reduction in energy use for lighting compared to 2019 Title 24 standards.

On-Site Renewable Energy Resources (MM GHG-1)

The proposed project would provide both fixed position rooftop photovoltaic (PV) solar panels and PV solar panels mounted on racks that have motorized tilt positions that follow the sun. Fixed position rooftop photovoltaic solar energy panels will be mounted on homes, carports, commercial buildings, and/or elevated racks in parking lots. PV solar panels on motorized racks that follow the sun will be located in the Special Use area of the proposed project. The proposed project shall provide on-site PV solar renewable energy generation with a total design capacity of at least 12.147 megawatts (MW) for the Preferred Land Use Plan with School, or 12.083 MW capacity for the Land Use Plan without School.

Overall, the proposed project shall supply approximately 63 percent of the electricity needs of the entire project with on-site renewable energy by buildout, as enforced by the City of Santee through Conditions of Approval on the project and verified through building inspections prior to issuance of Certificates of Occupancy.

By the last phase of the project, 63 percent or more of the project electricity needs shall be met by on-site renewable energy sources. This can be demonstrated by comparing the project's total electricity to the total amount of renewable energy generated on site.

All Electric Homes (MM GHG-4)

All electric homes reduces overall energy consumption because they eliminate natural gas in favor of more efficient electric heat pump technology for air conditioning and heating. When this mitigation is combined with onsite renewable energy generation (MM GHG-1), overall energy consumption from the electric grid is significantly reduced.

Electric Landscape Equipment (MM AIR-10)

Providing electric outlets on the exterior walls of buildings facilitates the use of electric landscape equipment reducing the use of gasoline. The design plans for residential structures will include electrical outlets in the front and rear of the structure to facilitate use of electrical lawn and garden equipment.

Install High Efficiency Appliances (MM AIR-8)

The proposed project has established energy efficiency criteria for appliances installed at the project site. As shown in Table I, the required energy efficiency of an appliance ranges from 15 to 50 percent over the existing 2016 Title 24 requirements, which is equivalent to approximately 8 to 43 percent over the 2019 Title 24 requirements.

Table I: Summary of High Efficiency Appliances

Appliance	Land Use	% Improvement over 2016 Title 24	% Improvement over 2019 Title 24
Clothes Washer	Single-Family Housing	30	23
	Retirement Community	30	23
	Apartment Low Rise	30	23
Dishwasher	Single-Family Housing	15	8
	Retirement Community	15	8
	Apartment Low Rise	15	8
Fan	Single-Family Housing	50	43
	Retirement Community	50	43
	Apartment Low Rise	50	43
Refrigerator	Single-Family Housing	15	8
	Retirement Community	15	8
	Apartment Low Rise	15	8

Source: CalEEMod 2016.3.2. Compiled by LSA (May 2020).

Improve Design of Development to Enhance Walkability and Connectivity (MM AIR-6)

The proposed project would provide design elements that enhance walkability, bikeability, and general mobility and encourage a pedestrian-friendly development. Sufficient walkway width and adequate pedestrian crossings where pedestrians may have a conflict with vehicles are provided. By

incorporating this measure in developing the site plan, optimal accommodations for pedestrian and bicycles can be achieved. The proposed project also provides design improvements that further promote and encourage non-vehicle travel such as, but not limited to, the addition of bike lanes and paths, high-visibility crosswalks, and walkway landscaping.

Provide Pedestrian Network Improvements (MM AIR-6)

The proposed project would ensure project design encourages walking and connects different land uses and types to promote walking. Specifically, the project shall provide sufficient pedestrian facilities and connection to and from each Village Center. The street along the frontage of the Village Center in Fanita Commons, Village Parkway, would have sidewalks on each side and all streets connecting the Village Center and residential areas all have sidewalks on each side or trails. Additionally, the project would also provide proper connection to the existing pedestrian network outside of the project site, regional trails, and Santee Lakes Recreation Preserve to encourage walking farther and to improve access and interconnectivity. Sufficient pedestrian facilities and connections are provided on Fanita Parkway and Cuyamaca Street via Multi-Use trails and sidewalks.

Provide Traffic Calming Measures (MM AIR-6)

The proposed project would provide traffic calming measures to assist with creating a pedestrian and bicycle friendly and safe environment that encourages users to utilize alternative forms of transportation. Traffic calming measures are improvements that are designed to reduce vehicular traffic speeds to create a street catering to all modes of travel. Traffic calming measures include, but are not limited to, narrowed vehicular travel lanes, vertical deflections, chicanes, curb extensions/ bulbouts, textured pavements, horizontal deflections (speed humps/bumps), and roundabouts.

Provide Bike Parking for Multifamily Residential (MM AIR-6)

The proposed project would provide secure bicycle parking throughout the project site to encourage bicycling as a means of travel among residents. Without a safe and reliable means to store their bicycles while they shop or travel around the project site, residents may opt to utilize vehicles to travel instead. By providing bike parking, residents would be more likely to utilize bicycling as a form of transportation and decrease vehicle trips and consequently VMT.

Implement Car-Sharing Program (MM AIR-6)

The proposed project would implement a car-sharing program that would allow users to have on-demand access to a shared fleet of vehicles on as needed basis. The program could be completely provided and managed by Fanita Ranch. Alternatively, the proposed project could coordinate with existing car-sharing companies such as Zipcar to establish a car-sharing station on site. In some instances, vehicle ownership is for intermittent use and is not necessarily an everyday necessity. Providing users with a car-sharing option allows residents to utilize other forms of transportation on an everyday basis and have an option to utilize car-sharing when having a car is a necessity for their purposes.

Provide Ride-Sharing Programs (MM AIR-6)

The proposed project should establish and facilitate ride-sharing programs for residents and project users. This measure is a multi-faceted approach aimed at providing support to encourage and promote ride-sharing. This should include providing a platform such as a website, message board, or community information center for coordinating rides, ensuring adequate loading and unloading zones and waiting areas for ride-sharing vehicles, and providing preferential parking for ride-sharing vehicles.

Implement Commute Trip Reduction Marketing (MM AIR-6)

The proposed project would implement a Commute Trip Reduction marketing campaign specifically aimed at reducing commute trips. Marketing strategies may include a social media campaign, publications, and posters, integrating commute trip reduction and alternative mode options into information given to new residents. Effective and successful marketing would ensure that residents are aware of TDM measures and benefits in place and have all the information and knowledge necessary to take advantage of and utilize them. Proper education would also ensure that these strategies and measures are utilized to their full potential and maximize VMT reduction. Additionally, the proposed project would promote events such as Bike to Work Day and Ride-Share Week to encourage alternative modes of transportation, and provide free on-site bike tune-up events annually to promote biking as an alternative form of transportation.

Implement a School Pool Program Under the Preferred Land Use Plan With School (MM AIR-6)

The proposed project would provide a platform for parents to coordinate transport for students to and from schools. School pools come in many forms including carpooling, walk pools, bike pools, and public transit coordination. Parents could share the responsibility of taking and picking up multiple children to and from school to help reduce school commute trips and VMT. In addition, walk pools and bike pools can also be coordinated for children to walk and/or bike to school under parent supervision. The coordination among parents could be facilitated through the project's intranet/message boards.

Implement a Neighborhood Electric Vehicle Network (MM AIR-6)

The proposed project would have a multi-modal circulation plan that accommodates and encourages NEV use throughout the community. The resulting benefits would be significantly lower VMT, less traffic noise, and enhanced mobility. Fanita Ranch's backbone roadways are intended to have posted speeds of 35 miles per hour or less, which will allow the use of NEVs. In the event a street is warranted to have a posted speed of greater than 35 mph, an eight- or 10-foot-wide striped NEV/Bicycle Lane would be provided on each side of the larger backbone roadways to permit NEVs and bicycles to share the road.

Increase Electric Vehicle Use (MM AIR-7)

Based on California Department of Motor Vehicles registration statistics, EVs accounted for 0.33 percent of passenger cars in California in 2014. In order to achieve California's goal of 1.5 million zero-emission vehicles by 2025 (EO B-16-12), the rate of EV ownership would need to increase by 0.48 percent each year. Assuming a linear growth rate to 2035, approximately 13 percent of

passenger vehicles in California will be EVs. (California Department of Motor Vehicles 2015a, 2015b) The Fanita Ranch Specific Plan has incorporated project design features to support the achievement of EV ownership rate in the project (i.e., implement NEV network and EV infrastructure). In addition, to help offset the increase in the project's electricity use resulting from charging these vehicles, the renewable energy resources target was set at 100 percent by 2035.

The proposed project would have a multi-modal circulation plan that includes EV charging systems for on-road electric vehicles capable of freeway system vehicle speeds. The use of EVs will significantly reduce fuel consumption associated with the longer commute trips outside of Fanita Ranch.

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APPENDIX A:

CALCULATION WORKSHEET

Construction Off-road Fuel Consumption Calculation

PhaseName	OffRoadEquipmentType	OffRoadEquipmentUnitAmount	UsageHours	HorsePower	LoadFactor	kW	Fuel (kg/h)	Fuel (gallon/day)	Energy (MMBtu/day)
Phase 1 Site Preparation	Rubber Tired Dozers	1	5.1	436	0.4	320.68	28.22	44.42	6.11
Phase 1 Site Preparation	Rubber Tired Loaders	1	5.1	249	0.36	183.14	14.50	22.83	3.14
Phase 1 Grading	Excavators	1	0.2	760	0.38	558.98	46.73	2.88	0.40
Phase 1 Grading	Graders	1	2.3	275	0.41	202.26	18.24	12.95	1.78
Phase 1 Grading	Graders	1	0.2	275	0.41	202.26	18.24	1.13	0.15
Phase 1 Grading	Off-Highway Trucks	3	2.3	300	0.38	220.65	18.45	39.28	5.40
Phase 1 Grading	Off-Highway Trucks	3	8	1025	0.38	753.89	63.02	466.85	64.17
Phase 1 Grading	Off-Highway Trucks	2	0.2	300	0.38	220.65	18.45	2.28	0.31
Phase 1 Grading	Plate Compactors	1	2.3	554	0.43	407.47	38.55	27.36	3.76
Phase 1 Grading	Rubber Tired Dozers	1	2.3	600	0.4	441.30	38.83	27.57	3.79
Phase 1 Grading	Rubber Tired Dozers	1	2.3	354	0.4	260.37	22.91	16.26	2.24
Phase 1 Grading	Rubber Tired Dozers	1	2.3	436	0.4	320.68	28.22	20.03	2.75
Phase 1 Grading	Rubber Tired Dozers	1	0.2	600	0.4	441.30	38.83	2.40	0.33
Phase 1 Grading	Rubber Tired Dozers	2	0.2	436	0.4	320.68	28.22	3.48	0.48
Phase 1 Grading	Scrapers	10	2.3	600	0.48	441.30	46.60	330.81	45.47
Phase 1 Grading	Tractors/Loaders/Backhoes	1	0.6	249	0.37	183.14	14.91	2.76	0.38
Phase 1 Utilities	Excavators	1	1.1	417	0.38	306.70	25.64	8.71	1.20
Phase 1 Utilities	Excavators	1	0.5	235	0.38	172.84	14.45	2.23	0.31
Phase 1 Utilities	Excavators	1	1	235	0.38	172.84	14.45	4.46	0.61
Phase 1 Utilities	Excavators	1	2.9	235	0.38	172.84	14.45	12.93	1.78
Phase 1 Utilities	Excavators	1	0.9	417	0.38	306.70	25.64	7.12	0.98
Phase 1 Utilities	Excavators	1	0.5	235	0.38	172.84	14.45	2.23	0.31
Phase 1 Utilities	Excavators	1	7	235	0.38	172.84	14.45	31.22	4.29
Phase 1 Utilities	Excavators	1	0.4	417	0.38	306.70	25.64	3.17	0.44
Phase 1 Utilities	Excavators	1	0.2	235	0.38	172.84	14.45	0.89	0.12
Phase 1 Utilities	Excavators	1	0.3	235	0.38	172.84	14.45	1.34	0.18
Phase 1 Utilities	Excavators	1	2.9	140	0.38	102.97	8.61	7.70	1.06
Phase 1 Utilities	Excavators	1	1.7	85	0.38	62.52	5.23	2.74	0.38
Phase 1 Utilities	Excavators	1	2	417	0.38	306.70	25.64	15.83	2.18
Phase 1 Utilities	Excavators	1	1	235	0.38	172.84	14.45	4.46	0.61
Phase 1 Utilities	Excavators	1	3	235	0.38	172.84	14.45	13.38	1.84
Phase 1 Utilities	Off-Highway Trucks	1	0.2	450	0.38	330.97	27.67	1.71	0.23
Phase 1 Utilities	Off-Highway Trucks	1	0.4	170	0.38	125.03	10.45	1.29	0.18
Phase 1 Utilities	Off-Highway Trucks	1	0.2	450	0.38	330.97	27.67	1.71	0.23
Phase 1 Utilities	Off-Highway Trucks	1	0.4	170	0.38	125.03	10.45	1.29	0.18
Phase 1 Utilities	Off-Highway Trucks	1	0.4	450	0.38	330.97	27.67	3.42	0.47
Phase 1 Utilities	Off-Highway Trucks	1	1	170	0.38	125.03	10.45	3.23	0.44
Phase 1 Utilities	Off-Highway Trucks	1	0.1	450	0.38	330.97	27.67	0.85	0.12
Phase 1 Utilities	Off-Highway Trucks	1	0.3	170	0.38	125.03	10.45	0.97	0.13
Phase 1 Utilities	Off-Highway Trucks	1	1.1	450	0.38	330.97	27.67	9.39	1.29
Phase 1 Utilities	Off-Highway Trucks	1	2.4	170	0.38	125.03	10.45	7.74	1.06
Phase 1 Utilities	Off-Highway Trucks	1	0.1	450	0.38	330.97	27.67	0.85	0.12
Phase 1 Utilities	Off-Highway Trucks	1	0.2	170	0.38	125.03	10.45	0.65	0.09

Phase 1 Utilities	Off-Highway Trucks	1	0.1	450	0.38	330.97	27.67	0.85	0.12
Phase 1 Utilities	Off-Highway Trucks	1	0.1	170	0.38	125.03	10.45	0.32	0.04
Phase 1 Utilities	Off-Highway Trucks	1	0.3	450	0.38	330.97	27.67	2.56	0.35
Phase 1 Utilities	Off-Highway Trucks	1	0.7	170	0.38	125.03	10.45	2.26	0.31
Phase 1 Utilities	Off-Highway Trucks	1	0.5	450	0.38	330.97	27.67	4.27	0.59
Phase 1 Utilities	Off-Highway Trucks	1	1.1	170	0.38	125.03	10.45	3.55	0.49
Phase 1 Utilities	Tractors/Loaders/Backhoes	1	0.8	170	0.37	125.03	10.18	2.51	0.35
Phase 1 Utilities	Tractors/Loaders/Backhoes	1	0.5	170	0.37	125.03	10.18	1.57	0.22
Phase 1 Utilities	Tractors/Loaders/Backhoes	1	1.5	170	0.37	125.03	10.18	4.71	0.65
Phase 1 Utilities	Tractors/Loaders/Backhoes	1	0.7	170	0.37	125.03	10.18	2.20	0.30
Phase 1 Utilities	Tractors/Loaders/Backhoes	1	3.5	170	0.37	125.03	10.18	10.99	1.51
Phase 1 Utilities	Tractors/Loaders/Backhoes	1	0.3	170	0.37	125.03	10.18	0.94	0.13
Phase 1 Utilities	Tractors/Loaders/Backhoes	1	0.2	170	0.37	125.03	10.18	0.63	0.09
Phase 1 Utilities	Tractors/Loaders/Backhoes	1	2.5	164	0.37	120.62	9.82	7.58	1.04
Phase 1 Utilities	Tractors/Loaders/Backhoes	1	1.5	170	0.37	125.03	10.18	4.71	0.65
Phase 1 Utilities	Tractors/Loaders/Backhoes	1	1.5	170	0.37	125.03	10.18	4.71	0.65
Phase 1 Surface Improvements	Dumpers/Tenders	22	0.6	515	0.38	378.78	31.67	129.01	17.73
Phase 1 Surface Improvements	Graders	1	0.6	150	0.41	110.32	9.95	1.84	0.25
Phase 1 Surface Improvements	Graders	1	0.6	150	0.41	110.32	9.95	1.84	0.25
Phase 1 Surface Improvements	Off-Highway Trucks	4	0.9	300	0.38	220.65	18.45	20.50	2.82
Phase 1 Surface Improvements	Off-Highway Trucks	1	0.1	450	0.38	330.97	27.67	0.85	0.12
Phase 1 Surface Improvements	Off-Highway Trucks	1	0.6	170	0.38	125.03	10.45	1.94	0.27
Phase 1 Surface Improvements	Off-Highway Trucks	1	0.6	170	0.38	125.03	10.45	1.94	0.27
Phase 1 Surface Improvements	Off-Highway Trucks	1	0.2	450	0.38	330.97	27.67	1.71	0.23
Phase 1 Surface Improvements	Off-Highway Trucks	17	0.2	450	0.38	330.97	27.67	29.04	3.99
Phase 1 Surface Improvements	Pavers	1	0.2	225	0.42	165.49	15.29	0.94	0.13
Phase 1 Surface Improvements	Paving Equipment	1	0.9	140	0.36	102.97	8.16	2.27	0.31
Phase 1 Surface Improvements	Rollers	1	0.6	102	0.38	75.02	6.27	1.16	0.16
Phase 1 Surface Improvements	Rollers	1	0.6	102	0.38	75.02	6.27	1.16	0.16
Phase 1 Surface Improvements	Rollers	1	0.6	36	0.38	26.48	2.21	0.41	0.06
Phase 1 Surface Improvements	Rollers	1	0.6	36	0.38	26.48	2.21	0.41	0.06
Phase 1 Surface Improvements	Rollers	1	0.2	120	0.38	88.26	7.38	0.46	0.06
Phase 1 Surface Improvements	Rollers	2	0.2	78	0.38	57.37	4.80	0.59	0.08
Phase 1 Surface Improvements	Scrapers	1	0.6	150	0.48	110.32	11.65	2.16	0.30
Phase 1 Surface Improvements	Tractors/Loaders/Backhoes	1	0.6	78	0.37	57.37	4.67	0.86	0.12
Phase 1 Building Construction	Cement and Mortar Mixers	1	3	505	0.56	371.43	45.76	42.37	5.82
Phase 1 Building Construction	Off-Highway Trucks	1	5	170	0.38	125.03	10.45	16.13	2.22
Phase 1 Building Construction	Off-Highway Trucks	1	1.3	170	0.38	125.03	10.45	4.19	0.58
Phase 1 Building Construction	Off-Highway Trucks	5	1	300	0.38	220.65	18.45	28.47	3.91
Phase 1 Building Construction	Off-Highway Trucks	1	5	170	0.38	125.03	10.45	16.13	2.22
							Total	**1535.56**	**211.07**
Phase 2 Site Preparation	Rubber Tired Dozers	1	4.8	436	0.4	320.68	28.22	41.81	5.75
Phase 2 Site Preparation	Rubber Tired Loaders	1	4.8	249	0.36	183.14	14.50	21.49	2.95
Phase 2 Grading	Excavators	1	6	760	0.38	558.98	46.73	86.54	11.89

Phase 2 Grading	Graders	1	7.1	275	0.41	202.26	18.24	39.98	5.50
Phase 2 Grading	Graders	1	6	275	0.41	202.26	18.24	33.79	4.64
Phase 2 Grading	Off-Highway Trucks	3	7.1	300	0.38	220.65	18.45	121.27	16.67
Phase 2 Grading	Off-Highway Trucks	3	8	1025	0.38	753.89	63.02	466.85	64.17
Phase 2 Grading	Off-Highway Trucks	2	6	300	0.38	220.65	18.45	68.32	9.39
Phase 2 Grading	Plate Compactors	1	7.1	554	0.43	407.47	38.55	84.47	11.61
Phase 2 Grading	Rubber Tired Dozers	1	7.1	600	0.4	441.30	38.83	85.10	11.70
Phase 2 Grading	Rubber Tired Dozers	1	7.1	354	0.4	260.37	22.91	50.21	6.90
Phase 2 Grading	Rubber Tired Dozers	1	7.1	436	0.4	320.68	28.22	61.84	8.50
Phase 2 Grading	Rubber Tired Dozers	1	6	600	0.4	441.30	38.83	71.92	9.88
Phase 2 Grading	Rubber Tired Dozers	2	6	436	0.4	320.68	28.22	104.52	14.37
Phase 2 Grading	Scrapers	10	7.1	600	0.48	441.30	46.60	1021.20	140.37
Phase 2 Grading	Tractors/Loaders/Backhoes	1	1.8	249	0.37	183.14	14.91	8.28	1.14
Phase 2 Utilities	Excavators	1	2.1	417	0.38	306.70	25.64	16.62	2.28
Phase 2 Utilities	Excavators	1	1.1	235	0.38	172.84	14.45	4.91	0.67
Phase 2 Utilities	Excavators	1	2	235	0.38	172.84	14.45	8.92	1.23
Phase 2 Utilities	Excavators	1	3.7	235	0.38	172.84	14.45	16.50	2.27
Phase 2 Utilities	Excavators	1	1.5	417	0.38	306.70	25.64	11.87	1.63
Phase 2 Utilities	Excavators	1	0.8	235	0.38	172.84	14.45	3.57	0.49
Phase 2 Utilities	Excavators	1	9	235	0.38	172.84	14.45	40.14	5.52
Phase 2 Utilities	Excavators	1	0.6	417	0.38	306.70	25.64	4.75	0.65
Phase 2 Utilities	Excavators	1	0.3	235	0.38	172.84	14.45	1.34	0.18
Phase 2 Utilities	Excavators	1	1	235	0.38	172.84	14.45	4.46	0.61
Phase 2 Utilities	Excavators	1	4.2	140	0.38	102.97	8.61	11.16	1.53
Phase 2 Utilities	Excavators	1	2.5	85	0.38	62.52	5.23	4.03	0.55
Phase 2 Utilities	Excavators	1	2.4	417	0.38	306.70	25.64	18.99	2.61
Phase 2 Utilities	Excavators	1	1.2	235	0.38	172.84	14.45	5.35	0.74
Phase 2 Utilities	Excavators	1	3.7	235	0.38	172.84	14.45	16.50	2.27
Phase 2 Utilities	Off-Highway Trucks	1	0.3	450	0.38	330.97	27.67	2.56	0.35
Phase 2 Utilities	Off-Highway Trucks	1	0.7	170	0.38	125.03	10.45	2.26	0.31
Phase 2 Utilities	Off-Highway Trucks	1	0.3	450	0.38	330.97	27.67	2.56	0.35
Phase 2 Utilities	Off-Highway Trucks	1	0.7	170	0.38	125.03	10.45	2.26	0.31
Phase 2 Utilities	Off-Highway Trucks	1	0.6	450	0.38	330.97	27.67	5.12	0.70
Phase 2 Utilities	Off-Highway Trucks	1	1.3	170	0.38	125.03	10.45	4.19	0.58
Phase 2 Utilities	Off-Highway Trucks	1	0.2	450	0.38	330.97	27.67	1.71	0.23
Phase 2 Utilities	Off-Highway Trucks	1	0.5	170	0.38	125.03	10.45	1.61	0.22
Phase 2 Utilities	Off-Highway Trucks	1	1.4	450	0.38	330.97	27.67	11.96	1.64
Phase 2 Utilities	Off-Highway Trucks	1	3.1	170	0.38	125.03	10.45	10.00	1.37
Phase 2 Utilities	Off-Highway Trucks	1	0.1	450	0.38	330.97	27.67	0.85	0.12
Phase 2 Utilities	Off-Highway Trucks	1	0.2	170	0.38	125.03	10.45	0.65	0.09
Phase 2 Utilities	Off-Highway Trucks	1	0.2	450	0.38	330.97	27.67	1.71	0.23
Phase 2 Utilities	Off-Highway Trucks	1	0.4	170	0.38	125.03	10.45	1.29	0.18
Phase 2 Utilities	Off-Highway Trucks	1	0.4	450	0.38	330.97	27.67	3.42	0.47
Phase 2 Utilities	Off-Highway Trucks	1	0.8	170	0.38	125.03	10.45	2.58	0.35
Phase 2 Utilities	Off-Highway Trucks	1	0.6	450	0.38	330.97	27.67	5.12	0.70

Phase 2 Utilities	Off-Highway Trucks	1	1.3	170	0.38	125.03	10.45	4.19	0.58
Phase 2 Utilities	Tractors/Loaders/Backhoes	1	1.6	170	0.37	125.03	10.18	5.03	0.69
Phase 2 Utilities	Tractors/Loaders/Backhoes	1	1	170	0.37	125.03	10.18	3.14	0.43
Phase 2 Utilities	Tractors/Loaders/Backhoes	1	1.8	170	0.37	125.03	10.18	5.65	0.78
Phase 2 Utilities	Tractors/Loaders/Backhoes	1	1.1	170	0.37	125.03	10.18	3.46	0.47
Phase 2 Utilities	Tractors/Loaders/Backhoes	1	4.5	170	0.37	125.03	10.18	14.14	1.94
Phase 2 Utilities	Tractors/Loaders/Backhoes	1	0.4	170	0.37	125.03	10.18	1.26	0.17
Phase 2 Utilities	Tractors/Loaders/Backhoes	1	0.5	170	0.37	125.03	10.18	1.57	0.22
Phase 2 Utilities	Tractors/Loaders/Backhoes	1	3.6	164	0.37	120.62	9.82	10.91	1.50
Phase 2 Utilities	Tractors/Loaders/Backhoes	1	1.8	170	0.37	125.03	10.18	5.65	0.78
Phase 2 Utilities	Tractors/Loaders/Backhoes	1	1.9	170	0.37	125.03	10.18	5.97	0.82
Phase 2 Surface Improvements	Dumpers/Tenders	22	0.6	515	0.38	378.78	31.67	129.01	17.73
Phase 2 Surface Improvements	Graders	1	0.6	150	0.41	110.32	9.95	1.84	0.25
Phase 2 Surface Improvements	Graders	1	0.6	150	0.41	110.32	9.95	1.84	0.25
Phase 2 Surface Improvements	Off-Highway Trucks	4	0.9	300	0.38	220.65	18.45	20.50	2.82
Phase 2 Surface Improvements	Off-Highway Trucks	1	0.1	450	0.38	330.97	27.67	0.85	0.12
Phase 2 Surface Improvements	Off-Highway Trucks	1	0.6	170	0.38	125.03	10.45	1.94	0.27
Phase 2 Surface Improvements	Off-Highway Trucks	1	0.6	170	0.38	125.03	10.45	1.94	0.27
Phase 2 Surface Improvements	Off-Highway Trucks	1	0.2	450	0.38	330.97	27.67	1.71	0.23
Phase 2 Surface Improvements	Off-Highway Trucks	17	0.2	450	0.38	330.97	27.67	29.04	3.99
Phase 2 Surface Improvements	Pavers	1	0.2	225	0.42	165.49	15.29	0.94	0.13
Phase 2 Surface Improvements	Paving Equipment	1	0.9	140	0.36	102.97	8.16	2.27	0.31
Phase 2 Surface Improvements	Rollers	1	0.6	102	0.38	75.02	6.27	1.16	0.16
Phase 2 Surface Improvements	Rollers	1	0.6	102	0.38	75.02	6.27	1.16	0.16
Phase 2 Surface Improvements	Rollers	1	0.6	36	0.38	26.48	2.21	0.41	0.06
Phase 2 Surface Improvements	Rollers	1	0.6	36	0.38	26.48	2.21	0.41	0.06
Phase 2 Surface Improvements	Rollers	1	0.2	120	0.38	88.26	7.38	0.46	0.06
Phase 2 Surface Improvements	Rollers	2	0.2	78	0.38	57.37	4.80	0.59	0.08
Phase 2 Surface Improvements	Scrapers	1	0.6	150	0.48	110.32	11.65	2.16	0.30
Phase 2 Surface Improvements	Tractors/Loaders/Backhoes	1	0.6	78	0.37	57.37	4.67	0.86	0.12
Phase 2 Building Construction	Cement and Mortar Mixers	1	2	505	0.56	371.43	45.76	28.25	3.88
Phase 2 Building Construction	Off-Highway Trucks	1	3	170	0.38	125.03	10.45	9.68	1.33
Phase 2 Building Construction	Off-Highway Trucks	1	0.8	170	0.38	125.03	10.45	2.58	0.35
Phase 2 Building Construction	Off-Highway Trucks	5	1	300	0.38	220.65	18.45	28.47	3.91
Phase 2 Building Construction	Off-Highway Trucks	1	3	170	0.38	125.03	10.45	9.68	1.33
							Total	**2935.23**	**403.45**
Phase 3 Site Preparation	Rubber Tired Dozers	1	4.2	436	0.4	320.68	28.22	36.58	5.03
Phase 3 Site Preparation	Rubber Tired Loaders	1	4.2	249	0.36	183.14	14.50	18.80	2.58
Phase 3 Grading	Excavators	1	1.1	760	0.38	558.98	46.73	15.87	2.18
Phase 3 Grading	Graders	1	2.6	275	0.41	202.26	18.24	14.64	2.01
Phase 3 Grading	Graders	1	1.1	275	0.41	202.26	18.24	6.19	0.85
Phase 3 Grading	Off-Highway Trucks	3	2.6	300	0.38	220.65	18.45	44.41	6.10
Phase 3 Grading	Off-Highway Trucks	3	8	1025	0.38	753.89	63.02	466.85	64.17
Phase 3 Grading	Off-Highway Trucks	2	1.1	300	0.38	220.65	18.45	12.53	1.72

Phase 3 Grading	Plate Compactors	1	2.6	554	0.43	407.47	38.55	30.93	4.25
Phase 3 Grading	Rubber Tired Dozers	1	2.6	600	0.4	441.30	38.83	31.16	4.28
Phase 3 Grading	Rubber Tired Dozers	1	2.6	354	0.4	260.37	22.91	18.39	2.53
Phase 3 Grading	Rubber Tired Dozers	1	2.6	436	0.4	320.68	28.22	22.65	3.11
Phase 3 Grading	Rubber Tired Dozers	1	1.1	600	0.4	441.30	38.83	13.18	1.81
Phase 3 Grading	Rubber Tired Dozers	2	1.1	436	0.4	320.68	28.22	19.16	2.63
Phase 3 Grading	Scrapers	10	2.6	600	0.48	441.30	46.60	373.96	51.40
Phase 3 Grading	Tractors/Loaders/Backhoes	1	0.7	249	0.37	183.14	14.91	3.22	0.44
Phase 3 Utilities	Excavators	1	1.8	417	0.38	306.70	25.64	14.24	1.96
Phase 3 Utilities	Excavators	1	0.9	235	0.38	172.84	14.45	4.01	0.55
Phase 3 Utilities	Excavators	1	1.7	235	0.38	172.84	14.45	7.58	1.04
Phase 3 Utilities	Excavators	1	2	235	0.38	172.84	14.45	8.92	1.23
Phase 3 Utilities	Excavators	1	1.3	417	0.38	306.70	25.64	10.29	1.41
Phase 3 Utilities	Excavators	1	0.6	235	0.38	172.84	14.45	2.68	0.37
Phase 3 Utilities	Excavators	1	5.5	235	0.38	172.84	14.45	24.53	3.37
Phase 3 Utilities	Excavators	1	0.5	417	0.38	306.70	25.64	3.96	0.54
Phase 3 Utilities	Excavators	1	0.3	235	0.38	172.84	14.45	1.34	0.18
Phase 3 Utilities	Excavators	1	0.3	235	0.38	172.84	14.45	1.34	0.18
Phase 3 Utilities	Excavators	1	3.6	140	0.38	102.97	8.61	9.56	1.31
Phase 3 Utilities	Excavators	1	2.1	85	0.38	62.52	5.23	3.39	0.47
Phase 3 Utilities	Excavators	1	1.6	417	0.38	306.70	25.64	12.66	1.74
Phase 3 Utilities	Excavators	1	0.8	235	0.38	172.84	14.45	3.57	0.49
Phase 3 Utilities	Excavators	1	2.4	235	0.38	172.84	14.45	10.70	1.47
Phase 3 Utilities	Off-Highway Trucks	1	0.3	450	0.38	330.97	27.67	2.56	0.35
Phase 3 Utilities	Off-Highway Trucks	1	0.6	170	0.38	125.03	10.45	1.94	0.27
Phase 3 Utilities	Off-Highway Trucks	1	0.3	450	0.38	330.97	27.67	2.56	0.35
Phase 3 Utilities	Off-Highway Trucks	1	0.6	170	0.38	125.03	10.45	1.94	0.27
Phase 3 Utilities	Off-Highway Trucks	1	0.3	450	0.38	330.97	27.67	2.56	0.35
Phase 3 Utilities	Off-Highway Trucks	1	0.7	170	0.38	125.03	10.45	2.26	0.31
Phase 3 Utilities	Off-Highway Trucks	1	0.2	450	0.38	330.97	27.67	1.71	0.23
Phase 3 Utilities	Off-Highway Trucks	1	0.5	170	0.38	125.03	10.45	1.61	0.22
Phase 3 Utilities	Off-Highway Trucks	1	0.8	450	0.38	330.97	27.67	6.83	0.94
Phase 3 Utilities	Off-Highway Trucks	1	1.9	170	0.38	125.03	10.45	6.13	0.84
Phase 3 Utilities	Off-Highway Trucks	1	0.1	450	0.38	330.97	27.67	0.85	0.12
Phase 3 Utilities	Off-Highway Trucks	1	0.2	170	0.38	125.03	10.45	0.65	0.09
Phase 3 Utilities	Off-Highway Trucks	1	0	450	0.38	330.97	27.67	0.00	0.00
Phase 3 Utilities	Off-Highway Trucks	1	0.1	170	0.38	125.03	10.45	0.32	0.04
Phase 3 Utilities	Off-Highway Trucks	1	0.2	450	0.38	330.97	27.67	1.71	0.23
Phase 3 Utilities	Off-Highway Trucks	1	0.6	170	0.38	125.03	10.45	1.94	0.27
Phase 3 Utilities	Off-Highway Trucks	1	0.4	450	0.38	330.97	27.67	3.42	0.47
Phase 3 Utilities	Off-Highway Trucks	1	0.8	170	0.38	125.03	10.45	2.58	0.35
Phase 3 Utilities	Tractors/Loaders/Backhoes	1	1.4	170	0.37	125.03	10.18	4.40	0.60
Phase 3 Utilities	Tractors/Loaders/Backhoes	1	0.9	170	0.37	125.03	10.18	2.83	0.39
Phase 3 Utilities	Tractors/Loaders/Backhoes	1	1	170	0.37	125.03	10.18	3.14	0.43
Phase 3 Utilities	Tractors/Loaders/Backhoes	1	1	170	0.37	125.03	10.18	3.14	0.43

Phase 3 Utilities	Tractors/Loaders/Backhoes	1	2.7	170	0.37	125.03	10.18	8.48	1.17
Phase 3 Utilities	Tractors/Loaders/Backhoes	1	0.4	170	0.37	125.03	10.18	1.26	0.17
Phase 3 Utilities	Tractors/Loaders/Backhoes	1	0.1	170	0.37	125.03	10.18	0.31	0.04
Phase 3 Utilities	Tractors/Loaders/Backhoes	1	3	164	0.37	120.62	9.82	9.09	1.25
Phase 3 Utilities	Tractors/Loaders/Backhoes	1	1.2	170	0.37	125.03	10.18	3.77	0.52
Phase 3 Utilities	Tractors/Loaders/Backhoes	1	1.2	170	0.37	125.03	10.18	3.77	0.52
Phase 3 Surface Improvements	Dumpers/Tenders	22	0.6	515	0.38	378.78	31.67	129.01	17.73
Phase 3 Surface Improvements	Graders	1	0.6	150	0.41	110.32	9.95	1.84	0.25
Phase 3 Surface Improvements	Graders	1	0.6	150	0.41	110.32	9.95	1.84	0.25
Phase 3 Surface Improvements	Off-Highway Trucks	4	0.9	300	0.38	220.65	18.45	20.50	2.82
Phase 3 Surface Improvements	Off-Highway Trucks	1	0.1	450	0.38	330.97	27.67	0.85	0.12
Phase 3 Surface Improvements	Off-Highway Trucks	1	0.6	170	0.38	125.03	10.45	1.94	0.27
Phase 3 Surface Improvements	Off-Highway Trucks	1	0.6	170	0.38	125.03	10.45	1.94	0.27
Phase 3 Surface Improvements	Off-Highway Trucks	1	0.2	450	0.38	330.97	27.67	1.71	0.23
Phase 3 Surface Improvements	Off-Highway Trucks	17	0.2	450	0.38	330.97	27.67	29.04	3.99
Phase 3 Surface Improvements	Pavers	1	0.2	225	0.42	165.49	15.29	0.94	0.13
Phase 3 Surface Improvements	Paving Equipment	1	0.9	140	0.36	102.97	8.16	2.27	0.31
Phase 3 Surface Improvements	Rollers	1	0.6	102	0.38	75.02	6.27	1.16	0.16
Phase 3 Surface Improvements	Rollers	1	0.6	102	0.38	75.02	6.27	1.16	0.16
Phase 3 Surface Improvements	Rollers	1	0.6	36	0.38	26.48	2.21	0.41	0.06
Phase 3 Surface Improvements	Rollers	1	0.6	36	0.38	26.48	2.21	0.41	0.06
Phase 3 Surface Improvements	Rollers	1	0.2	120	0.38	88.26	7.38	0.46	0.06
Phase 3 Surface Improvements	Rollers	2	0.2	78	0.38	57.37	4.80	0.59	0.08
Phase 3 Surface Improvements	Scrapers	1	0.6	150	0.48	110.32	11.65	2.16	0.30
Phase 3 Surface Improvements	Tractors/Loaders/Backhoes	1	0.6	78	0.37	57.37	4.67	0.86	0.12
Phase 3 Building Construction	Cement and Mortar Mixers	1	2	505	0.56	371.43	45.76	28.25	3.88
Phase 3 Building Construction	Off-Highway Trucks	1	3	170	0.38	125.03	10.45	9.68	1.33
Phase 3 Building Construction	Off-Highway Trucks	1	0.8	170	0.38	125.03	10.45	2.58	0.35
Phase 3 Building Construction	Off-Highway Trucks	5	1	300	0.38	220.65	18.45	28.47	3.91
Phase 3 Building Construction	Off-Highway Trucks	1	3	170	0.38	125.03	10.45	9.68	1.33
							Total	**1606.78**	**220.85**
Phase 4 Site Preparation	Rubber Tired Dozers	1	4.2	436	0.4	320.68	28.22	36.58	5.03
Phase 4 Site Preparation	Rubber Tired Loaders	1	4.2	249	0.36	183.14	14.50	18.80	2.58
Phase 4 Grading	Excavators	1	1.1	760	0.38	558.98	46.73	15.87	2.18
Phase 4 Grading	Graders	1	2.6	275	0.41	202.26	18.24	14.64	2.01
Phase 4 Grading	Graders	1	1.1	275	0.41	202.26	18.24	6.19	0.85
Phase 4 Grading	Off-Highway Trucks	3	2.6	300	0.38	220.65	18.45	44.41	6.10
Phase 4 Grading	Off-Highway Trucks	3	8	1025	0.38	753.89	63.02	466.85	64.17
Phase 4 Grading	Off-Highway Trucks	2	1.1	300	0.38	220.65	18.45	12.53	1.72
Phase 4 Grading	Plate Compactors	1	2.6	554	0.43	407.47	38.55	30.93	4.25
Phase 4 Grading	Rubber Tired Dozers	1	2.6	600	0.4	441.30	38.83	31.16	4.28
Phase 4 Grading	Rubber Tired Dozers	1	2.6	354	0.4	260.37	22.91	18.39	2.53
Phase 4 Grading	Rubber Tired Dozers	1	2.6	436	0.4	320.68	28.22	22.65	3.11
Phase 4 Grading	Rubber Tired Dozers	1	1.1	600	0.4	441.30	38.83	13.18	1.81

Phase 4 Grading	Rubber Tired Dozers	2	1.1	436	0.4	320.68	28.22	19.16	2.63
Phase 4 Grading	Scrapers	10	2.6	600	0.48	441.30	46.60	373.96	51.40
Phase 4 Grading	Tractors/Loaders/Backhoes	1	0.7	249	0.37	183.14	14.91	3.22	0.44
Phase 4 Utilities	Excavators	1	1.6	417	0.38	306.70	25.64	12.66	1.74
Phase 4 Utilities	Excavators	1	0.8	235	0.38	172.84	14.45	3.57	0.49
Phase 4 Utilities	Excavators	1	1.5	235	0.38	172.84	14.45	6.69	0.92
Phase 4 Utilities	Excavators	1	1.8	235	0.38	172.84	14.45	8.03	1.10
Phase 4 Utilities	Excavators	1	1.1	417	0.38	306.70	25.64	8.71	1.20
Phase 4 Utilities	Excavators	1	0.6	235	0.38	172.84	14.45	2.68	0.37
Phase 4 Utilities	Excavators	1	4.8	235	0.38	172.84	14.45	21.41	2.94
Phase 4 Utilities	Excavators	1	0.5	417	0.38	306.70	25.64	3.96	0.54
Phase 4 Utilities	Excavators	1	0.2	235	0.38	172.84	14.45	0.89	0.12
Phase 4 Utilities	Excavators	1	0.2	235	0.38	172.84	14.45	0.89	0.12
Phase 4 Utilities	Excavators	1	3.1	140	0.38	102.97	8.61	8.24	1.13
Phase 4 Utilities	Excavators	1	1.9	85	0.38	62.52	5.23	3.06	0.42
Phase 4 Utilities	Excavators	1	1.4	417	0.38	306.70	25.64	11.08	1.52
Phase 4 Utilities	Excavators	1	0.7	235	0.38	172.84	14.45	3.12	0.43
Phase 4 Utilities	Excavators	1	2.1	235	0.38	172.84	14.45	9.37	1.29
Phase 4 Utilities	Off-Highway Trucks	1	0.2	450	0.38	330.97	27.67	1.71	0.23
Phase 4 Utilities	Off-Highway Trucks	1	0.6	170	0.38	125.03	10.45	1.94	0.27
Phase 4 Utilities	Off-Highway Trucks	1	0.2	450	0.38	330.97	27.67	1.71	0.23
Phase 4 Utilities	Off-Highway Trucks	1	0.5	170	0.38	125.03	10.45	1.61	0.22
Phase 4 Utilities	Off-Highway Trucks	1	0.3	450	0.38	330.97	27.67	2.56	0.35
Phase 4 Utilities	Off-Highway Trucks	1	0.6	170	0.38	125.03	10.45	1.94	0.27
Phase 4 Utilities	Off-Highway Trucks	1	0.2	450	0.38	330.97	27.67	1.71	0.23
Phase 4 Utilities	Off-Highway Trucks	1	0.4	170	0.38	125.03	10.45	1.29	0.18
Phase 4 Utilities	Off-Highway Trucks	1	0.7	450	0.38	330.97	27.67	5.98	0.82
Phase 4 Utilities	Off-Highway Trucks	1	1.7	170	0.38	125.03	10.45	5.48	0.75
Phase 4 Utilities	Off-Highway Trucks	1	0.1	450	0.38	330.97	27.67	0.85	0.12
Phase 4 Utilities	Off-Highway Trucks	1	0.2	170	0.38	125.03	10.45	0.65	0.09
Phase 4 Utilities	Off-Highway Trucks	1	0	450	0.38	330.97	27.67	0.00	0.00
Phase 4 Utilities	Off-Highway Trucks	1	0.1	170	0.38	125.03	10.45	0.32	0.04
Phase 4 Utilities	Off-Highway Trucks	1	0.2	450	0.38	330.97	27.67	1.71	0.23
Phase 4 Utilities	Off-Highway Trucks	1	0.5	170	0.38	125.03	10.45	1.61	0.22
Phase 4 Utilities	Off-Highway Trucks	1	0.3	450	0.38	330.97	27.67	2.56	0.35
Phase 4 Utilities	Off-Highway Trucks	1	0.7	170	0.38	125.03	10.45	2.26	0.31
Phase 4 Utilities	Tractors/Loaders/Backhoes	1	1.2	170	0.37	125.03	10.18	3.77	0.52
Phase 4 Utilities	Tractors/Loaders/Backhoes	1	0.7	170	0.37	125.03	10.18	2.20	0.30
Phase 4 Utilities	Tractors/Loaders/Backhoes	1	0.9	170	0.37	125.03	10.18	2.83	0.39
Phase 4 Utilities	Tractors/Loaders/Backhoes	1	0.8	170	0.37	125.03	10.18	2.51	0.35
Phase 4 Utilities	Tractors/Loaders/Backhoes	1	2.4	170	0.37	125.03	10.18	7.54	1.04
Phase 4 Utilities	Tractors/Loaders/Backhoes	1	0.3	170	0.37	125.03	10.18	0.94	0.13
Phase 4 Utilities	Tractors/Loaders/Backhoes	1	0.1	170	0.37	125.03	10.18	0.31	0.04
Phase 4 Utilities	Tractors/Loaders/Backhoes	1	2.7	164	0.37	120.62	9.82	8.18	1.12
Phase 4 Utilities	Tractors/Loaders/Backhoes	1	1.1	170	0.37	125.03	10.18	3.46	0.47

Phase 4 Utilities	Tractors/Loaders/Backhoes	1	1.1	170	0.37	125.03	10.18	3.46	0.47
Phase 4 Surface Improvements	Dumpers/Tenders	22	0.6	515	0.38	378.78	31.67	129.01	17.73
Phase 4 Surface Improvements	Graders	1	0.6	150	0.41	110.32	9.95	1.84	0.25
Phase 4 Surface Improvements	Graders	1	0.6	150	0.41	110.32	9.95	1.84	0.25
Phase 4 Surface Improvements	Off-Highway Trucks	4	0.9	300	0.38	220.65	18.45	20.50	2.82
Phase 4 Surface Improvements	Off-Highway Trucks	1	0.1	450	0.38	330.97	27.67	0.85	0.12
Phase 4 Surface Improvements	Off-Highway Trucks	1	0.6	170	0.38	125.03	10.45	1.94	0.27
Phase 4 Surface Improvements	Off-Highway Trucks	1	0.6	170	0.38	125.03	10.45	1.94	0.27
Phase 4 Surface Improvements	Off-Highway Trucks	1	0.2	450	0.38	330.97	27.67	1.71	0.23
Phase 4 Surface Improvements	Off-Highway Trucks	17	0.2	450	0.38	330.97	27.67	29.04	3.99
Phase 4 Surface Improvements	Pavers	1	0.2	225	0.42	165.49	15.29	0.94	0.13
Phase 4 Surface Improvements	Paving Equipment	1	0.9	140	0.36	102.97	8.16	2.27	0.31
Phase 4 Surface Improvements	Rollers	1	0.6	102	0.38	75.02	6.27	1.16	0.16
Phase 4 Surface Improvements	Rollers	1	0.6	102	0.38	75.02	6.27	1.16	0.16
Phase 4 Surface Improvements	Rollers	1	0.6	36	0.38	26.48	2.21	0.41	0.06
Phase 4 Surface Improvements	Rollers	1	0.6	36	0.38	26.48	2.21	0.41	0.06
Phase 4 Surface Improvements	Rollers	1	0.2	120	0.38	88.26	7.38	0.46	0.06
Phase 4 Surface Improvements	Rollers	2	0.2	78	0.38	57.37	4.80	0.59	0.08
Phase 4 Surface Improvements	Scrapers	1	0.6	150	0.48	110.32	11.65	2.16	0.30
Phase 4 Surface Improvements	Tractors/Loaders/Backhoes	1	0.6	78	0.37	57.37	4.67	0.86	0.12
Phase 4 Building Construction	Cement and Mortar Mixers	1	3	505	0.56	371.43	45.76	42.37	5.82
Phase 4 Building Construction	Off-Highway Trucks	1	5	170	0.38	125.03	10.45	16.13	2.22
Phase 4 Building Construction	Off-Highway Trucks	1	1.3	170	0.38	125.03	10.45	4.19	0.58
Phase 4 Building Construction	Off-Highway Trucks	5	1	300	0.38	220.65	18.45	28.47	3.91
Phase 4 Building Construction	Off-Highway Trucks	1	5	170	0.38	125.03	10.45	16.13	2.22
							Total	**1610.32**	**221.34**

Construction On-road Fuel Consumption Calculation

		Daily VMT (miles/day)					
Phase	Worker		Vendor	Hauling	Diesel (gallon	Gas (gallon/day)	Energy (MMBtu/day)
Phase 1		15,498	2,278	71,142	11,368	677	1,644
Phase 2		9,979	1,205	35,871	5,798	384	843
Phase 3		9,299	1,073	53,025	8,422	408	1,207
Phase 4		12,679	1,716	24,648	3,917	445	592
					29,504	1,915	4,286

Worker	LDA + LDT1 + LDT2
Vendor	LHDT1 + LHDT2
Hauling	HHDT

EMFAC2017, San Deigo County, 2019

LDA + LDT1 + LDT2	Gas	0.035475657	gallon/mile	99.0%
LDA + LDT1 + LDT2	Diesel	0.023286367	gallon/mile	1.0%
LHDT1 + LHDT2	Gas	0.121907456	gallon/mile	47.8%
LHDT1 + LHDT2	Diesel	0.057090005	gallon/mile	52.2%
HHDT	Diesel	0.158786618	gallon/mile	

1 gallon of diesel fuel = 137,452 Btu

1 gallon of motor gasoline = 120,476 Btu

PhaseName	WorkerTripNumber	VendorTripNumb	HaulingTripNumbe	WorkerTripLe	VendorTripLength	HaulingTripLength
Phase 1 Site Preparation	5	0	40	10.8	7.3	3
Phase 1 Grading	73	0	23354	10.8	7.3	3
Phase 1 Utilities	108	0	320	10.8	7.3	3
Phase 1 Surface Improvements	150	0	0	10.8	7.3	20
Phase 1 Building Construction	1099	312	0	10.8	7.3	20
Phase 2 Site Preparation	5	0	40	10.8	7.3	3
Phase 2 Grading	73	0	11677	10.8	7.3	3
Phase 2 Utilities	108	0	240	10.8	7.3	3
Phase 2 Surface Improvements	150	0	0	10.8	7.3	20
Phase 2 Building Construction	588	165	0	10.8	7.3	20
Phase 3 Site Preparation	5	0	40	10.8	7.3	3
Phase 3 Grading	73	0	17355	10.8	7.3	3
Phase 3 Utilities	108	0	280	10.8	7.3	3
Phase 3 Surface Improvements	150	0	0	10.8	7.3	20
Phase 3 Building Construction	525	147	0	10.8	7.3	20
Phase 4 Site Preparation	5	0	40	10.8	7.3	3

Phase 4 Grading	73	0	7856	10.8	7.3	3
Phase 4 Utilities	108	0	320	10.8	7.3	3
Phase 4 Surface Improvements	150	0	0	10.8	7.3	20
Phase 4 Building Construction	838	235	0	10.8	7.3	20

APPENDIX B:

CALEEMOD OPERATIONAL EMISSIONS OUTPUT

APPENDIX B

CALEEMOD PRINTOUT: LAND USE PLAN WITH SCHOOLS:

ADJUSTED BUSINESS AS USUAL

UNMITIGATED PROJECT ASSUMES 60% RENEWABLE PORTFOLIO FOR SDG&E ELECTRICITY AND 2019 TITLE 24 ENERGY EFFICIENCY STANDARDS

Fanita Ranch Operation - San Diego County APCD Air District, Annual

Fanita Ranch Operation

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
Elementary School	1,000.00	Student	15.00	83,603.37	0
General Light Industry	1,389.56	1000sqft	31.90	1,389,564.00	0
City Park	78.60	Acre	78.60	3,423,816.00	0
Apartments Low Rise	866.00	Dwelling Unit	67.00	866,000.00	2477
Apartments Low Rise	435.00	Dwelling Unit	35.00	435,000.00	1244
Retirement Community	445.00	Dwelling Unit	30.90	445,000.00	1273
Single Family Housing	1,203.00	Dwelling Unit	241.30	2,165,400.00	3441
Regional Shopping Center	60.00	1000sqft	1.50	60,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2035
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	288.2	**CH4 Intensity (lb/MWhr)**	0.001	**N2O Intensity (lb/MWhr)**	0

1.3 User Entered Comments & Non-Default Data

Project Characteristics - 60% renewable

Land Use - Value changed to reflect the Fanita Ranch Specific Plan

Vehicle Trips - based on TIA trip length and total daily VMT

Area Mitigation -

Energy Mitigation - 2019 Title 24 is 7% more efficient than 2016 Title 24

Fleet Mix - from EMFAC for SD air basin 2035

Woodstoves - natural gas fireplace for single family only

Land Use Change - Land Use Change - scrub = scrub and chaparral; grassland = grasslands, vernal pools, meadows, and other herb communities; trees = woodland; wetlands = bog and march + riparian and bottomland habitat. All include on-site and off-site permanent impacts only.

Sequestration -

Table Name	Column Name	Default Value	New Value
tblFireplaces	NumberGas	715.55	0.00
tblFireplaces	NumberGas	244.75	0.00
tblFireplaces	NumberGas	661.65	1,203.00
tblFireplaces	NumberNoFireplace	130.10	0.00
tblFireplaces	NumberNoFireplace	44.50	0.00
tblFireplaces	NumberNoFireplace	120.30	0.00
tblFireplaces	NumberWood	455.35	0.00
tblFireplaces	NumberWood	155.75	0.00
tblFireplaces	NumberWood	421.05	0.00
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tblFleetMix	HHD	0.03	0.02
tblFleetMix	HHD	0.03	0.02
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tblFleetMix	HHD	0.03	0.02
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tblFleetMix	LDA	0.62	0.59
tblFleetMix	LDA	0.62	0.59
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tblFleetMix	LDA	0.62	0.59
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tblFleetMix	LDT1	0.04	0.06
tblFleetMix	LDT1	0.04	0.06
tblFleetMix	LDT1	0.04	0.06

tblFleetMix	LDT1	0.04	0.06
tblFleetMix	LDT1	0.04	0.06
tblFleetMix	LDT1	0.04	0.06
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tblFleetMix	LDT2	0.18	0.16
tblFleetMix	LDT2	0.18	0.16
tblFleetMix	LDT2	0.18	0.16
tblFleetMix	LDT2	0.18	0.16
tblFleetMix	LDT2	0.18	0.16
tblFleetMix	LDT2	0.18	0.16
tblFleetMix	LDT2	0.18	0.16
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tblFleetMix	LHD1	0.01	0.02
tblFleetMix	LHD1	0.01	0.02
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tblFleetMix	LHD1	0.01	0.02
tblFleetMix	LHD2	5.2820e-003	6.6460e-003
tblFleetMix	LHD2	5.2820e-003	6.6460e-003
tblFleetMix	LHD2	5.2820e-003	6.6460e-003
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tblFleetMix	LHD2	5.2820e-003	6.6460e-003
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tblFleetMix	MDV	0.10	0.11

tblFleetMix	MDV	0.10	0.11
tblFleetMix	MDV	0.10	0.11
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tblLandUse	LandUseSquareFeet	1,389,560.00	1,389,564.00
tblLandUse	LotAcreage	1.92	15.00
tblLandUse	LotAcreage	27.19	35.00
tblLandUse	LotAcreage	54.13	67.00
tblLandUse	LotAcreage	89.00	30.90
tblLandUse	LotAcreage	390.58	241.30
tblLandUse	LotAcreage	1.38	1.50
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.001
tblProjectCharacteristics	CO2IntensityFactor	720.49	288.2
tblProjectCharacteristics	N2OIntensityFactor	0.006	0
tblSequestration	NumberOfNewTrees	0.00	15,475.00
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tblVehicleEF	HHD	0.05	0.00
tblVehicleEF	HHD	4,118.17	909.54
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tblVehicleEF	LHD1	5.8730e-003	6.3550e-003
tblVehicleEF	LHD1	9.05	8.05
tblVehicleEF	LHD1	611.49	643.53
tblVehicleEF	LHD1	21.13	8.38
tblVehicleEF	LHD2	2.3040e-003	2.2940e-003
tblVehicleEF	LHD2	4.8200e-003	4.9830e-003
tblVehicleEF	LHD2	2.3670e-003	3.6980e-003
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tblVehicleEF	MCY	0.15	0.23
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tblVehicleEF	MH	56.45	14.31
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tblVehicleEF	MHD	2.4120e-003	9.2700e-004
tblVehicleEF	MHD	0.03	8.2820e-003
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tblVehicleEF	MHD	1,162.62	937.84
tblVehicleEF	MHD	53.67	8.13

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tblVehicleEF	SBUS	3.9020e-003	2.3430e-003
tblVehicleEF	SBUS	0.05	5.2140e-003
tblVehicleEF	SBUS	1,043.37	302.91
tblVehicleEF	SBUS	1,023.41	872.35
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tblVehicleEF	UBUS	1.05	4.89
tblVehicleEF	UBUS	0.05	0.02
tblVehicleEF	UBUS	1,747.06	1,847.16
tblVehicleEF	UBUS	139.43	12.31
tblVehicleTrips	CC_TL	7.30	12.25
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tblVehicleTrips	CC_TL	7.30	11.90
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tblVehicleTrips	DV_TP	11.00	0.00
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tblVehicleTrips	HW_TL	10.80	20.40
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	6.00	0.00
tblVehicleTrips	PB_TP	12.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	11.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	PR_TP	66.00	100.00
tblVehicleTrips	PR_TP	63.00	100.00
tblVehicleTrips	PR_TP	92.00	100.00
tblVehicleTrips	PR_TP	54.00	100.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	ST_TR	7.16	3.92
tblVehicleTrips	ST_TR	22.75	8.42
tblVehicleTrips	ST_TR	1.32	0.04
tblVehicleTrips	ST_TR	49.97	10.43
tblVehicleTrips	ST_TR	2.03	1.86
tblVehicleTrips	ST_TR	9.91	3.92
tblVehicleTrips	SU_TR	6.07	3.92
tblVehicleTrips	SU_TR	16.74	8.42

tblVehicleTrips	SU_TR	0.68	0.04
tblVehicleTrips	SU_TR	25.24	10.43
tblVehicleTrips	SU_TR	1.95	1.86
tblVehicleTrips	SU_TR	8.62	3.92
tblVehicleTrips	WD_TR	6.59	3.94
tblVehicleTrips	WD_TR	1.89	8.42
tblVehicleTrips	WD_TR	1.29	0.69
tblVehicleTrips	WD_TR	6.97	0.04
tblVehicleTrips	WD_TR	42.70	10.43
tblVehicleTrips	WD_TR	2.40	1.86
tblVehicleTrips	WD_TR	9.52	3.94
tblWoodstoves	NumberCatalytic	65.05	0.00
tblWoodstoves	NumberCatalytic	22.25	0.00
tblWoodstoves	NumberCatalytic	60.15	0.00
tblWoodstoves	NumberNoncatalytic	65.05	0.00
tblWoodstoves	NumberNoncatalytic	22.25	0.00
tblWoodstoves	NumberNoncatalytic	60.15	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					
2019	0.4670	4.8365	2.3945	4.1900e-003	1.9303	0.2535	2.1838	1.0567	0.2332	1.2899	0.0000	376.4694	376.4694	0.1151	0.0000	379.3457
2020	0.3066	3.1425	1.6277	2.9200e-003	1.3476	0.1627	1.5103	0.7377	0.1497	0.8874	0.0000	257.0424	257.0424	0.0803	0.0000	259.0499
Maximum	**0.4670**	**4.8365**	**2.3945**	**4.1900e-003**	**1.9303**	**0.2535**	**2.1838**	**1.0567**	**0.2332**	**1.2899**	**0.0000**	**376.4694**	**376.4694**	**0.1151**	**0.0000**	**379.3457**

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					
2019	0.4670	4.8365	2.3945	4.1900e-003	1.9303	0.2535	2.1838	1.0567	0.2332	1.2899	0.0000	376.4690	376.4690	0.1151	0.0000	379.3452
2020	0.3066	3.1425	1.6277	2.9200e-003	1.3476	0.1627	1.5103	0.7377	0.1497	0.8874	0.0000	257.0421	257.0421	0.0803	0.0000	259.0496
Maximum	**0.4670**	**4.8365**	**2.3945**	**4.1900e-003**	**1.9303**	**0.2535**	**2.1838**	**1.0567**	**0.2332**	**1.2899**	**0.0000**	**376.4690**	**376.4690**	**0.1151**	**0.0000**	**379.3452**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**3-11-2019**	**6-10-2019**	1.6439	1.6439
2	**6-11-2019**	**9-10-2019**	1.6438	1.6438
3	**9-11-2019**	**12-10-2019**	1.6263	1.6263
4	**12-11-2019**	**3-10-2020**	1.5408	1.5408
5	**3-11-2020**	**6-10-2020**	1.5314	1.5314
6	**6-11-2020**	**9-10-2020**	0.7324	0.7324
		Highest	1.6439	1.6439

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	29.9414	1.0701	22.1910	6.3800e-003		0.1877	0.1877		0.1877	0.1877	0.0000	983.3557	983.3557	0.0523	0.0174	989.8406
Energy	0.3474	3.0178	1.6233	0.0190		0.2400	0.2400		0.2400	0.2400	0.0000	7,356.2830	7,356.2830	0.0795	0.0630	7,377.0534

Mobile	3.5799	14.6876	53.6521	0.2568	31.8328	0.1362	31.9690	8.5282	0.1269	8.6551	0.0000	22,612.4124	22,612.4124	1.4316	0.0000	22,648.2011
Waste						0.0000	0.0000		0.0000	0.0000	850.3860	0.0000	850.3860	50.2564	0.0000	2,106.7953
Water						0.0000	0.0000		0.0000	0.0000	165.0810	1,210.6653	1,375.7463	16.9596	0.4004	1,919.0418
Total	**33.8687**	**18.7755**	**77.4664**	**0.2821**	**31.8328**	**0.5639**	**32.3967**	**8.5282**	**0.5546**	**9.0828**	**1,015.4670**	**32,162.7164**	**33,178.1834**	**68.7793**	**0.4808**	**35,040.9322**

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	29.9414	1.0701	22.1910	6.3800e-003		0.1877	0.1877		0.1877	0.1877	0.0000	983.3557	983.3557	0.0523	0.0174	989.8406
Energy	0.3316	2.8812	1.5559	0.0181		0.2291	0.2291		0.2291	0.2291	0.0000	7,173.5868	7,173.5868	0.0764	0.0602	7,193.4244
Mobile	3.5799	14.6876	53.6521	0.2568	31.8328	0.1362	31.9690	8.5282	0.1269	8.6551	0.0000	22,612.4124	22,612.4124	1.4316	0.0000	22,648.2011
Waste						0.0000	0.0000		0.0000	0.0000	850.3860	0.0000	850.3860	50.2564	0.0000	2,106.7953
Water						0.0000	0.0000		0.0000	0.0000	165.0810	1,210.6653	1,375.7463	16.9596	0.4004	1,919.0418
Total	**33.8529**	**18.6389**	**77.3990**	**0.2812**	**31.8328**	**0.5530**	**32.3858**	**8.5282**	**0.5437**	**9.0718**	**1,015.4670**	**31,980.0202**	**32,995.4872**	**68.7763**	**0.4779**	**34,857.3031**

	ROG	NOx	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	**0.05**	**0.73**	**0.09**	**0.30**	**0.00**	**1.94**	**0.03**	**0.00**	**1.97**	**0.12**	**0.00**	**0.57**	**0.55**	**0.00**	**0.60**	**0.52**

2.3 Vegetation

Vegetation

	CO2e
Category	MT

New Trees	10,956.3000
Vegetation Land Change	-10,955.94
Total	**0.3555**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	3/11/2019	7/24/2020	5	360	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.9150	0.0000	1.9150	1.0527	0.0000	1.0527	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.4595	4.8307	2.3387	4.0300e-003		0.2534	0.2534		0.2331	0.2331	0.0000	362.1881	362.1881	0.1146	0.0000	365.0529
Total	**0.4595**	**4.8307**	**2.3387**	**4.0300e-003**	**1.9150**	**0.2534**	**2.1684**	**1.0527**	**0.2331**	**1.2858**	**0.0000**	**362.1881**	**362.1881**	**0.1146**	**0.0000**	**365.0529**

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	7.5200e-003	5.7700e-003	0.0558	1.6000e-004	0.0153	1.1000e-004	0.0154	4.0700e-003	1.0000e-004	4.1700e-003	0.0000	14.2813	14.2813	4.6000e-004	0.0000	14.2928
Total	**7.5200e-003**	**5.7700e-003**	**0.0558**	**1.6000e-004**	**0.0153**	**1.1000e-004**	**0.0154**	**4.0700e-003**	**1.0000e-004**	**4.1700e-003**	**0.0000**	**14.2813**	**14.2813**	**4.6000e-004**	**0.0000**	**14.2928**

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					1.9150	0.0000	1.9150	1.0527	0.0000	1.0527	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.4595	4.8307	2.3387	4.0300e-003		0.2534	0.2534		0.2331	0.2331	0.0000	362.1876	362.1876	0.1146	0.0000	365.0525
Total	**0.4595**	**4.8307**	**2.3387**	**4.0300e-003**	**1.9150**	**0.2534**	**2.1684**	**1.0527**	**0.2331**	**1.2858**	**0.0000**	**362.1876**	**362.1876**	**0.1146**	**0.0000**	**365.0525**

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	7.5200e-003	5.7700e-003	0.0558	1.6000e-004	0.0153	1.1000e-004	0.0154	4.0700e-003	1.0000e-004	4.1700e-003	0.0000	14.2813	14.2813	4.6000e-004	0.0000	14.2928
Total	**7.5200e-003**	**5.7700e-003**	**0.0558**	**1.6000e-004**	**0.0153**	**1.1000e-004**	**0.0154**	**4.0700e-003**	**1.0000e-004**	**4.1700e-003**	**0.0000**	**14.2813**	**14.2813**	**4.6000e-004**	**0.0000**	**14.2928**

3.2 Site Preparation - 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					
Fugitive Dust					1.3369	0.0000	1.3369	0.7349	0.0000	0.7349	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.3017	3.1389	1.5920	2.8100e-003		0.1626	0.1626		0.1496	0.1496	0.0000	247.3870	247.3870	0.0800	0.0000	249.3873
Total	**0.3017**	**3.1389**	**1.5920**	**2.8100e-003**	**1.3369**	**0.1626**	**1.4995**	**0.7349**	**0.1496**	**0.8845**	**0.0000**	**247.3870**	**247.3870**	**0.0800**	**0.0000**	**249.3873**

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	4.9100e-003	3.6400e-003	0.0356	1.1000e-004	0.0107	8.0000e-005	0.0108	2.8400e-003	7.0000e-005	2.9100e-003	0.0000	9.6553	9.6553	2.9000e-004	0.0000	9.6626
Total	**4.9100e-003**	**3.6400e-003**	**0.0356**	**1.1000e-004**	**0.0107**	**8.0000e-005**	**0.0108**	**2.8400e-003**	**7.0000e-005**	**2.9100e-003**	**0.0000**	**9.6553**	**9.6553**	**2.9000e-004**	**0.0000**	**9.6626**

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					1.3369	0.0000	1.3369	0.7349	0.0000	0.7349	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.3017	3.1389	1.5920	2.8100e-003		0.1626	0.1626		0.1496	0.1496	0.0000	247.3867	247.3867	0.0800	0.0000	249.3870
Total	**0.3017**	**3.1389**	**1.5920**	**2.8100e-003**	**1.3369**	**0.1626**	**1.4995**	**0.7349**	**0.1496**	**0.8845**	**0.0000**	**247.3867**	**247.3867**	**0.0800**	**0.0000**	**249.3870**

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	4.9100e-003	3.6400e-003	0.0356	1.1000e-004	0.0107	8.0000e-005	0.0108	2.8400e-003	7.0000e-005	2.9100e-003	0.0000	9.6553	9.6553	2.9000e-004	0.0000	9.6626
Total	**4.9100e-003**	**3.6400e-003**	**0.0356**	**1.1000e-004**	**0.0107**	**8.0000e-005**	**0.0108**	**2.8400e-003**	**7.0000e-005**	**2.9100e-003**	**0.0000**	**9.6553**	**9.6553**	**2.9000e-004**	**0.0000**	**9.6626**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	3.5799	14.6876	53.6521	0.2568	31.8328	0.1362	31.9690	8.5282	0.1269	8.6551	0.0000	22,612.4124	22,612.4124	1.4316	0.0000	22,648.2011
Unmitigated	3.5799	14.6876	53.6521	0.2568	31.8328	0.1362	31.9690	8.5282	0.1269	8.6551	0.0000	22,612.4124	22,612.4124	1.4316	0.0000	22,648.2011

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	3,412.04	3,394.72	3394.72	25,299,698	25,299,698
Apartments Low Rise	1,713.90	1,705.20	1705.20	12,708,278	12,708,278
City Park	661.81	661.81	661.81	2,951,020	2,951,020
Elementary School	690.00	0.00	0.00	2,027,220	2,027,220
General Light Industry	55.58	55.58	55.58	240,761	240,761
Regional Shopping Center	625.80	625.80	625.80	2,186,796	2,186,796
Retirement Community	827.70	827.70	827.70	3,856,420	3,856,420
Single Family Housing	4,739.82	4,715.76	4715.76	35,144,962	35,144,962
Total	12,726.65	11,986.57	11,986.57	84,415,154	84,415,154

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-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	20.40	20.40	20.40	41.60	18.80	39.60	100	0	0
Apartments Low Rise	20.40	20.40	20.40	41.60	18.80	39.60	100	0	0
City Park	12.25	12.25	12.25	33.00	48.00	19.00	100	0	0
Elementary School	11.30	11.30	11.30	65.00	30.00	5.00	100	0	0
General Light Industry	11.90	11.90	11.90	59.00	28.00	13.00	100	0	0
Regional Shopping Center	9.60	9.60	9.60	16.30	64.70	19.00	100	0	0
Retirement Community	12.80	12.80	12.80	41.60	18.80	39.60	100	0	0

Single Family Housing	20.40	20.40	20.40	41.60	18.80	39.60	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.591559	0.058317	0.163865	0.107726	0.023123	0.006646	0.016556	0.021732	0.001069	0.002158	0.005508	0.000824	0.000916
City Park	0.591559	0.058317	0.163865	0.107726	0.023123	0.006646	0.016556	0.021732	0.001069	0.002158	0.005508	0.000824	0.000916
Elementary School	0.591559	0.058317	0.163865	0.107726	0.023123	0.006646	0.016556	0.021732	0.001069	0.002158	0.005508	0.000824	0.000916
General Light Industry	0.591559	0.058317	0.163865	0.107726	0.023123	0.006646	0.016556	0.021732	0.001069	0.002158	0.005508	0.000824	0.000916
Regional Shopping Center	0.591559	0.058317	0.163865	0.107726	0.023123	0.006646	0.016556	0.021732	0.001069	0.002158	0.005508	0.000824	0.000916
Retirement Community	0.591559	0.058317	0.163865	0.107726	0.023123	0.006646	0.016556	0.021732	0.001069	0.002158	0.005508	0.000824	0.000916
Single Family Housing	0.591559	0.058317	0.163865	0.107726	0.023123	0.006646	0.016556	0.021732	0.001069	0.002158	0.005508	0.000824	0.000916

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	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	3,892.1453	3,892.1453	0.0135	0.0000	3,892.4829
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	3,918.2523	3,918.2523	0.0136	0.0000	3,918.5922
NaturalGas Mitigated	0.3316	2.8812	1.5559	0.0181		0.2291	0.2291		0.2291	0.2291	0.0000	3,281.4415	3,281.4415	0.0629	0.0602	3,300.9415
NaturalGas Unmitigated	0.3474	3.0178	1.6233	0.0190		0.2400	0.2400		0.2400	0.2400	0.0000	3,438.0307	3,438.0307	0.0659	0.0630	3,458.4612

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Low Rise	4.88309e+006	0.0263	0.2250	0.0958	1.4400e-003		0.0182	0.0182		0.0182	0.0182	0.0000	260.5802	260.5802	4.9900e-003	4.7800e-003	262.1287
Apartments Low Rise	9.72127e+006	0.0524	0.4479	0.1906	2.8600e-003		0.0362	0.0362		0.0362	0.0362	0.0000	518.7642	518.7642	9.9400e-003	9.5100e-003	521.8470
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Elementary School	494932	2.6700e-003	0.0243	0.0204	1.5000e-004		1.8400e-003	1.8400e-003		1.8400e-003	1.8400e-003	0.0000	26.4115	26.4115	5.1000e-004	4.8000e-004	26.5684
General Light Industry	1.60634e+007	0.0866	0.7874	0.6614	4.7200e-003		0.0598	0.0598		0.0598	0.0598	0.0000	857.2021	857.2021	0.0164	0.0157	862.2960
Regional Shopping Center	133800	7.2000e-004	6.5600e-003	5.5100e-003	4.0000e-005		5.0000e-004	5.0000e-004		5.0000e-004	5.0000e-004	0.0000	7.1401	7.1401	1.4000e-004	1.3000e-004	7.1825
Retirement Community	4.99534e+006	0.0269	0.2302	0.0980	1.4700e-003		0.0186	0.0186		0.0186	0.0186	0.0000	266.5705	266.5705	5.1100e-003	4.8900e-003	268.1546
Single Family Housing	2.81345e+007	0.1517	1.2964	0.5517	8.2700e-003		0.1048	0.1048		0.1048	0.1048	0.0000	1,501.3622	1,501.3622	0.0288	0.0275	1,510.2840
Total		**0.3474**	**3.0178**	**1.6233**	**0.0190**		**0.2400**	**0.2400**		**0.2400**	**0.2400**	**0.0000**	**3,438.0307**	**3,438.0307**	**0.0659**	**0.0630**	**3,458.4612**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Low Rise	4.66855e+006	0.0252	0.2151	0.0915	1.3700e-003		0.0174	0.0174		0.0174	0.0174	0.0000	249.1318	249.1318	4.7800e-003	4.5700e-003	250.6122
Apartments Low Rise	9.29418e+006	0.0501	0.4283	0.1822	2.7300e-003		0.0346	0.0346		0.0346	0.0346	0.0000	495.9727	495.9727	9.5100e-003	9.0900e-003	498.9200
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Elementary School	463096	2.5000e-003	0.0227	0.0191	1.4000e-004		1.7300e-003	1.7300e-003		1.7300e-003	1.7300e-003	0.0000	24.7126	24.7126	4.7000e-004	4.5000e-004	24.8594
General Light Industry	1.56441e+007	0.0844	0.7669	0.6442	4.6000e-003		0.0583	0.0583		0.0583	0.0583	0.0000	834.8303	834.8303	0.0160	0.0153	839.7913
Regional Shopping Center	129012	7.0000e-004	6.3200e-003	5.3100e-003	4.0000e-005		4.8000e-004	4.8000e-004		4.8000e-004	4.8000e-004	0.0000	6.8846	6.8846	1.3000e-004	1.3000e-004	6.9255

Retirement Community	4.77588e+006	0.0258	0.2201	0.0936	1.4000e-003		0.0178	0.0178		0.0178	0.0178	0.0000	254.8589	254.8589	4.8800e-003	4.6700e-003	256.3734
Single Family Housing	2.65171e+007	0.1430	1.2219	0.5199	7.8000e-003		0.0988	0.0988		0.0988	0.0988	0.0000	1,415.0508	1,415.0508	0.0271	0.0259	1,423.4597
Total		**0.3316**	**2.8812**	**1.5559**	**0.0181**		**0.2291**	**0.2291**		**0.2291**	**0.2291**	**0.0000**	**3,281.4415**	**3,281.4415**	**0.0629**	**0.0602**	**3,300.9415**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	1.84613e+006	241.3361	8.4000e-004	0.0000	241.3570
Apartments Low Rise	3.67529e+006	480.4530	1.6700e-003	0.0000	480.4947
City Park	0	0.0000	0.0000	0.0000	0.0000
Elementary School	438082	57.2684	2.0000e-004	0.0000	57.2733
General Light Industry	1.15473e+007	1,509.5215	5.2400e-003	0.0000	1,509.6524
Regional Shopping Center	753600	98.5146	3.4000e-004	0.0000	98.5232
Retirement Community	1.97345e+006	257.9799	9.0000e-004	0.0000	258.0023
Single Family Housing	9.73934e+006	1,273.1788	4.4200e-003	0.0000	1,273.2893
Total		**3,918.2523**	**0.0136**	**0.0000**	**3,918.5922**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	1.83819e+006	240.2977	8.3000e-004	0.0000	240.3186

Apartments Low Rise	3.65947e+006	478.3858	1.6600e-003	0.0000	478.4273
City Park	0	0.0000	0.0000	0.0000	0.0000
Elementary School	429186	56.1055	1.9000e-004	0.0000	56.1104
General Light Industry	1.14296e+007	1,494.1356	5.1800e-003	0.0000	1,494.2652
Regional Shopping Center	740244	96.7686	3.4000e-004	0.0000	96.7770
Retirement Community	1.96532e+006	256.9177	8.9000e-004	0.0000	256.9400
Single Family Housing	9.71146e+006	1,269.5343	4.4100e-003	0.0000	1,269.6444
Total		**3,892.1453**	**0.0135**	**0.0000**	**3,892.4829**

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	29.9414	1.0701	22.1910	6.3800e-003		0.1877	0.1877		0.1877	0.1877	0.0000	983.3557	983.3557	0.0523	0.0174	989.8406
Unmitigated	29.9414	1.0701	22.1910	6.3800e-003		0.1877	0.1877		0.1877	0.1877	0.0000	983.3557	983.3557	0.0523	0.0174	989.8406

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	7.8952					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	21.2960					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0957	0.8182	0.3482	5.2200e-003		0.0662	0.0662		0.0662	0.0662	0.0000	947.5427	947.5427	0.0182	0.0174	953.1735
Landscaping	0.6545	0.2519	21.8428	1.1600e-003		0.1215	0.1215		0.1215	0.1215	0.0000	35.8130	35.8130	0.0342	0.0000	36.6671
Total	**29.9414**	**1.0701**	**22.1910**	**6.3800e-003**		**0.1877**	**0.1877**		**0.1877**	**0.1877**	**0.0000**	**983.3557**	**983.3557**	**0.0523**	**0.0174**	**989.8406**

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	7.8952					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	21.2960					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0957	0.8182	0.3482	5.2200e-003		0.0662	0.0662		0.0662	0.0662	0.0000	947.5427	947.5427	0.0182	0.0174	953.1735
Landscaping	0.6545	0.2519	21.8428	1.1600e-003		0.1215	0.1215		0.1215	0.1215	0.0000	35.8130	35.8130	0.0342	0.0000	36.6671
Total	**29.9414**	**1.0701**	**22.1910**	**6.3800e-003**		**0.1877**	**0.1877**		**0.1877**	**0.1877**	**0.0000**	**983.3557**	**983.3557**	**0.0523**	**0.0174**	**989.8406**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e

Category	MT/yr			
Mitigated	1,375.7463	16.9596	0.4004	1,919.0418
Unmitigated	1,375.7463	16.9596	0.4004	1,919.0418

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	84.7654 / 53.439	248.7903	2.7629	0.0652	337.2967
City Park	0 / 93.6504	136.0140	4.7000e-004	0.0000	136.0258
Elementary School	2.42424 / 6.23376	13.9492	0.0790	1.8700e-003	16.4811
General Light Industry	321.336 / 0	648.9145	10.4726	0.2472	984.4067
Regional Shopping Center	4.44435 / 2.72396	12.9312	0.1449	3.4200e-003	17.5717
Retirement Community	28.9935 / 18.2785	85.0974	0.9450	0.0223	115.3705
Single Family Housing	78.3803 / 49.4137	230.0497	2.5547	0.0603	311.8893
Total		**1,375.7463**	**16.9596**	**0.4004**	**1,919.0418**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	84.7654 / 53.439	248.7903	2.7629	0.0652	337.2967

City Park	0 / 93.6504	136.0140	4.7000e-004	0.0000	136.0258
Elementary School	2.42424 / 6.23376	13.9492	0.0790	1.8700e-003	16.4811
General Light Industry	321.336 / 0	648.9145	10.4726	0.2472	984.4067
Regional Shopping Center	4.44435 / 2.72396	12.9312	0.1449	3.4200e-003	17.5717
Retirement Community	28.9935 / 18.2785	85.0974	0.9450	0.0223	115.3705
Single Family Housing	78.3803 / 49.4137	230.0497	2.5547	0.0603	311.8893
Total		**1,375.7463**	**16.9596**	**0.4004**	**1,919.0418**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	850.3860	50.2564	0.0000	2,106.7953
Unmitigated	850.3860	50.2564	0.0000	2,106.7953

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			

Apartments Low Rise	598.46	121.4820	7.1794	0.0000	300.9664
City Park	6.76	1.3722	0.0811	0.0000	3.3996
Elementary School	182.5	37.0459	2.1894	0.0000	91.7795
General Light Industry	1723.05	349.7636	20.6704	0.0000	866.5245
Regional Shopping Center	63	12.7884	0.7558	0.0000	31.6828
Retirement Community	204.7	41.5523	2.4557	0.0000	102.9439
Single Family Housing	1410.81	286.3817	16.9247	0.0000	709.4985
Total		**850.3860**	**50.2564**	**0.0000**	**2,106.7953**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	598.46	121.4820	7.1794	0.0000	300.9664
City Park	6.76	1.3722	0.0811	0.0000	3.3996
Elementary School	182.5	37.0459	2.1894	0.0000	91.7795
General Light Industry	1723.05	349.7636	20.6704	0.0000	866.5245
Regional Shopping Center	63	12.7884	0.7558	0.0000	31.6828
Retirement Community	204.7	41.5523	2.4557	0.0000	102.9439
Single Family Housing	1410.81	286.3817	16.9247	0.0000	709.4985
Total		**850.3860**	**50.2564**	**0.0000**	**2,106.7953**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

	Total CO2	CH4	N2O	CO2e
Category	MT			
Unmitigated	0.3555	0.0000	0.0000	0.3555

11.1 Vegetation Land Change

Vegetation Type

	Initial/Final	Total CO2	CH4	N2O	CO2e
	Acres	MT			
Grassland	186.15 / 0	-802.3065	0.0000	0.0000	-802.3065
Scrub	691.26 / 0	-9,885.0180	0.0000	0.0000	-9,885.0180

Trees	2.42 / 0	-268.6200	0.0000	0.0000	-268.6200
Wetlands	6.17 / 0	0.0000	0.0000	0.0000	0.0000
Total		**-10,955.9445**	**0.0000**	**0.0000**	**-10,955.9445**

11.2 Net New Trees

Species Class

	Number of Trees	Total CO2	CH4	N2O	CO2e
		MT			
Miscellaneous	15475	10,956.3000	0.0000	0.0000	10,956.3000
Total		**10,956.3000**	**0.0000**	**0.0000**	**10,956.3000**

APPENDIX B

CALEEMOD PRINTOUT: OPEREATIONAL EMISSIONS OUTPUT

WITHOUT SCHOOLS

PROJECT WITHOUT MITIGATION

Fanita Ranch Operation - San Diego County APCD Air District, Annual

Fanita Ranch Operation

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
General Light Industry	1,389.56	1000sqft	31.90	1,389,564.00	0
City Park	78.60	Acre	78.60	3,423,816.00	0
Apartments Low Rise	866.00	Dwelling Unit	67.00	866,000.00	2477
Apartments Low Rise	435.00	Dwelling Unit	35.00	435,000.00	1244
Retirement Community	445.00	Dwelling Unit	30.90	445,000.00	1273
Single Family Housing	1,262.00	Dwelling Unit	256.30	2,271,600.00	3609
Regional Shopping Center	60.00	1000sqft	1.50	60,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2035
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	288.2	**CH4 Intensity (lb/MWhr)**	0.001	**N2O Intensity (lb/MWhr)**	0

1.3 User Entered Comments & Non-Default Data

Project Characteristics - 60% renewable energy

Land Use - Value changed to reflect the Fanita Ranch Specific Plan

Vehicle Trips - based on TIA trip length and total daily VMT

Area Mitigation -

Energy Mitigation - 2019 Title 24 is 7% more efficient than 2016 Title 24

Fleet Mix - from EMFAC for SD air basin 2035

Woodstoves - natural gas fireplace for single family only

Land Use Change - Land Use Change - scrub = scrub and chaparral; grassland = grasslands, vernal pools, meadows, and other herb communities;

Sequestration -

Table Name	Column Name	Default Value	New Value
tblFireplaces	NumberGas	715.55	0.00
tblFireplaces	NumberGas	244.75	0.00
tblFireplaces	NumberGas	694.10	1,262.00
tblFireplaces	NumberNoFireplace	130.10	0.00
tblFireplaces	NumberNoFireplace	44.50	0.00
tblFireplaces	NumberNoFireplace	126.20	0.00
tblFireplaces	NumberWood	455.35	0.00
tblFireplaces	NumberWood	155.75	0.00
tblFireplaces	NumberWood	441.70	0.00
tblFleetMix	HHD	0.03	0.02
tblFleetMix	HHD	0.03	0.02
tblFleetMix	HHD	0.03	0.02
tblFleetMix	HHD	0.03	0.02
tblFleetMix	HHD	0.03	0.02
tblFleetMix	HHD	0.03	0.02
tblFleetMix	LDA	0.62	0.59
tblFleetMix	LDA	0.62	0.59
tblFleetMix	LDA	0.62	0.59
tblFleetMix	LDA	0.62	0.59
tblFleetMix	LDA	0.62	0.59
tblFleetMix	LDA	0.62	0.59
tblFleetMix	LDT1	0.04	0.06
tblFleetMix	LDT1	0.04	0.06
tblFleetMix	LDT1	0.04	0.06
tblFleetMix	LDT1	0.04	0.06

tblFleetMix	LDT1	0.04	0.06
tblFleetMix	LDT1	0.04	0.06
tblFleetMix	LDT2	0.18	0.16
tblFleetMix	LDT2	0.18	0.16
tblFleetMix	LDT2	0.18	0.16
tblFleetMix	LDT2	0.18	0.16
tblFleetMix	LDT2	0.18	0.16
tblFleetMix	LDT2	0.18	0.16
tblFleetMix	LHD1	0.01	0.02
tblFleetMix	LHD1	0.01	0.02
tblFleetMix	LHD1	0.01	0.02
tblFleetMix	LHD1	0.01	0.02
tblFleetMix	LHD1	0.01	0.02
tblFleetMix	LHD1	0.01	0.02
tblFleetMix	LHD2	5.2820e-003	6.6460e-003
tblFleetMix	LHD2	5.2820e-003	6.6460e-003
tblFleetMix	LHD2	5.2820e-003	6.6460e-003
tblFleetMix	LHD2	5.2820e-003	6.6460e-003
tblFleetMix	LHD2	5.2820e-003	6.6460e-003
tblFleetMix	LHD2	5.2820e-003	6.6460e-003
tblFleetMix	MCY	5.5480e-003	5.5080e-003
tblFleetMix	MCY	5.5480e-003	5.5080e-003
tblFleetMix	MCY	5.5480e-003	5.5080e-003
tblFleetMix	MCY	5.5480e-003	5.5080e-003
tblFleetMix	MCY	5.5480e-003	5.5080e-003
tblFleetMix	MCY	5.5480e-003	5.5080e-003
tblFleetMix	MDV	0.10	0.11
tblFleetMix	MDV	0.10	0.11
tblFleetMix	MDV	0.10	0.11
tblFleetMix	MDV	0.10	0.11
tblFleetMix	MDV	0.10	0.11
tblFleetMix	MDV	0.10	0.11

tblFleetMix	MH	7.0900e-004	9.1600e-004
tblFleetMix	MH	7.0900e-004	9.1600e-004
tblFleetMix	MH	7.0900e-004	9.1600e-004
tblFleetMix	MH	7.0900e-004	9.1600e-004
tblFleetMix	MH	7.0900e-004	9.1600e-004
tblFleetMix	MH	7.0900e-004	9.1600e-004
tblFleetMix	MHD	0.02	0.02
tblFleetMix	MHD	0.02	0.02
tblFleetMix	MHD	0.02	0.02
tblFleetMix	MHD	0.02	0.02
tblFleetMix	MHD	0.02	0.02
tblFleetMix	MHD	0.02	0.02
tblFleetMix	OBUS	1.9440e-003	1.0690e-003
tblFleetMix	OBUS	1.9440e-003	1.0690e-003
tblFleetMix	OBUS	1.9440e-003	1.0690e-003
tblFleetMix	OBUS	1.9440e-003	1.0690e-003
tblFleetMix	OBUS	1.9440e-003	1.0690e-003
tblFleetMix	OBUS	1.9440e-003	1.0690e-003
tblFleetMix	SBUS	8.0000e-004	8.2400e-004
tblFleetMix	SBUS	8.0000e-004	8.2400e-004
tblFleetMix	SBUS	8.0000e-004	8.2400e-004
tblFleetMix	SBUS	8.0000e-004	8.2400e-004
tblFleetMix	SBUS	8.0000e-004	8.2400e-004
tblFleetMix	SBUS	8.0000e-004	8.2400e-004
tblFleetMix	UBUS	1.6320e-003	2.1580e-003
tblFleetMix	UBUS	1.6320e-003	2.1580e-003
tblFleetMix	UBUS	1.6320e-003	2.1580e-003
tblFleetMix	UBUS	1.6320e-003	2.1580e-003
tblFleetMix	UBUS	1.6320e-003	2.1580e-003
tblFleetMix	UBUS	1.6320e-003	2.1580e-003
tblLandUse	LandUseSquareFeet	1,389,560.00	1,389,564.00
tblLandUse	LotAcreage	27.19	35.00

tblLandUse	LotAcreage	54.13	67.00
tblLandUse	LotAcreage	89.00	30.90
tblLandUse	LotAcreage	409.74	256.30
tblLandUse	LotAcreage	1.38	1.50
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.001
tblProjectCharacteristics	CO2IntensityFactor	720.49	288.2
tblProjectCharacteristics	N2OIntensityFactor	0.006	0
tblSequestration	NumberOfNewTrees	0.00	15,475.00
tblVehicleEF	HHD	0.41	0.03
tblVehicleEF	HHD	0.14	0.10
tblVehicleEF	HHD	0.05	0.00
tblVehicleEF	HHD	4,118.17	909.54
tblVehicleEF	HHD	1,512.65	1,140.56
tblVehicleEF	HHD	11.80	0.07
tblVehicleEF	LDA	4.2300e-003	7.6500e-004
tblVehicleEF	LDA	4.3850e-003	0.02
tblVehicleEF	LDA	176.13	192.39
tblVehicleEF	LDA	37.33	38.55
tblVehicleEF	LDT1	3.0420e-003	1.4080e-003
tblVehicleEF	LDT1	3.3850e-003	0.03
tblVehicleEF	LDT1	232.82	236.60
tblVehicleEF	LDT1	50.56	48.20
tblVehicleEF	LDT2	2.3870e-003	1.3510e-003
tblVehicleEF	LDT2	1.8590e-003	0.03
tblVehicleEF	LDT2	258.14	235.35
tblVehicleEF	LDT2	54.97	47.87
tblVehicleEF	LHD1	2.9300e-003	3.4250e-003
tblVehicleEF	LHD1	6.0480e-003	4.4990e-003
tblVehicleEF	LHD1	5.8730e-003	6.3550e-003
tblVehicleEF	LHD1	9.05	8.05
tblVehicleEF	LHD1	611.49	643.53
tblVehicleEF	LHD1	21.13	8.38

tblVehicleEF	LHD2	2.3040e-003	2.2940e-003
tblVehicleEF	LHD2	4.8200e-003	4.9830e-003
tblVehicleEF	LHD2	2.3670e-003	3.6980e-003
tblVehicleEF	LHD2	13.44	12.60
tblVehicleEF	LHD2	665.55	647.55
tblVehicleEF	LHD2	21.27	5.91
tblVehicleEF	MCY	0.50	0.35
tblVehicleEF	MCY	0.15	0.23
tblVehicleEF	MCY	184.90	219.73
tblVehicleEF	MCY	42.31	58.02
tblVehicleEF	MDV	3.3710e-003	1.3140e-003
tblVehicleEF	MDV	3.7410e-003	0.03
tblVehicleEF	MDV	343.76	284.93
tblVehicleEF	MDV	72.70	57.01
tblVehicleEF	MH	6.7790e-003	4.6040e-003
tblVehicleEF	MH	0.02	0.02
tblVehicleEF	MH	1,182.31	1,315.89
tblVehicleEF	MH	56.45	14.31
tblVehicleEF	MHD	0.02	3.8780e-003
tblVehicleEF	MHD	2.4120e-003	9.2700e-004
tblVehicleEF	MHD	0.03	8.2820e-003
tblVehicleEF	MHD	142.07	63.64
tblVehicleEF	MHD	1,162.62	937.84
tblVehicleEF	MHD	53.67	8.13
tblVehicleEF	OBUS	0.01	8.8730e-003
tblVehicleEF	OBUS	4.2710e-003	3.0810e-003
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	96.61	91.22
tblVehicleEF	OBUS	1,292.92	1,279.50
tblVehicleEF	OBUS	67.21	16.88
tblVehicleEF	SBUS	0.83	0.07
tblVehicleEF	SBUS	3.9020e-003	2.3430e-003

tblVehicleEF	SBUS	0.05	5.2140e-003
tblVehicleEF	SBUS	1,043.37	302.91
tblVehicleEF	SBUS	1,023.41	872.35
tblVehicleEF	SBUS	54.24	4.15
tblVehicleEF	UBUS	1.05	4.89
tblVehicleEF	UBUS	0.05	0.02
tblVehicleEF	UBUS	1,747.06	1,847.16
tblVehicleEF	UBUS	139.43	12.31
tblVehicleTrips	CC_TL	7.30	12.25
tblVehicleTrips	CC_TL	7.30	11.90
tblVehicleTrips	CC_TL	7.30	9.60
tblVehicleTrips	CNW_TL	7.30	12.25
tblVehicleTrips	CNW_TL	7.30	11.90
tblVehicleTrips	CNW_TL	7.30	9.60
tblVehicleTrips	CW_TL	9.50	12.25
tblVehicleTrips	CW_TL	9.50	11.90
tblVehicleTrips	CW_TL	9.50	9.60
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	DV_TP	28.00	0.00
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	DV_TP	35.00	0.00
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	HO_TL	7.50	20.40
tblVehicleTrips	HO_TL	7.50	12.80
tblVehicleTrips	HO_TL	7.50	20.40
tblVehicleTrips	HS_TL	7.30	20.40
tblVehicleTrips	HS_TL	7.30	12.80
tblVehicleTrips	HS_TL	7.30	20.40
tblVehicleTrips	HW_TL	10.80	20.40
tblVehicleTrips	HW_TL	10.80	12.80
tblVehicleTrips	HW_TL	10.80	20.40

tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	6.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	11.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	PR_TP	66.00	100.00
tblVehicleTrips	PR_TP	92.00	100.00
tblVehicleTrips	PR_TP	54.00	100.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	ST_TR	7.16	4.04
tblVehicleTrips	ST_TR	22.75	8.62
tblVehicleTrips	ST_TR	1.32	0.04
tblVehicleTrips	ST_TR	49.97	10.68
tblVehicleTrips	ST_TR	2.03	1.90
tblVehicleTrips	ST_TR	9.91	4.04
tblVehicleTrips	SU_TR	6.07	4.04
tblVehicleTrips	SU_TR	16.74	8.62
tblVehicleTrips	SU_TR	0.68	0.04
tblVehicleTrips	SU_TR	25.24	10.68
tblVehicleTrips	SU_TR	1.95	1.90
tblVehicleTrips	SU_TR	8.62	4.04
tblVehicleTrips	WD_TR	6.59	4.05
tblVehicleTrips	WD_TR	1.89	8.62
tblVehicleTrips	WD_TR	6.97	0.04
tblVehicleTrips	WD_TR	42.70	10.68
tblVehicleTrips	WD_TR	2.40	1.90
tblVehicleTrips	WD_TR	9.52	4.05
tblWoodstoves	NumberCatalytic	65.05	0.00
tblWoodstoves	NumberCatalytic	22.25	0.00

tblWoodstoves	NumberCatalytic	63.10	0.00
tblWoodstoves	NumberNoncatalytic	65.05	0.00
tblWoodstoves	NumberNoncatalytic	22.25	0.00
tblWoodstoves	NumberNoncatalytic	63.10	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					
2019	0.4670	4.8365	2.3945	4.1900e-003	1.9303	0.2535	2.1838	1.0567	0.2332	1.2899	0.0000	376.4694	376.4694	0.1151	0.0000	379.3457
2020	0.3066	3.1425	1.6277	2.9200e-003	1.3476	0.1627	1.5103	0.7377	0.1497	0.8874	0.0000	257.0424	257.0424	0.0803	0.0000	259.0499
Maximum	**0.4670**	**4.8365**	**2.3945**	**4.1900e-003**	**1.9303**	**0.2535**	**2.1838**	**1.0567**	**0.2332**	**1.2899**	**0.0000**	**376.4694**	**376.4694**	**0.1151**	**0.0000**	**379.3457**

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					
2019	0.4670	4.8365	2.3945	4.1900e-003	1.9303	0.2535	2.1838	1.0567	0.2332	1.2899	0.0000	376.4690	376.4690	0.1151	0.0000	379.3452
2020	0.3066	3.1425	1.6277	2.9200e-003	1.3476	0.1627	1.5103	0.7377	0.1497	0.8874	0.0000	257.0421	257.0421	0.0803	0.0000	259.0496
Maximum	**0.4670**	**4.8365**	**2.3945**	**4.1900e-003**	**1.9303**	**0.2535**	**2.1838**	**1.0567**	**0.2332**	**1.2899**	**0.0000**	**376.4690**	**376.4690**	**0.1151**	**0.0000**	**379.3452**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**3-11-2019**	**6-10-2019**	1.6439	1.6439
2	**6-11-2019**	**9-10-2019**	1.6438	1.6438
3	**9-11-2019**	**12-10-2019**	1.6263	1.6263
4	**12-11-2019**	**3-10-2020**	1.5408	1.5408
5	**3-11-2020**	**6-10-2020**	1.5314	1.5314
6	**6-11-2020**	**9-10-2020**	0.7324	0.7324
		Highest	1.6439	1.6439

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	30.1158	1.1152	22.6354	6.6600e-003		0.1933	0.1933		0.1933	0.1933	0.0000	1,030.5248	1,030.5248	0.0539	0.0182	1,037.3017
Energy	0.3522	3.0571	1.6300	0.0192		0.2433	0.2433		0.2433	0.2433	0.0000	7,408.6780	7,408.6780	0.0804	0.0639	7,429.7294
Mobile	3.6473	14.9568	54.8589	0.2629	32.6058	0.1394	32.7451	8.7353	0.1299	8.8651	0.0000	23,156.3869	23,156.3869	1.4642	0.0000	23,192.9912
Waste						0.0000	0.0000		0.0000	0.0000	827.3222	0.0000	827.3222	48.8933	0.0000	2,049.6556
Water						0.0000	0.0000		0.0000	0.0000	165.5315	1,207.5482	1,373.0796	17.0059	0.4015	1,917.8571
Total	**34.1153**	**19.1291**	**79.1243**	**0.2888**	**32.6058**	**0.5760**	**33.1818**	**8.7353**	**0.5665**	**9.3018**	**992.8536**	**32,803.1378**	**33,795.9914**	**67.4976**	**0.4836**	**35,627.5350**

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	30.1158	1.1152	22.6354	6.6600e-003		0.1933	0.1933		0.1933	0.1933	0.0000	1,030.5248	1,030.5248	0.0539	0.0182	1,037.3017
Energy	0.3361	2.9184	1.5624	0.0183		0.2322	0.2322		0.2322	0.2322	0.0000	7,224.4317	7,224.4317	0.0773	0.0610	7,244.5354
Mobile	3.6473	14.9568	54.8589	0.2629	32.6058	0.1394	32.7451	8.7353	0.1299	8.8651	0.0000	23,156.3869	23,156.3869	1.4642	0.0000	23,192.9912
Waste						0.0000	0.0000		0.0000	0.0000	827.3222	0.0000	827.3222	48.8933	0.0000	2,049.6556
Water						0.0000	0.0000		0.0000	0.0000	165.5315	1,207.5482	1,373.0796	17.0059	0.4015	1,917.8571
Total	**34.0992**	**18.9905**	**79.0567**	**0.2879**	**32.6058**	**0.5649**	**33.1707**	**8.7353**	**0.5554**	**9.2906**	**992.8536**	**32,618.8915**	**33,611.7451**	**67.4945**	**0.4807**	**35,442.3410**

	ROG	NOx	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	**0.05**	**0.72**	**0.09**	**0.30**	**0.00**	**1.93**	**0.03**	**0.00**	**1.96**	**0.12**	**0.00**	**0.56**	**0.55**	**0.00**	**0.60**	**0.52**

2.3 Vegetation

Vegetation

	CO2e
Category	MT
New Trees	10,956.3000
Vegetation Land Change	-10,955.9445
Total	**0.3555**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description

1	Site Preparation	Site Preparation	3/11/2019	7/24/2020	5	360	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.9150	0.0000	1.9150	1.0527	0.0000	1.0527	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.4595	4.8307	2.3387	4.0300e-003		0.2534	0.2534		0.2331	0.2331	0.0000	362.1881	362.1881	0.1146	0.0000	365.0529
Total	**0.4595**	**4.8307**	**2.3387**	**4.0300e-003**	**1.9150**	**0.2534**	**2.1684**	**1.0527**	**0.2331**	**1.2858**	**0.0000**	**362.1881**	**362.1881**	**0.1146**	**0.0000**	**365.0529**

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	7.5200e-003	5.7700e-003	0.0558	1.6000e-004	0.0153	1.1000e-004	0.0154	4.0700e-003	1.0000e-004	4.1700e-003	0.0000	14.2813	14.2813	4.6000e-004	0.0000	14.2928
Total	**7.5200e-003**	**5.7700e-003**	**0.0558**	**1.6000e-004**	**0.0153**	**1.1000e-004**	**0.0154**	**4.0700e-003**	**1.0000e-004**	**4.1700e-003**	**0.0000**	**14.2813**	**14.2813**	**4.6000e-004**	**0.0000**	**14.2928**

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					1.9150	0.0000	1.9150	1.0527	0.0000	1.0527	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.4595	4.8307	2.3387	4.0300e-003		0.2534	0.2534		0.2331	0.2331	0.0000	362.1876	362.1876	0.1146	0.0000	365.0525
Total	**0.4595**	**4.8307**	**2.3387**	**4.0300e-003**	**1.9150**	**0.2534**	**2.1684**	**1.0527**	**0.2331**	**1.2858**	**0.0000**	**362.1876**	**362.1876**	**0.1146**	**0.0000**	**365.0525**

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	7.5200e-003	5.7700e-003	0.0558	1.6000e-004	0.0153	1.1000e-004	0.0154	4.0700e-003	1.0000e-004	4.1700e-003	0.0000	14.2813	14.2813	4.6000e-004	0.0000	14.2928
Total	**7.5200e-003**	**5.7700e-003**	**0.0558**	**1.6000e-004**	**0.0153**	**1.1000e-004**	**0.0154**	**4.0700e-003**	**1.0000e-004**	**4.1700e-003**	**0.0000**	**14.2813**	**14.2813**	**4.6000e-004**	**0.0000**	**14.2928**

3.2 Site Preparation - 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					
Fugitive Dust					1.3369	0.0000	1.3369	0.7349	0.0000	0.7349	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.3017	3.1389	1.5920	2.8100e-003		0.1626	0.1626		0.1496	0.1496	0.0000	247.3870	247.3870	0.0800	0.0000	249.3873
Total	**0.3017**	**3.1389**	**1.5920**	**2.8100e-003**	**1.3369**	**0.1626**	**1.4995**	**0.7349**	**0.1496**	**0.8845**	**0.0000**	**247.3870**	**247.3870**	**0.0800**	**0.0000**	**249.3873**

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	4.9100e-003	3.6400e-003	0.0356	1.1000e-004	0.0107	8.0000e-005	0.0108	2.8400e-003	7.0000e-005	2.9100e-003	0.0000	9.6553	9.6553	2.9000e-004	0.0000	9.6626

Total	**4.9100e-003**	**3.6400e-003**	**0.0356**	**1.1000e-004**	**0.0107**	**8.0000e-005**	**0.0108**	**2.8400e-003**	**7.0000e-005**	**2.9100e-003**	**0.0000**	**9.6553**	**9.6553**	**2.9000e-004**	**0.0000**	**9.6626**

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					1.3369	0.0000	1.3369	0.7349	0.0000	0.7349	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.3017	3.1389	1.5920	2.8100e-003		0.1626	0.1626		0.1496	0.1496	0.0000	247.3867	247.3867	0.0800	0.0000	249.3870
Total	**0.3017**	**3.1389**	**1.5920**	**2.8100e-003**	**1.3369**	**0.1626**	**1.4995**	**0.7349**	**0.1496**	**0.8845**	**0.0000**	**247.3867**	**247.3867**	**0.0800**	**0.0000**	**249.3870**

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	4.9100e-003	3.6400e-003	0.0356	1.1000e-004	0.0107	8.0000e-005	0.0108	2.8400e-003	7.0000e-005	2.9100e-003	0.0000	9.6553	9.6553	2.9000e-004	0.0000	9.6626
Total	**4.9100e-003**	**3.6400e-003**	**0.0356**	**1.1000e-004**	**0.0107**	**8.0000e-005**	**0.0108**	**2.8400e-003**	**7.0000e-005**	**2.9100e-003**	**0.0000**	**9.6553**	**9.6553**	**2.9000e-004**	**0.0000**	**9.6626**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	3.6473	14.9568	54.8589	0.2629	32.6058	0.1394	32.7451	8.7353	0.1299	8.8651	0.0000	23,156.3869	23,156.3869	1.4642	0.0000	23,192.9912
Unmitigated	3.6473	14.9568	54.8589	0.2629	32.6058	0.1394	32.7451	8.7353	0.1299	8.8651	0.0000	23,156.3869	23,156.3869	1.4642	0.0000	23,192.9912

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	3,507.30	3,498.64	3498.64	26,025,434	26,025,434
Apartments Low Rise	1,761.75	1,757.40	1757.40	13,072,822	13,072,822
City Park	677.53	677.53	677.53	3,021,115	3,021,115
General Light Industry	55.58	55.58	55.58	240,761	240,761
Regional Shopping Center	640.80	640.80	640.80	2,239,212	2,239,212
Retirement Community	845.50	845.50	845.50	3,939,354	3,939,354
Single Family Housing	5,111.10	5,098.48	5098.48	37,926,210	37,926,210
Total	12,599.56	12,573.93	12,573.93	86,464,906	86,464,906

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-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	20.40	20.40	20.40	41.60	18.80	39.60	100	0	0
Apartments Low Rise	20.40	20.40	20.40	41.60	18.80	39.60	100	0	0
City Park	12.25	12.25	12.25	33.00	48.00	19.00	100	0	0
General Light Industry	11.90	11.90	11.90	59.00	28.00	13.00	100	0	0
Regional Shopping Center	9.60	9.60	9.60	16.30	64.70	19.00	100	0	0
Retirement Community	12.80	12.80	12.80	41.60	18.80	39.60	100	0	0
Single Family Housing	20.40	20.40	20.40	41.60	18.80	39.60	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.591559	0.058317	0.163865	0.107726	0.023123	0.006646	0.016556	0.021732	0.001069	0.002158	0.005508	0.000824	0.000916
City Park	0.591559	0.058317	0.163865	0.107726	0.023123	0.006646	0.016556	0.021732	0.001069	0.002158	0.005508	0.000824	0.000916
General Light Industry	0.591559	0.058317	0.163865	0.107726	0.023123	0.006646	0.016556	0.021732	0.001069	0.002158	0.005508	0.000824	0.000916
Regional Shopping Center	0.591559	0.058317	0.163865	0.107726	0.023123	0.006646	0.016556	0.021732	0.001069	0.002158	0.005508	0.000824	0.000916
Retirement Community	0.591559	0.058317	0.163865	0.107726	0.023123	0.006646	0.016556	0.021732	0.001069	0.002158	0.005508	0.000824	0.000916
Single Family Housing	0.591559	0.058317	0.163865	0.107726	0.023123	0.006646	0.016556	0.021732	0.001069	0.002158	0.005508	0.000824	0.000916

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	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	3,898.3029	3,898.3029	0.0135	0.0000	3,898.6411
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	3,923.4258	3,923.4258	0.0136	0.0000	3,923.7662
NaturalGas Mitigated	0.3361	2.9184	1.5624	0.0183		0.2322	0.2322		0.2322	0.2322	0.0000	3,326.1288	3,326.1288	0.0638	0.0610	3,345.8943
NaturalGas Unmitigated	0.3522	3.0571	1.6300	0.0192		0.2433	0.2433		0.2433	0.2433	0.0000	3,485.2521	3,485.2521	0.0668	0.0639	3,505.9632

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Low Rise	4.88309e+006	0.0263	0.2250	0.0958	1.4400e-003		0.0182	0.0182		0.0182	0.0182	0.0000	260.5802	260.5802	4.9900e-003	4.7800e-003	262.1287
Apartments Low Rise	9.72127e+006	0.0524	0.4479	0.1906	2.8600e-003		0.0362	0.0362		0.0362	0.0362	0.0000	518.7642	518.7642	9.9400e-003	9.5100e-003	521.8470
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
General Light Industry	1.60634e+007	0.0866	0.7874	0.6614	4.7200e-003		0.0598	0.0598		0.0598	0.0598	0.0000	857.2021	857.2021	0.0164	0.0157	862.2960
Regional Shopping Center	133800	7.2000e-004	6.5600e-003	5.5100e-003	4.0000e-005		5.0000e-004	5.0000e-004		5.0000e-004	5.0000e-004	0.0000	7.1401	7.1401	1.4000e-004	1.3000e-004	7.1825
Retirement Community	4.99534e+006	0.0269	0.2302	0.0980	1.4700e-003		0.0186	0.0186		0.0186	0.0186	0.0000	266.5705	266.5705	5.1100e-003	4.8900e-003	268.1546
Single Family Housing	2.95143e+007	0.1592	1.3600	0.5787	8.6800e-003		0.1100	0.1100		0.1100	0.1100	0.0000	1,574.9951	1,574.9951	0.0302	0.0289	1,584.3545
Total		**0.3522**	**3.0571**	**1.6300**	**0.0192**		**0.2433**	**0.2433**		**0.2433**	**0.2433**	**0.0000**	**3,485.2521**	**3,485.2521**	**0.0668**	**0.0639**	**3,505.9633**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Low Rise	4.66855e+006	0.0252	0.2151	0.0915	1.3700e-003		0.0174	0.0174		0.0174	0.0174	0.0000	249.1318	249.1318	4.7800e-003	4.5700e-003	250.6122
Apartments Low Rise	9.29418e+006	0.0501	0.4283	0.1822	2.7300e-003		0.0346	0.0346		0.0346	0.0346	0.0000	495.9727	495.9727	9.5100e-003	9.0900e-003	498.9200
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
General Light Industry	1.56441e+007	0.0844	0.7669	0.6442	4.6000e-003		0.0583	0.0583		0.0583	0.0583	0.0000	834.8303	834.8303	0.0160	0.0153	839.7913
Regional Shopping Center	129012	7.0000e-004	6.3200e-003	5.3100e-003	4.0000e-005		4.8000e-004	4.8000e-004		4.8000e-004	4.8000e-004	0.0000	6.8846	6.8846	1.3000e-004	1.3000e-004	6.9255
Retirement Community	4.77588e+006	0.0258	0.2201	0.0936	1.4000e-003		0.0178	0.0178		0.0178	0.0178	0.0000	254.8589	254.8589	4.8800e-003	4.6700e-003	256.3734
Single Family Housing	2.78176e+007	0.1500	1.2818	0.5454	8.1800e-003		0.1036	0.1036		0.1036	0.1036	0.0000	1,484.4506	1,484.4506	0.0285	0.0272	1,493.2720
Total		**0.3361**	**2.9184**	**1.5623**	**0.0183**		**0.2322**	**0.2322**		**0.2322**	**0.2322**	**0.0000**	**3,326.1288**	**3,326.1288**	**0.0638**	**0.0610**	**3,345.8943**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	1.84613e+006	241.3361	8.4000e-004	0.0000	241.3570
Apartments Low Rise	3.67529e+006	480.4530	1.6700e-003	0.0000	480.4947
City Park	0	0.0000	0.0000	0.0000	0.0000
General Light Industry	1.15473e+007	1,509.5215	5.2400e-003	0.0000	1,509.6524
Regional Shopping Center	753600	98.5146	3.4000e-004	0.0000	98.5232
Retirement Community	1.97345e+006	257.9799	9.0000e-004	0.0000	258.0023
Single Family Housing	1.0217e+007	1,335.6207	4.6300e-003	0.0000	1,335.7365
Total		**3,923.4258**	**0.0136**	**0.0000**	**3,923.7662**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	1.83819e+006	240.2977	8.3000e-004	0.0000	240.3186
Apartments Low Rise	3.65947e+006	478.3858	1.6600e-003	0.0000	478.4273
City Park	0	0.0000	0.0000	0.0000	0.0000
General Light Industry	1.14296e+007	1,494.1356	5.1800e-003	0.0000	1,494.2652

Regional Shopping Center	740244	96.7686	3.4000e-004	0.0000	96.7770
Retirement Community	1.96532e+006	256.9177	8.9000e-004	0.0000	256.9400
Single Family Housing	1.01878e+007	1,331.7974	4.6200e-003	0.0000	1,331.9129
Total		**3,898.3029**	**0.0135**	**0.0000**	**3,898.6411**

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	30.1158	1.1152	22.6354	6.6600e-003		0.1933	0.1933		0.1933	0.1933	0.0000	1,030.5248	1,030.5248	0.0539	0.0182	1,037.3017
Unmitigated	30.1158	1.1152	22.6354	6.6600e-003		0.1933	0.1933		0.1933	0.1933	0.0000	1,030.5248	1,030.5248	0.0539	0.0182	1,037.3017

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	7.9645					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	21.3842					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Hearth	0.1004	0.8583	0.3652	5.4800e-003		0.0694	0.0694		0.0694	0.0694	0.0000	994.0141	994.0141	0.0191	0.0182	999.9210
Landscaping	0.6667	0.2569	22.2702	1.1800e-003		0.1239	0.1239		0.1239	0.1239	0.0000	36.5107	36.5107	0.0348	0.0000	37.3807
Total	**30.1158**	**1.1152**	**22.6354**	**6.6600e-003**		**0.1933**	**0.1933**		**0.1933**	**0.1933**	**0.0000**	**1,030.5248**	**1,030.5248**	**0.0539**	**0.0182**	**1,037.3017**

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	7.9645					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	21.3842					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.1004	0.8583	0.3652	5.4800e-003		0.0694	0.0694		0.0694	0.0694	0.0000	994.0141	994.0141	0.0191	0.0182	999.9210
Landscaping	0.6667	0.2569	22.2702	1.1800e-003		0.1239	0.1239		0.1239	0.1239	0.0000	36.5107	36.5107	0.0348	0.0000	37.3807
Total	**30.1158**	**1.1152**	**22.6354**	**6.6600e-003**		**0.1933**	**0.1933**		**0.1933**	**0.1933**	**0.0000**	**1,030.5248**	**1,030.5248**	**0.0539**	**0.0182**	**1,037.3017**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	1,373.0796	17.0059	0.4015	1,917.8571
Unmitigated	1,373.0796	17.0059	0.4015	1,917.8571

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	84.7654 / 53.439	248.7903	2.7629	0.0652	337.2967
City Park	0 / 93.6504	136.0140	4.7000e-004	0.0000	136.0258
General Light Industry	321.336 / 0	648.9145	10.4726	0.2472	984.4067
Regional Shopping Center	4.44435 / 2.72396	12.9312	0.1449	3.4200e-003	17.5717
Retirement Community	28.9935 / 18.2785	85.0974	0.9450	0.0223	115.3705
Single Family Housing	82.2244 / 51.8371	241.3323	2.6800	0.0633	327.1856
Total		**1,373.0796**	**17.0059**	**0.4015**	**1,917.8571**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	84.7654 / 53.439	248.7903	2.7629	0.0652	337.2967
City Park	0 / 93.6504	136.0140	4.7000e-004	0.0000	136.0258
General Light Industry	321.336 / 0	648.9145	10.4726	0.2472	984.4067
Regional Shopping Center	4.44435 / 2.72396	12.9312	0.1449	3.4200e-003	17.5717

Retirement Community	28.9935 / 18.2785	85.0974	0.9450	0.0223	115.3705
Single Family Housing	82.2244 / 51.8371	241.3323	2.6800	0.0633	327.1856
Total		**1,373.0796**	**17.0059**	**0.4015**	**1,917.8571**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	827.3222	48.8933	0.0000	2,049.6556
Unmitigated	827.3222	48.8933	0.0000	2,049.6556

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	598.46	121.4820	7.1794	0.0000	300.9664
City Park	6.76	1.3722	0.0811	0.0000	3.3996
General Light Industry	1723.05	349.7636	20.6704	0.0000	866.5245

Regional Shopping Center	63	12.7884	0.7558	0.0000	31.6828
Retirement Community	204.7	41.5523	2.4557	0.0000	102.9439
Single Family Housing	1479.69	300.3637	17.7510	0.0000	744.1384
Total		**827.3222**	**48.8934**	**0.0000**	**2,049.6556**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	598.46	121.4820	7.1794	0.0000	300.9664
City Park	6.76	1.3722	0.0811	0.0000	3.3996
General Light Industry	1723.05	349.7636	20.6704	0.0000	866.5245
Regional Shopping Center	63	12.7884	0.7558	0.0000	31.6828
Retirement Community	204.7	41.5523	2.4557	0.0000	102.9439
Single Family Housing	1479.69	300.3637	17.7510	0.0000	744.1384
Total		**827.3222**	**48.8934**	**0.0000**	**2,049.6556**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

	Total CO2	CH4	N2O	CO2e
Category	MT			
Unmitigated	0.3555	0.0000	0.0000	0.3555

11.1 Vegetation Land Change

Vegetation Type

	Initial/Final	Total CO2	CH4	N2O	CO2e
	Acres	MT			
Grassland	186.15 / 0	-802.3065	0.0000	0.0000	-802.3065
Scrub	691.26 / 0	-9,885.0180	0.0000	0.0000	-9,885.0180
Trees	2.42 / 0	-268.6200	0.0000	0.0000	-268.6200
Wetlands	6.17 / 0	0.0000	0.0000	0.0000	0.0000

Total		**-10,955.9445**	**0.0000**	**0.0000**	**-10,955.9445**

11.2 Net New Trees

Species Class

	Number of Trees	Total CO2	CH4	N2O	CO2e
		MT			
Miscellaneous	15475	10,956.3000	0.0000	0.0000	10,956.3000
Total		**10,956.3000**	**0.0000**	**0.0000**	**10,956.3000**

APPENDIX B

CALEEMOD PRINTOUT: OPEREATIONAL EMISSIONS

OUTPUT WITH SCHOOLS

MITIGATED PROJECT

Fanita Ranch Operation - San Diego County APCD Air District, Annual

Fanita Ranch Operation

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
Elementary School	1,000.00	Student	15.00	83,603.37	0
General Light Industry	1,389.56	1000sqft	31.90	1,389,560.00	0
City Park	78.60	Acre	78.60	3,423,816.00	0
Apartments Low Rise	866.00	Dwelling Unit	67.00	866,000.00	2477
Apartments Low Rise	435.00	Dwelling Unit	35.00	435,000.00	1244
Retirement Community	445.00	Dwelling Unit	30.90	445,000.00	1273
Single Family Housing	1,203.00	Dwelling Unit	241.30	2,165,400.00	3441
Regional Shopping Center	60.00	1000sqft	1.50	60,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2035
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	29.602	**CH4 Intensity (lb/MWhr)**	0.004	**N2O Intensity (lb/MWhr)**	0.001

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Santee CCA in combination with SDG&E for year 2035 (SDG&E Renewabe Portfolie = 60%), overall renewable generation for Santee would be 60% (per Santee Local Energy Plan Appendix C)

Land Use - Value changed to reflect the Fanita Ranch Specific Plan.

Vehicle Trips - based on TIA trip length and total daily VMT

Woodstoves - No hearths

Energy Use - All electric homes increased electrical usage an natural gas usage set at zero.

Table Name	Column Name	Default Value	New Value
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	250	50
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	250	50
tblAreaMitigation	UseLowVOCPaintParkingCheck	False	True
tblAreaMitigation	UseLowVOCPaintParkingValue	250	50
tblAreaMitigation	UseLowVOCPaintResidentialExteriorValue	250	50
tblAreaMitigation	UseLowVOCPaintResidentialInteriorValue	250	50
tblEnergyUse	NT24E	3,172.76	3,490.04
tblEnergyUse	NT24E	3,172.76	3,490.04
tblEnergyUse	NT24E	6,155.97	6,771.57
tblEnergyUse	NT24NG	4,180.00	0.00
tblEnergyUse	NT24NG	4,180.00	0.00
tblEnergyUse	NT24NG	4,180.00	0.00
tblEnergyUse	T24E	260.86	300.04
tblEnergyUse	T24E	260.86	300.04
tblEnergyUse	T24E	331.07	380.75
tblEnergyUse	T24NG	7,045.49	0.00
tblEnergyUse	T24NG	7,045.49	0.00
tblEnergyUse	T24NG	19,206.92	0.00
tblFireplaces	NumberGas	715.55	0.00
tblFireplaces	NumberGas	244.75	0.00
tblFireplaces	NumberGas	661.65	0.00
tblFireplaces	NumberNoFireplace	130.10	0.00
tblFireplaces	NumberNoFireplace	44.50	0.00
tblFireplaces	NumberNoFireplace	120.30	0.00
tblFireplaces	NumberWood	455.35	0.00
tblFireplaces	NumberWood	155.75	0.00
tblFireplaces	NumberWood	421.05	0.00
tblFleetMix	HHD	0.03	0.02

tblFleetMix	HHD	0.03	0.02
tblFleetMix	HHD	0.03	0.02
tblFleetMix	HHD	0.03	0.02
tblFleetMix	HHD	0.03	0.02
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tblFleetMix	HHD	0.03	0.02
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tblFleetMix	LDA	0.62	0.59
tblFleetMix	LDA	0.62	0.59
tblFleetMix	LDA	0.62	0.59
tblFleetMix	LDA	0.62	0.59
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tblFleetMix	LDT1	0.04	0.06
tblFleetMix	LDT1	0.04	0.06
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tblFleetMix	LDT1	0.04	0.06
tblFleetMix	LDT1	0.04	0.06
tblFleetMix	LDT1	0.04	0.06
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tblFleetMix	LDT2	0.18	0.16
tblFleetMix	LDT2	0.18	0.16
tblFleetMix	LDT2	0.18	0.16
tblFleetMix	LDT2	0.18	0.16
tblFleetMix	LDT2	0.18	0.16
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tblFleetMix	LHD1	0.01	0.02
tblFleetMix	LHD1	0.01	0.02
tblFleetMix	LHD1	0.01	0.02
tblFleetMix	LHD1	0.01	0.02

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tblFleetMix	LHD1	0.01	0.02
tblFleetMix	LHD2	5.2820e-003	6.6460e-003
tblFleetMix	LHD2	5.2820e-003	6.6460e-003
tblFleetMix	LHD2	5.2820e-003	6.6460e-003
tblFleetMix	LHD2	5.2820e-003	6.6460e-003
tblFleetMix	LHD2	5.2820e-003	6.6460e-003
tblFleetMix	LHD2	5.2820e-003	6.6460e-003
tblFleetMix	LHD2	5.2820e-003	6.6460e-003
tblFleetMix	MCY	5.5480e-003	5.5080e-003
tblFleetMix	MCY	5.5480e-003	5.5080e-003
tblFleetMix	MCY	5.5480e-003	5.5080e-003
tblFleetMix	MCY	5.5480e-003	5.5080e-003
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tblFleetMix	MCY	5.5480e-003	5.5080e-003
tblFleetMix	MCY	5.5480e-003	5.5080e-003
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tblFleetMix	MDV	0.10	0.11
tblFleetMix	MDV	0.10	0.11
tblFleetMix	MDV	0.10	0.11
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tblFleetMix	MH	7.0900e-004	9.1600e-004
tblFleetMix	MH	7.0900e-004	9.1600e-004
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tblFleetMix	MH	7.0900e-004	9.1600e-004
tblFleetMix	MH	7.0900e-004	9.1600e-004
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tblFleetMix	MHD	0.02	0.02

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tblFleetMix	MHD	0.02	0.02
tblFleetMix	MHD	0.02	0.02
tblFleetMix	MHD	0.02	0.02
tblFleetMix	OBUS	1.9440e-003	1.0690e-003
tblFleetMix	OBUS	1.9440e-003	1.0690e-003
tblFleetMix	OBUS	1.9440e-003	1.0690e-003
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tblFleetMix	UBUS	1.6320e-003	2.1580e-003
tblLandUse	LotAcreage	1.92	15.00
tblLandUse	LotAcreage	27.19	35.00
tblLandUse	LotAcreage	54.13	67.00
tblLandUse	LotAcreage	89.00	30.90
tblLandUse	LotAcreage	390.58	241.30
tblLandUse	LotAcreage	1.38	1.50

tblProjectCharacteristics	CH4IntensityFactor	0.029	0.004
tblProjectCharacteristics	CO2IntensityFactor	720.49	29.602
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.001
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tblVehicleEF	HHD	0.41	0.03
tblVehicleEF	HHD	0.14	0.10
tblVehicleEF	HHD	0.05	0.00
tblVehicleEF	HHD	4,118.17	909.54
tblVehicleEF	HHD	1,512.65	1,140.56
tblVehicleEF	HHD	11.80	0.07
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tblVehicleEF	LDA	4.3850e-003	0.02
tblVehicleEF	LDA	176.13	192.39
tblVehicleEF	LDA	37.33	38.55
tblVehicleEF	LDT1	3.0420e-003	1.4080e-003
tblVehicleEF	LDT1	3.3850e-003	0.03
tblVehicleEF	LDT1	232.82	236.60
tblVehicleEF	LDT1	50.56	48.20
tblVehicleEF	LDT2	2.3870e-003	1.3510e-003
tblVehicleEF	LDT2	1.8590e-003	0.03
tblVehicleEF	LDT2	258.14	235.35
tblVehicleEF	LDT2	54.97	47.87
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tblVehicleEF	LHD1	6.0480e-003	4.4990e-003
tblVehicleEF	LHD1	5.8730e-003	6.3550e-003
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tblVehicleEF	LHD1	611.49	643.53
tblVehicleEF	LHD1	21.13	8.38
tblVehicleEF	LHD2	2.3040e-003	2.2940e-003
tblVehicleEF	LHD2	4.8200e-003	4.9830e-003
tblVehicleEF	LHD2	2.3670e-003	3.6980e-003
tblVehicleEF	LHD2	13.44	12.60

tblVehicleEF	LHD2	665.55	647.55
tblVehicleEF	LHD2	21.27	5.91
tblVehicleEF	MCY	0.50	0.35
tblVehicleEF	MCY	0.15	0.23
tblVehicleEF	MCY	184.90	219.73
tblVehicleEF	MCY	42.31	58.02
tblVehicleEF	MDV	3.3710e-003	1.3140e-003
tblVehicleEF	MDV	3.7410e-003	0.03
tblVehicleEF	MDV	343.76	284.93
tblVehicleEF	MDV	72.70	57.01
tblVehicleEF	MH	6.7790e-003	4.6040e-003
tblVehicleEF	MH	0.02	0.02
tblVehicleEF	MH	1,182.31	1,315.89
tblVehicleEF	MH	56.45	14.31
tblVehicleEF	MHD	0.02	3.8780e-003
tblVehicleEF	MHD	2.4120e-003	9.2700e-004
tblVehicleEF	MHD	0.03	8.2820e-003
tblVehicleEF	MHD	142.07	63.64
tblVehicleEF	MHD	1,162.62	937.84
tblVehicleEF	MHD	53.67	8.13
tblVehicleEF	OBUS	0.01	8.8730e-003
tblVehicleEF	OBUS	4.2710e-003	3.0810e-003
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	96.61	91.22
tblVehicleEF	OBUS	1,292.92	1,279.50
tblVehicleEF	OBUS	67.21	16.88
tblVehicleEF	SBUS	0.83	0.07
tblVehicleEF	SBUS	3.9020e-003	2.3430e-003
tblVehicleEF	SBUS	0.05	5.2140e-003
tblVehicleEF	SBUS	1,043.37	302.91
tblVehicleEF	SBUS	1,023.41	872.35
tblVehicleEF	SBUS	54.24	4.15

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tblVehicleEF	UBUS	0.05	0.02
tblVehicleEF	UBUS	1,747.06	1,847.16
tblVehicleEF	UBUS	139.43	12.31
tblVehicleTrips	CC_TL	7.30	12.25
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tblVehicleTrips	CC_TL	7.30	11.90
tblVehicleTrips	CC_TL	7.30	9.60
tblVehicleTrips	CNW_TL	7.30	12.25
tblVehicleTrips	CNW_TL	7.30	11.30
tblVehicleTrips	CNW_TL	7.30	11.90
tblVehicleTrips	CNW_TL	7.30	9.60
tblVehicleTrips	CW_TL	9.50	12.25
tblVehicleTrips	CW_TL	9.50	11.30
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tblVehicleTrips	CW_TL	9.50	9.60
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	DV_TP	28.00	0.00
tblVehicleTrips	DV_TP	25.00	0.00
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	DV_TP	35.00	0.00
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	HO_TL	7.50	20.40
tblVehicleTrips	HO_TL	7.50	12.80
tblVehicleTrips	HO_TL	7.50	20.40
tblVehicleTrips	HS_TL	7.30	20.40
tblVehicleTrips	HS_TL	7.30	12.80
tblVehicleTrips	HS_TL	7.30	20.40
tblVehicleTrips	HW_TL	10.80	20.40
tblVehicleTrips	HW_TL	10.80	12.80
tblVehicleTrips	HW_TL	10.80	20.40

tblVehicleTrips	PB_TP	3.00	0.00
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tblVehicleTrips	PB_TP	11.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	PR_TP	66.00	100.00
tblVehicleTrips	PR_TP	63.00	100.00
tblVehicleTrips	PR_TP	92.00	100.00
tblVehicleTrips	PR_TP	54.00	100.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	ST_TR	7.16	2.92
tblVehicleTrips	ST_TR	22.75	6.25
tblVehicleTrips	ST_TR	1.32	0.03
tblVehicleTrips	ST_TR	49.97	7.74
tblVehicleTrips	ST_TR	2.03	1.38
tblVehicleTrips	ST_TR	9.91	2.92
tblVehicleTrips	SU_TR	6.07	2.92
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tblVehicleTrips	SU_TR	0.68	0.03
tblVehicleTrips	SU_TR	25.24	7.74
tblVehicleTrips	SU_TR	1.95	1.38
tblVehicleTrips	SU_TR	8.62	2.92
tblVehicleTrips	WD_TR	6.59	2.93
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tblVehicleTrips	WD_TR	1.29	0.50
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tblVehicleTrips	WD_TR	42.70	7.75
tblVehicleTrips	WD_TR	2.40	1.38

tblVehicleTrips	WD_TR	9.52	2.93
tblWoodstoves	NumberCatalytic	65.05	0.00
tblWoodstoves	NumberCatalytic	22.25	0.00
tblWoodstoves	NumberCatalytic	60.15	0.00
tblWoodstoves	NumberNoncatalytic	65.05	0.00
tblWoodstoves	NumberNoncatalytic	22.25	0.00
tblWoodstoves	NumberNoncatalytic	60.15	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					
2019	0.4670	4.8365	2.3945	4.1900e-003	1.9303	0.2535	2.1838	1.0567	0.2332	1.2899	0.0000	376.4694	376.4694	0.1151	0.0000	379.3457
2020	0.3066	3.1425	1.6277	2.9200e-003	1.3476	0.1627	1.5103	0.7377	0.1497	0.8874	0.0000	257.0424	257.0424	0.0803	0.0000	259.0499
Maximum	**0.4670**	**4.8365**	**2.3945**	**4.1900e-003**	**1.9303**	**0.2535**	**2.1838**	**1.0567**	**0.2332**	**1.2899**	**0.0000**	**376.4694**	**376.4694**	**0.1151**	**0.0000**	**379.3457**

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					
2019	0.4670	4.8365	2.3945	4.1900e-003	1.9303	0.2535	2.1838	1.0567	0.2332	1.2899	0.0000	376.4690	376.4690	0.1151	0.0000	379.3452
2020	0.3066	3.1425	1.6277	2.9200e-003	1.3476	0.1627	1.5103	0.7377	0.1497	0.8874	0.0000	257.0421	257.0421	0.0803	0.0000	259.0496

Maximum	**0.4670**	**4.8365**	**2.3945**	**4.1900e-003**	**1.9303**	**0.2535**	**2.1838**	**1.0567**	**0.2332**	**1.2899**	**0.0000**	**376.4690**	**376.4690**	**0.1151**	**0.0000**	**379.3452**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**3-11-2019**	**6-10-2019**	1.6439	1.6439
2	**6-11-2019**	**9-10-2019**	1.6438	1.6438
3	**9-11-2019**	**12-10-2019**	1.6263	1.6263
4	**12-11-2019**	**3-10-2020**	1.5408	1.5408
5	**3-11-2020**	**6-10-2020**	1.5314	1.5314
6	**6-11-2020**	**9-10-2020**	0.7324	0.7324
		Highest	1.6439	1.6439

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	29.8457	0.2519	21.8428	1.1600e-003		0.1215	0.1215		0.1215	0.1215	0.0000	35.8130	35.8130	0.0342	0.0000	36.6671
Energy	0.0900	0.8182	0.6873	4.9100e-003		0.0622	0.0622		0.0622	0.0622	0.0000	1,312.3108	1,312.3108	0.0740	0.0306	1,323.2719
Mobile	2.6608	10.9165	39.8815	0.1909	23.6637	0.1013	23.7649	6.3396	0.0943	6.4340	0.0000	16,809.3585	16,809.3585	1.0641	0.0000	16,835.9616
Waste						0.0000	0.0000		0.0000	0.0000	850.3860	0.0000	850.3860	50.2564	0.0000	2,106.7953
Water						0.0000	0.0000		0.0000	0.0000	165.0810	124.3515	289.4326	16.9722	0.4046	834.2950
Total	**32.5964**	**11.9867**	**62.4116**	**0.1970**	**23.6637**	**0.2850**	**23.9486**	**6.3396**	**0.2780**	**6.6177**	**1,015.4670**	**18,281.8337**	**19,297.3007**	**68.4009**	**0.4351**	**21,136.9909**

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	21.6321	0.2004	16.5908	7.5000e-004		0.0906	0.0906		0.0906	0.0906	0.0000	25.0530	25.0530	0.0179	0.0000	25.5000
Energy	0.0876	0.7959	0.6686	4.7800e-003		0.0605	0.0605		0.0605	0.0605	0.0000	1,253.2110	1,253.2110	0.0689	0.0290	1,263.5601
Mobile	2.6608	10.9165	39.8815	0.1909	23.6637	0.1013	23.7649	6.3396	0.0943	6.4340	0.0000	16,809.3585	16,809.3585	1.0641	0.0000	16,835.9616
Waste						0.0000	0.0000		0.0000	0.0000	85.0386	0.0000	85.0386	5.0256	0.0000	210.6795
Water						0.0000	0.0000		0.0000	0.0000	132.0648	99.4812	231.5460	13.5778	0.3236	667.4360
Total	**24.3804**	**11.9128**	**57.1408**	**0.1964**	**23.6637**	**0.2524**	**23.9160**	**6.3396**	**0.2455**	**6.5851**	**217.1034**	**18,187.1037**	**18,404.2071**	**19.7543**	**0.3526**	**19,003.1372**

	ROG	NOx	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	**25.21**	**0.62**	**8.45**	**0.27**	**0.00**	**11.43**	**0.14**	**0.00**	**11.72**	**0.49**	**78.62**	**0.52**	**4.63**	**71.12**	**18.97**	**10.10**

2.3 Vegetation

Vegetation

	CO2e
Category	MT
New Trees	10,956.3000
Vegetation Land Change	-10,955.9445
Total	**0.3555**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	3/11/2019	7/24/2020	5	360	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.9150	0.0000	1.9150	1.0527	0.0000	1.0527	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.4595	4.8307	2.3387	4.0300e-003		0.2534	0.2534		0.2331	0.2331	0.0000	362.1881	362.1881	0.1146	0.0000	365.0529

Total	**0.4595**	**4.8307**	**2.3387**	**4.0300e-003**	**1.9150**	**0.2534**	**2.1684**	**1.0527**	**0.2331**	**1.2858**	**0.0000**	**362.1881**	**362.1881**	**0.1146**	**0.0000**	**365.0529**

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	7.5200e-003	5.7700e-003	0.0558	1.6000e-004	0.0153	1.1000e-004	0.0154	4.0700e-003	1.0000e-004	4.1700e-003	0.0000	14.2813	14.2813	4.6000e-004	0.0000	14.2928
Total	**7.5200e-003**	**5.7700e-003**	**0.0558**	**1.6000e-004**	**0.0153**	**1.1000e-004**	**0.0154**	**4.0700e-003**	**1.0000e-004**	**4.1700e-003**	**0.0000**	**14.2813**	**14.2813**	**4.6000e-004**	**0.0000**	**14.2928**

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					1.9150	0.0000	1.9150	1.0527	0.0000	1.0527	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.4595	4.8307	2.3387	4.0300e-003		0.2534	0.2534		0.2331	0.2331	0.0000	362.1876	362.1876	0.1146	0.0000	365.0525
Total	**0.4595**	**4.8307**	**2.3387**	**4.0300e-003**	**1.9150**	**0.2534**	**2.1684**	**1.0527**	**0.2331**	**1.2858**	**0.0000**	**362.1876**	**362.1876**	**0.1146**	**0.0000**	**365.0525**

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	7.5200e-003	5.7700e-003	0.0558	1.6000e-004	0.0153	1.1000e-004	0.0154	4.0700e-003	1.0000e-004	4.1700e-003	0.0000	14.2813	14.2813	4.6000e-004	0.0000	14.2928
Total	**7.5200e-003**	**5.7700e-003**	**0.0558**	**1.6000e-004**	**0.0153**	**1.1000e-004**	**0.0154**	**4.0700e-003**	**1.0000e-004**	**4.1700e-003**	**0.0000**	**14.2813**	**14.2813**	**4.6000e-004**	**0.0000**	**14.2928**

3.2 Site Preparation - 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					
Fugitive Dust					1.3369	0.0000	1.3369	0.7349	0.0000	0.7349	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.3017	3.1389	1.5920	2.8100e-003		0.1626	0.1626		0.1496	0.1496	0.0000	247.3870	247.3870	0.0800	0.0000	249.3873
Total	**0.3017**	**3.1389**	**1.5920**	**2.8100e-003**	**1.3369**	**0.1626**	**1.4995**	**0.7349**	**0.1496**	**0.8845**	**0.0000**	**247.3870**	**247.3870**	**0.0800**	**0.0000**	**249.3873**

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	4.9100e-003	3.6400e-003	0.0356	1.1000e-004	0.0107	8.0000e-005	0.0108	2.8400e-003	7.0000e-005	2.9100e-003	0.0000	9.6553	9.6553	2.9000e-004	0.0000	9.6626
Total	**4.9100e-003**	**3.6400e-003**	**0.0356**	**1.1000e-004**	**0.0107**	**8.0000e-005**	**0.0108**	**2.8400e-003**	**7.0000e-005**	**2.9100e-003**	**0.0000**	**9.6553**	**9.6553**	**2.9000e-004**	**0.0000**	**9.6626**

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					1.3369	0.0000	1.3369	0.7349	0.0000	0.7349	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.3017	3.1389	1.5920	2.8100e-003		0.1626	0.1626		0.1496	0.1496	0.0000	247.3867	247.3867	0.0800	0.0000	249.3870
Total	**0.3017**	**3.1389**	**1.5920**	**2.8100e-003**	**1.3369**	**0.1626**	**1.4995**	**0.7349**	**0.1496**	**0.8845**	**0.0000**	**247.3867**	**247.3867**	**0.0800**	**0.0000**	**249.3870**

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	4.9100e-003	3.6400e-003	0.0356	1.1000e-004	0.0107	8.0000e-005	0.0108	2.8400e-003	7.0000e-005	2.9100e-003	0.0000	9.6553	9.6553	2.9000e-004	0.0000	9.6626
Total	**4.9100e-003**	**3.6400e-003**	**0.0356**	**1.1000e-004**	**0.0107**	**8.0000e-005**	**0.0108**	**2.8400e-003**	**7.0000e-005**	**2.9100e-003**	**0.0000**	**9.6553**	**9.6553**	**2.9000e-004**	**0.0000**	**9.6626**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	2.6608	10.9165	39.8815	0.1909	23.6637	0.1013	23.7649	6.3396	0.0943	6.4340	0.0000	16,809.3585	16,809.3585	1.0641	0.0000	16,835.9616
Unmitigated	2.6608	10.9165	39.8815	0.1909	23.6637	0.1013	23.7649	6.3396	0.0943	6.4340	0.0000	16,809.3585	16,809.3585	1.0641	0.0000	16,835.9616

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	2,537.38	2,528.72	2528.72	18,823,196	18,823,196
Apartments Low Rise	1,274.55	1,270.20	1270.20	9,455,070	9,455,070
City Park	491.25	491.25	491.25	2,190,484	2,190,484
Elementary School	500.00	0.00	0.00	1,469,000	1,469,000
General Light Industry	41.69	41.69	41.69	180,571	180,571
Regional Shopping Center	465.00	464.40	464.40	1,624,297	1,624,297
Retirement Community	614.10	614.10	614.10	2,861,215	2,861,215
Single Family Housing	3,524.79	3,512.76	3512.76	26,148,158	26,148,158
Total	9,448.76	8,923.12	8,923.12	62,751,989	62,751,989

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-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	20.40	20.40	20.40	41.60	18.80	39.60	100	0	0
Apartments Low Rise	20.40	20.40	20.40	41.60	18.80	39.60	100	0	0
City Park	12.25	12.25	12.25	33.00	48.00	19.00	100	0	0
Elementary School	11.30	11.30	11.30	65.00	30.00	5.00	100	0	0
General Light Industry	11.90	11.90	11.90	59.00	28.00	13.00	100	0	0
Regional Shopping Center	9.60	9.60	9.60	16.30	64.70	19.00	100	0	0
Retirement Community	12.80	12.80	12.80	41.60	18.80	39.60	100	0	0

Single Family Housing	20.40	20.40	20.40	41.60	18.80	39.60	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.591559	0.058317	0.163865	0.107726	0.023123	0.006646	0.016556	0.021732	0.001069	0.002158	0.005508	0.000824	0.000916
City Park	0.591559	0.058317	0.163865	0.107726	0.023123	0.006646	0.016556	0.021732	0.001069	0.002158	0.005508	0.000824	0.000916
Elementary School	0.591559	0.058317	0.163865	0.107726	0.023123	0.006646	0.016556	0.021732	0.001069	0.002158	0.005508	0.000824	0.000916
General Light Industry	0.591559	0.058317	0.163865	0.107726	0.023123	0.006646	0.016556	0.021732	0.001069	0.002158	0.005508	0.000824	0.000916
Regional Shopping Center	0.591559	0.058317	0.163865	0.107726	0.023123	0.006646	0.016556	0.021732	0.001069	0.002158	0.005508	0.000824	0.000916
Retirement Community	0.591559	0.058317	0.163865	0.107726	0.023123	0.006646	0.016556	0.021732	0.001069	0.002158	0.005508	0.000824	0.000916
Single Family Housing	0.591559	0.058317	0.163865	0.107726	0.023123	0.006646	0.016556	0.021732	0.001069	0.002158	0.005508	0.000824	0.000916

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

Install High Efficiency Lighting

Install Energy Efficient Appliances

	ROG	NOx	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	386.7860	386.7860	0.0523	0.0131	391.9864
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	421.5596	421.5596	0.0570	0.0142	427.2275
NaturalGas Mitigated	0.0876	0.7959	0.6686	4.7800e-003		0.0605	0.0605		0.0605	0.0605	0.0000	866.4250	866.4250	0.0166	0.0159	871.5737
NaturalGas Unmitigated	0.0900	0.8182	0.6873	4.9100e-003		0.0622	0.0622		0.0622	0.0622	0.0000	890.7511	890.7511	0.0171	0.0163	896.0444

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Low Rise	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Elementary School	494932	2.6700e-003	0.0243	0.0204	1.5000e-004		1.8400e-003	1.8400e-003		1.8400e-003	1.8400e-003	0.0000	26.4115	26.4115	5.1000e-004	4.8000e-004	26.5684
General Light Industry	1.60633e+007	0.0866	0.7874	0.6614	4.7200e-003		0.0598	0.0598		0.0598	0.0598	0.0000	857.1996	857.1996	0.0164	0.0157	862.2935
Regional Shopping Center	133800	7.2000e-004	6.5600e-003	5.5100e-003	4.0000e-005		5.0000e-004	5.0000e-004		5.0000e-004	5.0000e-004	0.0000	7.1401	7.1401	1.4000e-004	1.3000e-004	7.1825
Retirement Community	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0900**	**0.8182**	**0.6873**	**4.9100e-003**		**0.0622**	**0.0622**		**0.0622**	**0.0622**	**0.0000**	**890.7511**	**890.7511**	**0.0171**	**0.0163**	**896.0444**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Low Rise	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Elementary School	463096	2.5000e-003	0.0227	0.0191	1.4000e-004		1.7300e-003	1.7300e-003		1.7300e-003	1.7300e-003	0.0000	24.7126	24.7126	4.7000e-004	4.5000e-004	24.8594
General Light Industry	1.56441e+007	0.0844	0.7669	0.6442	4.6000e-003		0.0583	0.0583		0.0583	0.0583	0.0000	834.8279	834.8279	0.0160	0.0153	839.7888

Regional Shopping Center	129012	7.0000e-004	6.3200e-003	5.3100e-003	4.0000e-005		4.8000e-004	4.8000e-004		4.8000e-004	4.8000e-004	0.0000	6.8846	6.8846	1.3000e-004	1.3000e-004	6.9255
Retirement Community	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0876**	**0.7959**	**0.6686**	**4.7800e-003**		**0.0605**	**0.0605**		**0.0605**	**0.0605**	**0.0000**	**866.4250**	**866.4250**	**0.0166**	**0.0159**	**871.5737**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	2.00119e+006	26.8705	3.6300e-003	9.1000e-004	27.2318
Apartments Low Rise	3.98398e+006	53.4939	7.2300e-003	1.8100e-003	54.2131
City Park	0	0.0000	0.0000	0.0000	0.0000
Elementary School	438082	5.8822	7.9000e-004	2.0000e-004	5.9613
General Light Industry	1.15472e+007	155.0476	0.0210	5.2400e-003	157.1323
Regional Shopping Center	753600	10.1188	1.3700e-003	3.4000e-004	10.2548
Retirement Community	2.13208e+006	28.6279	3.8700e-003	9.7000e-004	29.0128
Single Family Housing	1.05397e+007	141.5188	0.0191	4.7800e-003	143.4215
Total		**421.5596**	**0.0570**	**0.0143**	**427.2275**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e

Land Use	kWh/yr	MT/yr			
Apartments Low Rise	1.85645e+006	24.9270	3.3700e-003	8.4000e-004	25.2622
Apartments Low Rise	3.69583e+006	49.6249	6.7100e-003	1.6800e-003	50.2921
City Park	0	0.0000	0.0000	0.0000	0.0000
Elementary School	376098	5.0500	6.8000e-004	1.7000e-004	5.1179
General Light Industry	1.04464e+007	140.2668	0.0190	4.7400e-003	142.1527
Regional Shopping Center	646944	8.6867	1.1700e-003	2.9000e-004	8.8035
Retirement Community	1.96279e+006	26.3548	3.5600e-003	8.9000e-004	26.7092
Single Family Housing	9.82152e+006	131.8759	0.0178	4.4500e-003	133.6490
Total		**386.7860**	**0.0523**	**0.0131**	**391.9864**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Electric Lawnmower

Use Electric Leafblower

Use Electric Chainsaw

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

Use Low VOC Cleaning Supplies

	ROG	NOx	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	21.6321	0.2004	16.5908	7.5000e-004		0.0906	0.0906		0.0906	0.0906	0.0000	25.0530	25.0530	0.0179	0.0000	25.5000
Unmitigated	29.8457	0.2519	21.8428	1.1600e-003		0.1215	0.1215		0.1215	0.1215	0.0000	35.8130	35.8130	0.0342	0.0000	36.6671

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	7.8952					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	21.2959					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	0.6545	0.2519	21.8428	1.1600e-003		0.1215	0.1215		0.1215	0.1215	0.0000	35.8130	35.8130	0.0342	0.0000	36.6671
Total	**29.8457**	**0.2519**	**21.8428**	**1.1600e-003**		**0.1215**	**0.1215**		**0.1215**	**0.1215**	**0.0000**	**35.8130**	**35.8130**	**0.0342**	**0.0000**	**36.6671**

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	1.5790					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	19.7061					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	0.3469	0.2004	16.5908	7.5000e-004		0.0906	0.0906		0.0906	0.0906	0.0000	25.0530	25.0530	0.0179	0.0000	25.5000
Total	**21.6321**	**0.2004**	**16.5908**	**7.5000e-004**		**0.0906**	**0.0906**		**0.0906**	**0.0906**	**0.0000**	**25.0530**	**25.0530**	**0.0179**	**0.0000**	**25.5000**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	231.5460	13.5778	0.3236	667.4360
Unmitigated	289.4326	16.9722	0.4046	834.2950

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	84.7654 / 53.439	49.6841	2.7652	0.0660	138.4777
City Park	0 / 93.6504	13.9705	1.8900e-003	4.7000e-004	14.1583
Elementary School	2.42424 / 6.23376	2.1229	0.0792	1.9100e-003	4.6718
General Light Industry	321.336 / 0	158.1261	10.4783	0.2491	494.3262

Regional Shopping Center	4.44435 / 2.72396	2.5934	0.1450	3.4600e-003	7.2488
Retirement Community	28.9935 / 18.2785	16.9942	0.9458	0.0226	47.3656
Single Family Housing	78.3803 / 49.4137	45.9415	2.5569	0.0610	128.0466
Total		**289.4326**	**16.9722**	**0.4046**	**834.2949**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	67.8123 / 42.7512	39.7472	2.2121	0.0528	110.7822
City Park	0 / 74.9203	11.1764	1.5100e-003	3.8000e-004	11.3266
Elementary School	1.93939 / 4.98701	1.6983	0.0633	1.5300e-003	3.7374
General Light Industry	257.069 / 0	126.5009	8.3827	0.1993	395.4610
Regional Shopping Center	3.55548 / 2.17917	2.0747	0.1160	2.7700e-003	5.7990
Retirement Community	23.1948 / 14.6228	13.5953	0.7567	0.0181	37.8924
Single Family Housing	62.7042 / 39.5309	36.7532	2.0455	0.0488	102.4373
Total		**231.5460**	**13.5778**	**0.3237**	**667.4360**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	85.0386	5.0256	0.0000	210.6795
Unmitigated	850.3860	50.2564	0.0000	2,106.7953

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	598.46	121.4820	7.1794	0.0000	300.9664
City Park	6.76	1.3722	0.0811	0.0000	3.3996
Elementary School	182.5	37.0459	2.1894	0.0000	91.7795
General Light Industry	1723.05	349.7636	20.6704	0.0000	866.5245
Regional Shopping Center	63	12.7884	0.7558	0.0000	31.6828
Retirement Community	204.7	41.5523	2.4557	0.0000	102.9439
Single Family Housing	1410.81	286.3817	16.9247	0.0000	709.4985
Total		**850.3860**	**50.2564**	**0.0000**	**2,106.7953**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	59.846	12.1482	0.7179	0.0000	30.0966
City Park	0.676	0.1372	8.1100e-003	0.0000	0.3400
Elementary School	18.25	3.7046	0.2189	0.0000	9.1780
General Light Industry	172.305	34.9764	2.0670	0.0000	86.6525
Regional Shopping Center	6.3	1.2788	0.0756	0.0000	3.1683
Retirement Community	20.47	4.1552	0.2456	0.0000	10.2944
Single Family Housing	141.081	28.6382	1.6925	0.0000	70.9499
Total		**85.0386**	**5.0256**	**0.0000**	**210.6795**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

	Total CO2	CH4	N2O	CO2e
Category	MT			
Unmitigated	0.3555	0.0000	0.0000	0.3555

11.1 Vegetation Land Change

Vegetation Type

	Initial/Final	Total CO2	CH4	N2O	CO2e
	Acres	MT			
Grassland	186.15 / 0	-802.3065	0.0000	0.0000	-802.3065
Scrub	691.26 / 0	-9,885.0180	0.0000	0.0000	-9,885.018
Trees	2.42 / 0	-268.6200	0.0000	0.0000	-268.6200
Wetlands	6.17 / 0	0.0000	0.0000	0.0000	0.0000
Total		**-10,955.9445**	**0.0000**	**0.0000**	**-10,955.9445**

11.2 Net New Trees

Species Class

	Number of Trees	Total CO2	CH4	N2O	CO2e

		MT			
Miscellaneous	15475	10,956.3000	0.0000	0.0000	10,956.3000
Total		**10,956.3000**	**0.0000**	**0.0000**	**10,956.3000**

APPENDIX B

CALEEMOD PRINTOUT: OPEREATIONAL EMISSIONS

OUTPUT WITHOUT SCHOOLS

MITIGATED PROJECT

Fanita Ranch Operation - San Diego County APCD Air District, Annual

Fanita Ranch Operation

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
General Light Industry	1,389.56	1000sqft	31.90	1,389,564.00	0
City Park	78.60	Acre	78.60	3,423,816.00	0
Apartments Low Rise	866.00	Dwelling Unit	67.00	866,000.00	2477
Apartments Low Rise	435.00	Dwelling Unit	35.00	435,000.00	1244
Retirement Community	445.00	Dwelling Unit	30.90	445,000.00	1273
Single Family Housing	1,262.00	Dwelling Unit	256.30	2,271,600.00	3609
Regional Shopping Center	60.00	1000sqft	1.50	60,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2035
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	29.6	**CH4 Intensity (lb/MWhr)**	0.004	**N2O Intensity (lb/MWhr)**	0.001

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Santee CCA and SDG&E emission factors for year 2035

Land Use - Value changed to reflect the Fanita Ranch Specific Plan

Vehicle Trips - based on TIA trip length and total daily VMT

Woodstoves - all electric homes

Energy Use - All Electric homes

Table Name	Column Name	Default Value	New Value
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	250	50
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	250	50
tblAreaMitigation	UseLowVOCPaintParkingCheck	False	True
tblAreaMitigation	UseLowVOCPaintParkingValue	250	50
tblAreaMitigation	UseLowVOCPaintResidentialExteriorValue	250	50
tblAreaMitigation	UseLowVOCPaintResidentialInteriorValue	250	50
tblEnergyUse	NT24E	3,172.76	3,490.04
tblEnergyUse	NT24E	3,172.76	3,490.04
tblEnergyUse	NT24E	6,155.97	6,771.54
tblEnergyUse	NT24NG	4,180.00	0.00
tblEnergyUse	NT24NG	4,180.00	0.00
tblEnergyUse	NT24NG	4,180.00	0.00
tblEnergyUse	T24E	260.86	300.04
tblEnergyUse	T24E	260.86	300.04
tblEnergyUse	T24E	331.07	380.75
tblEnergyUse	T24NG	7,045.49	0.00
tblEnergyUse	T24NG	7,045.49	0.00
tblEnergyUse	T24NG	19,206.92	0.00
tblFireplaces	NumberGas	715.55	0.00
tblFireplaces	NumberGas	244.75	0.00
tblFireplaces	NumberGas	694.10	0.00
tblFireplaces	NumberNoFireplace	130.10	0.00
tblFireplaces	NumberNoFireplace	44.50	0.00
tblFireplaces	NumberNoFireplace	126.20	0.00
tblFireplaces	NumberWood	455.35	0.00
tblFireplaces	NumberWood	155.75	0.00
tblFireplaces	NumberWood	441.70	0.00
tblFleetMix	HHD	0.03	0.02
tblFleetMix	HHD	0.03	0.02

tblFleetMix	HHD	0.03	0.02
tblFleetMix	HHD	0.03	0.02
tblFleetMix	HHD	0.03	0.02
tblFleetMix	HHD	0.03	0.02
tblFleetMix	LDA	0.62	0.59
tblFleetMix	LDA	0.62	0.59
tblFleetMix	LDA	0.62	0.59
tblFleetMix	LDA	0.62	0.59
tblFleetMix	LDA	0.62	0.59
tblFleetMix	LDA	0.62	0.59
tblFleetMix	LDT1	0.04	0.06
tblFleetMix	LDT1	0.04	0.06
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tblFleetMix	LDT1	0.04	0.06
tblFleetMix	LDT2	0.18	0.16
tblFleetMix	LDT2	0.18	0.16
tblFleetMix	LDT2	0.18	0.16
tblFleetMix	LDT2	0.18	0.16
tblFleetMix	LDT2	0.18	0.16
tblFleetMix	LDT2	0.18	0.16
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tblFleetMix	LHD1	0.01	0.02
tblFleetMix	LHD1	0.01	0.02
tblFleetMix	LHD1	0.01	0.02
tblFleetMix	LHD1	0.01	0.02
tblFleetMix	LHD1	0.01	0.02
tblFleetMix	LHD2	5.2820e-003	6.6460e-003
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tblFleetMix	LHD2	5.2820e-003	6.6460e-003

tblFleetMix	LHD2	5.2820e-003	6.6460e-003
tblFleetMix	LHD2	5.2820e-003	6.6460e-003
tblFleetMix	MCY	5.5480e-003	5.5080e-003
tblFleetMix	MCY	5.5480e-003	5.5080e-003
tblFleetMix	MCY	5.5480e-003	5.5080e-003
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tblFleetMix	MDV	0.10	0.11
tblFleetMix	MDV	0.10	0.11
tblFleetMix	MDV	0.10	0.11
tblFleetMix	MDV	0.10	0.11
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tblFleetMix	MHD	0.02	0.02
tblFleetMix	MHD	0.02	0.02
tblFleetMix	MHD	0.02	0.02
tblFleetMix	MHD	0.02	0.02
tblFleetMix	OBUS	1.9440e-003	1.0690e-003
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tblFleetMix	OBUS	1.9440e-003	1.0690e-003
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tblFleetMix	OBUS	1.9440e-003	1.0690e-003

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tblFleetMix	SBUS	8.0000e-004	8.2400e-004
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tblFleetMix	UBUS	1.6320e-003	2.1580e-003
tblFleetMix	UBUS	1.6320e-003	2.1580e-003
tblFleetMix	UBUS	1.6320e-003	2.1580e-003
tblFleetMix	UBUS	1.6320e-003	2.1580e-003
tblFleetMix	UBUS	1.6320e-003	2.1580e-003
tblLandUse	LandUseSquareFeet	1,389,560.00	1,389,564.00
tblLandUse	LotAcreage	54.13	67.00
tblLandUse	LotAcreage	27.19	35.00
tblLandUse	LotAcreage	89.00	30.90
tblLandUse	LotAcreage	409.74	256.30
tblLandUse	LotAcreage	1.38	1.50
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.004
tblProjectCharacteristics	CO2IntensityFactor	720.49	29.6
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.001
tblSequestration	NumberOfNewTrees	0.00	15,475.00
tblVehicleEF	HHD	0.41	0.03
tblVehicleEF	HHD	0.14	0.10
tblVehicleEF	HHD	0.05	0.00
tblVehicleEF	HHD	4,118.17	909.54
tblVehicleEF	HHD	1,512.65	1,140.56
tblVehicleEF	HHD	11.80	0.07
tblVehicleEF	LDA	4.2300e-003	7.6500e-004
tblVehicleEF	LDA	4.3850e-003	0.02
tblVehicleEF	LDA	176.13	192.39
tblVehicleEF	LDA	37.33	38.55

tblVehicleEF	LDT1	3.0420e-003	1.4080e-003
tblVehicleEF	LDT1	3.3850e-003	0.03
tblVehicleEF	LDT1	232.82	236.60
tblVehicleEF	LDT1	50.56	48.20
tblVehicleEF	LDT2	2.3870e-003	1.3510e-003
tblVehicleEF	LDT2	1.8590e-003	0.03
tblVehicleEF	LDT2	258.14	235.35
tblVehicleEF	LDT2	54.97	47.87
tblVehicleEF	LHD1	2.9300e-003	3.4250e-003
tblVehicleEF	LHD1	6.0480e-003	4.4990e-003
tblVehicleEF	LHD1	5.8730e-003	6.3550e-003
tblVehicleEF	LHD1	9.05	8.05
tblVehicleEF	LHD1	611.49	643.53
tblVehicleEF	LHD1	21.13	8.38
tblVehicleEF	LHD2	2.3040e-003	2.2940e-003
tblVehicleEF	LHD2	4.8200e-003	4.9830e-003
tblVehicleEF	LHD2	2.3670e-003	3.6980e-003
tblVehicleEF	LHD2	13.44	12.60
tblVehicleEF	LHD2	665.55	647.55
tblVehicleEF	LHD2	21.27	5.91
tblVehicleEF	MCY	0.50	0.35
tblVehicleEF	MCY	0.15	0.23
tblVehicleEF	MCY	184.90	219.73
tblVehicleEF	MCY	42.31	58.02
tblVehicleEF	MDV	3.3710e-003	1.3140e-003
tblVehicleEF	MDV	3.7410e-003	0.03
tblVehicleEF	MDV	343.76	284.93
tblVehicleEF	MDV	72.70	57.01
tblVehicleEF	MH	6.7790e-003	4.6040e-003
tblVehicleEF	MH	0.02	0.02
tblVehicleEF	MH	1,182.31	1,315.89
tblVehicleEF	MH	56.45	14.31

tblVehicleEF	MHD	0.02	3.8780e-003
tblVehicleEF	MHD	2.4120e-003	9.2700e-004
tblVehicleEF	MHD	0.03	8.2820e-003
tblVehicleEF	MHD	142.07	63.64
tblVehicleEF	MHD	1,162.62	937.84
tblVehicleEF	MHD	53.67	8.13
tblVehicleEF	OBUS	0.01	8.8730e-003
tblVehicleEF	OBUS	4.2710e-003	3.0810e-003
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	96.61	91.22
tblVehicleEF	OBUS	1,292.92	1,279.50
tblVehicleEF	OBUS	67.21	16.88
tblVehicleEF	SBUS	0.83	0.07
tblVehicleEF	SBUS	3.9020e-003	2.3430e-003
tblVehicleEF	SBUS	0.05	5.2140e-003
tblVehicleEF	SBUS	1,043.37	302.91
tblVehicleEF	SBUS	1,023.41	872.35
tblVehicleEF	SBUS	54.24	4.15
tblVehicleEF	UBUS	1.05	4.89
tblVehicleEF	UBUS	0.05	0.02
tblVehicleEF	UBUS	1,747.06	1,847.16
tblVehicleEF	UBUS	139.43	12.31
tblVehicleTrips	CC_TL	7.30	12.25
tblVehicleTrips	CC_TL	7.30	11.90
tblVehicleTrips	CC_TL	7.30	9.60
tblVehicleTrips	CNW_TL	7.30	12.25
tblVehicleTrips	CNW_TL	7.30	11.90
tblVehicleTrips	CNW_TL	7.30	9.60
tblVehicleTrips	CW_TL	9.50	12.25
tblVehicleTrips	CW_TL	9.50	11.90
tblVehicleTrips	CW_TL	9.50	9.60
tblVehicleTrips	DV_TP	11.00	0.00

tblVehicleTrips	DV_TP	28.00	0.00
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	DV_TP	35.00	0.00
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	HO_TL	7.50	20.40
tblVehicleTrips	HO_TL	7.50	12.80
tblVehicleTrips	HO_TL	7.50	20.40
tblVehicleTrips	HS_TL	7.30	20.40
tblVehicleTrips	HS_TL	7.30	12.80
tblVehicleTrips	HS_TL	7.30	20.40
tblVehicleTrips	HW_TL	10.80	20.40
tblVehicleTrips	HW_TL	10.80	12.80
tblVehicleTrips	HW_TL	10.80	20.40
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	6.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	11.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	PR_TP	66.00	100.00
tblVehicleTrips	PR_TP	92.00	100.00
tblVehicleTrips	PR_TP	54.00	100.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	ST_TR	7.16	3.07
tblVehicleTrips	ST_TR	22.75	6.56
tblVehicleTrips	ST_TR	1.32	0.03
tblVehicleTrips	ST_TR	49.97	8.13
tblVehicleTrips	ST_TR	2.03	1.44
tblVehicleTrips	ST_TR	9.91	3.07

tblVehicleTrips	SU_TR	6.07	3.07
tblVehicleTrips	SU_TR	16.74	6.56
tblVehicleTrips	SU_TR	0.68	0.03
tblVehicleTrips	SU_TR	25.24	8.13
tblVehicleTrips	SU_TR	1.95	1.44
tblVehicleTrips	SU_TR	8.62	3.07
tblVehicleTrips	WD_TR	6.59	3.08
tblVehicleTrips	WD_TR	1.89	6.57
tblVehicleTrips	WD_TR	6.97	0.03
tblVehicleTrips	WD_TR	42.70	8.14
tblVehicleTrips	WD_TR	2.40	1.45
tblVehicleTrips	WD_TR	9.52	3.08
tblWoodstoves	NumberCatalytic	65.05	0.00
tblWoodstoves	NumberCatalytic	22.25	0.00
tblWoodstoves	NumberCatalytic	63.10	0.00
tblWoodstoves	NumberNoncatalytic	65.05	0.00
tblWoodstoves	NumberNoncatalytic	22.25	0.00
tblWoodstoves	NumberNoncatalytic	63.10	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					
2019	0.4670	4.8365	2.3945	4.1900e-003	1.9303	0.2535	2.1838	1.0567	0.2332	1.2899	0.0000	376.4694	376.4694	0.1151	0.0000	379.3457
2020	0.3066	3.1425	1.6277	2.9200e-003	1.3476	0.1627	1.5103	0.7377	0.1497	0.8874	0.0000	257.0424	257.0424	0.0803	0.0000	259.0499

Maximum	**0.4670**	**4.8365**	**2.3945**	**4.1900e-003**	**1.9303**	**0.2535**	**2.1838**	**1.0567**	**0.2332**	**1.2899**	**0.0000**	**376.4694**	**376.4694**	**0.1151**	**0.0000**	**379.3457**

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					
2019	0.4670	4.8365	2.3945	4.1900e-003	1.9303	0.2535	2.1838	1.0567	0.2332	1.2899	0.0000	376.4690	376.4690	0.1151	0.0000	379.3452
2020	0.3066	3.1425	1.6277	2.9200e-003	1.3476	0.1627	1.5103	0.7377	0.1497	0.8874	0.0000	257.0421	257.0421	0.0803	0.0000	259.0496
Maximum	**0.4670**	**4.8365**	**2.3945**	**4.1900e-003**	**1.9303**	**0.2535**	**2.1838**	**1.0567**	**0.2332**	**1.2899**	**0.0000**	**376.4690**	**376.4690**	**0.1151**	**0.0000**	**379.3452**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**3-11-2019**	**6-10-2019**	1.6439	1.6439
2	**6-11-2019**	**9-10-2019**	1.6438	1.6438
3	**9-11-2019**	**12-10-2019**	1.6263	1.6263
4	**12-11-2019**	**3-10-2020**	1.5408	1.5408
5	**3-11-2020**	**6-10-2020**	1.5314	1.5314
6	**6-11-2020**	**9-10-2020**	0.7324	0.7324
		Highest	1.6439	1.6439

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	30.0154	0.2569	22.2702	1.1800e-003		0.1239	0.1239		0.1239	0.1239	0.0000	36.5107	36.5107	0.0348	0.0000	37.3807
Energy	0.0873	0.7940	0.6669	4.7600e-003		0.0603	0.0603		0.0603	0.0603	0.0000	1,286.9316	1,286.9316	0.0737	0.0301	1,297.7500
Mobile	2.7737	11.3743	41.7179	0.1999	24.7951	0.1060	24.9011	6.6427	0.0988	6.7415	0.0000	17,609.3146	17,609.3146	1.1134	0.0000	17,637.1506
Waste						0.0000	0.0000		0.0000	0.0000	827.3222	0.0000	827.3222	48.8933	0.0000	2,049.6556
Water						0.0000	0.0000		0.0000	0.0000	165.5315	124.0230	289.5545	17.0184	0.4056	835.8947
Total	**32.8764**	**12.4252**	**64.6551**	**0.2059**	**24.7951**	**0.2902**	**25.0853**	**6.6427**	**0.2830**	**6.9257**	**992.8536**	**19,056.7799**	**20,049.6335**	**67.1337**	**0.4358**	**21,857.8317**

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	21.7342	0.2044	16.9172	7.7000e-004		0.0924	0.0924		0.0924	0.0924	0.0000	25.5441	25.5441	0.0182	0.0000	25.9996
Energy	0.0851	0.7732	0.6495	4.6400e-003		0.0588	0.0588		0.0588	0.0588	0.0000	1,229.8923	1,229.8923	0.0686	0.0286	1,240.1136
Mobile	2.7737	11.3743	41.7179	0.1999	24.7951	0.1060	24.9011	6.6427	0.0988	6.7415	0.0000	17,609.3146	17,609.3146	1.1134	0.0000	17,637.1506
Waste						0.0000	0.0000		0.0000	0.0000	82.7322	0.0000	82.7322	4.8893	0.0000	204.9656
Water						0.0000	0.0000		0.0000	0.0000	132.4252	99.2184	231.6436	13.6147	0.3245	668.7158
Total	**24.5929**	**12.3519**	**59.2846**	**0.2053**	**24.7951**	**0.2572**	**25.0523**	**6.6427**	**0.2499**	**6.8927**	**215.1574**	**18,963.9694**	**19,179.1268**	**19.7043**	**0.3531**	**19,776.9451**

	ROG	NOx	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	**25.20**	**0.59**	**8.31**	**0.26**	**0.00**	**11.39**	**0.13**	**0.00**	**11.68**	**0.48**	**78.33**	**0.49**	**4.34**	**70.65**	**18.98**	**9.52**

2.3 Vegetation

Vegetation

	CO2e
Category	MT
New Trees	10,956.3000
Vegetation Land Change	-10,955.9445
Total	**0.3555**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	3/11/2019	7/24/2020	5	360	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.9150	0.0000	1.9150	1.0527	0.0000	1.0527	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.4595	4.8307	2.3387	4.0300e-003		0.2534	0.2534		0.2331	0.2331	0.0000	362.1881	362.1881	0.1146	0.0000	365.0529
Total	**0.4595**	**4.8307**	**2.3387**	**4.0300e-003**	**1.9150**	**0.2534**	**2.1684**	**1.0527**	**0.2331**	**1.2858**	**0.0000**	**362.1881**	**362.1881**	**0.1146**	**0.0000**	**365.0529**

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	7.5200e-003	5.7700e-003	0.0558	1.6000e-004	0.0153	1.1000e-004	0.0154	4.0700e-003	1.0000e-004	4.1700e-003	0.0000	14.2813	14.2813	4.6000e-004	0.0000	14.2928
Total	**7.5200e-003**	**5.7700e-003**	**0.0558**	**1.6000e-004**	**0.0153**	**1.1000e-004**	**0.0154**	**4.0700e-003**	**1.0000e-004**	**4.1700e-003**	**0.0000**	**14.2813**	**14.2813**	**4.6000e-004**	**0.0000**	**14.2928**

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					1.9150	0.0000	1.9150	1.0527	0.0000	1.0527	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.4595	4.8307	2.3387	4.0300e-003		0.2534	0.2534		0.2331	0.2331	0.0000	362.1876	362.1876	0.1146	0.0000	365.0525
Total	**0.4595**	**4.8307**	**2.3387**	**4.0300e-003**	**1.9150**	**0.2534**	**2.1684**	**1.0527**	**0.2331**	**1.2858**	**0.0000**	**362.1876**	**362.1876**	**0.1146**	**0.0000**	**365.0525**

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	7.5200e-003	5.7700e-003	0.0558	1.6000e-004	0.0153	1.1000e-004	0.0154	4.0700e-003	1.0000e-004	4.1700e-003	0.0000	14.2813	14.2813	4.6000e-004	0.0000	14.2928
Total	**7.5200e-003**	**5.7700e-003**	**0.0558**	**1.6000e-004**	**0.0153**	**1.1000e-004**	**0.0154**	**4.0700e-003**	**1.0000e-004**	**4.1700e-003**	**0.0000**	**14.2813**	**14.2813**	**4.6000e-004**	**0.0000**	**14.2928**

3.2 Site Preparation - 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					
Fugitive Dust					1.3369	0.0000	1.3369	0.7349	0.0000	0.7349	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.3017	3.1389	1.5920	2.8100e-003		0.1626	0.1626		0.1496	0.1496	0.0000	247.3870	247.3870	0.0800	0.0000	249.3873

Total	**0.3017**	**3.1389**	**1.5920**	**2.8100e-003**	**1.3369**	**0.1626**	**1.4995**	**0.7349**	**0.1496**	**0.8845**	**0.0000**	**247.3870**	**247.3870**	**0.0800**	**0.0000**	**249.3873**

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	4.9100e-003	3.6400e-003	0.0356	1.1000e-004	0.0107	8.0000e-005	0.0108	2.8400e-003	7.0000e-005	2.9100e-003	0.0000	9.6553	9.6553	2.9000e-004	0.0000	9.6626
Total	**4.9100e-003**	**3.6400e-003**	**0.0356**	**1.1000e-004**	**0.0107**	**8.0000e-005**	**0.0108**	**2.8400e-003**	**7.0000e-005**	**2.9100e-003**	**0.0000**	**9.6553**	**9.6553**	**2.9000e-004**	**0.0000**	**9.6626**

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					1.3369	0.0000	1.3369	0.7349	0.0000	0.7349	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.3017	3.1389	1.5920	2.8100e-003		0.1626	0.1626		0.1496	0.1496	0.0000	247.3867	247.3867	0.0800	0.0000	249.3870
Total	**0.3017**	**3.1389**	**1.5920**	**2.8100e-003**	**1.3369**	**0.1626**	**1.4995**	**0.7349**	**0.1496**	**0.8845**	**0.0000**	**247.3867**	**247.3867**	**0.0800**	**0.0000**	**249.3870**

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	4.9100e-003	3.6400e-003	0.0356	1.1000e-004	0.0107	8.0000e-005	0.0108	2.8400e-003	7.0000e-005	2.9100e-003	0.0000	9.6553	9.6553	2.9000e-004	0.0000	9.6626
Total	**4.9100e-003**	**3.6400e-003**	**0.0356**	**1.1000e-004**	**0.0107**	**8.0000e-005**	**0.0108**	**2.8400e-003**	**7.0000e-005**	**2.9100e-003**	**0.0000**	**9.6553**	**9.6553**	**2.9000e-004**	**0.0000**	**9.6626**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	2.7737	11.3743	41.7179	0.1999	24.7951	0.1060	24.9011	6.6427	0.0988	6.7415	0.0000	17,609.3146	17,609.3146	1.1134	0.0000	17,637.1506
Unmitigated	2.7737	11.3743	41.7179	0.1999	24.7951	0.1060	24.9011	6.6427	0.0988	6.7415	0.0000	17,609.3146	17,609.3146	1.1134	0.0000	17,637.1506

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	2,667.28	2,658.62	2658.62	19,787,781	19,787,781
Apartments Low Rise	1,339.80	1,335.45	1335.45	9,939,590	9,939,590
City Park	516.40	515.62	515.62	2,301,635	2,301,635
General Light Industry	41.69	41.69	41.69	180,571	180,571
Regional Shopping Center	488.40	487.80	487.80	1,706,066	1,706,066

Retirement Community	645.25	640.80	640.80	3,000,425	3,000,425
Single Family Housing	3,886.96	3,874.34	3874.34	28,836,236	28,836,236
Total	9,585.78	9,554.31	9,554.31	65,752,303	65,752,303

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-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	20.40	20.40	20.40	41.60	18.80	39.60	100	0	0
Apartments Low Rise	20.40	20.40	20.40	41.60	18.80	39.60	100	0	0
City Park	12.25	12.25	12.25	33.00	48.00	19.00	100	0	0
General Light Industry	11.90	11.90	11.90	59.00	28.00	13.00	100	0	0
Regional Shopping Center	9.60	9.60	9.60	16.30	64.70	19.00	100	0	0
Retirement Community	12.80	12.80	12.80	41.60	18.80	39.60	100	0	0
Single Family Housing	20.40	20.40	20.40	41.60	18.80	39.60	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.591559	0.058317	0.163865	0.107726	0.023123	0.006646	0.016556	0.021732	0.001069	0.002158	0.005508	0.000824	0.000916
City Park	0.591559	0.058317	0.163865	0.107726	0.023123	0.006646	0.016556	0.021732	0.001069	0.002158	0.005508	0.000824	0.000916
General Light Industry	0.591559	0.058317	0.163865	0.107726	0.023123	0.006646	0.016556	0.021732	0.001069	0.002158	0.005508	0.000824	0.000916
Regional Shopping Center	0.591559	0.058317	0.163865	0.107726	0.023123	0.006646	0.016556	0.021732	0.001069	0.002158	0.005508	0.000824	0.000916
Retirement Community	0.591559	0.058317	0.163865	0.107726	0.023123	0.006646	0.016556	0.021732	0.001069	0.002158	0.005508	0.000824	0.000916
Single Family Housing	0.591559	0.058317	0.163865	0.107726	0.023123	0.006646	0.016556	0.021732	0.001069	0.002158	0.005508	0.000824	0.000916

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

Install High Efficiency Lighting

Install Energy Efficient Appliances

	ROG	NOx	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	388.1775	388.1775	0.0525	0.0131	393.3969
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	422.5894	422.5894	0.0571	0.0143	428.2716
NaturalGas Mitigated	0.0851	0.7732	0.6495	4.6400e-003		0.0588	0.0588		0.0588	0.0588	0.0000	841.7148	841.7148	0.0161	0.0154	846.7167
NaturalGas Unmitigated	0.0873	0.7940	0.6669	4.7600e-003		0.0603	0.0603		0.0603	0.0603	0.0000	864.3421	864.3421	0.0166	0.0159	869.4785

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Low Rise	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
General Light Industry	1.60634e+007	0.0866	0.7874	0.6614	4.7200e-003		0.0598	0.0598		0.0598	0.0598	0.0000	857.2021	857.2021	0.0164	0.0157	862.2960
Regional Shopping Center	133800	7.2000e-004	6.5600e-003	5.5100e-003	4.0000e-005		5.0000e-004	5.0000e-004		5.0000e-004	5.0000e-004	0.0000	7.1401	7.1401	1.4000e-004	1.3000e-004	7.1825
Retirement Community	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0873**	**0.7940**	**0.6669**	**4.7600e-003**		**0.0603**	**0.0603**		**0.0603**	**0.0603**	**0.0000**	**864.3421**	**864.3421**	**0.0166**	**0.0159**	**869.4785**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Low Rise	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
General Light Industry	1.56441e+007	0.0844	0.7669	0.6442	4.6000e-003		0.0583	0.0583		0.0583	0.0583	0.0000	834.8303	834.8303	0.0160	0.0153	839.7913
Regional Shopping Center	129012	7.0000e-004	6.3200e-003	5.3100e-003	4.0000e-005		4.8000e-004	4.8000e-004		4.8000e-004	4.8000e-004	0.0000	6.8846	6.8846	1.3000e-004	1.3000e-004	6.9255
Retirement Community	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0851**	**0.7732**	**0.6495**	**4.6400e-003**		**0.0588**	**0.0588**		**0.0588**	**0.0588**	**0.0000**	**841.7148**	**841.7148**	**0.0161**	**0.0154**	**846.7167**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	2.00119e+006	26.8687	3.6300e-003	9.1000e-004	27.2299
Apartments Low Rise	3.98398e+006	53.4903	7.2300e-003	1.8100e-003	54.2095
City Park	0	0.0000	0.0000	0.0000	0.0000
General Light Industry	1.15473e+007	155.0376	0.0210	5.2400e-003	157.1222
Regional Shopping Center	753600	10.1181	1.3700e-003	3.4000e-004	10.2541
Retirement Community	2.13208e+006	28.6260	3.8700e-003	9.7000e-004	29.0109
Single Family Housing	1.10565e+007	148.4489	0.0201	5.0200e-003	150.4449

Total		**422.5894**	**0.0571**	**0.0143**	**428.2716**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	1.85645e+006	24.9254	3.3700e-003	8.4000e-004	25.2605
Apartments Low Rise	3.69583e+006	49.6215	6.7100e-003	1.6800e-003	50.2887
City Park	0	0.0000	0.0000	0.0000	0.0000
General Light Industry	1.04465e+007	140.2577	0.0190	4.7400e-003	142.1436
Regional Shopping Center	646944	8.6861	1.1700e-003	2.9000e-004	8.8029
Retirement Community	1.96279e+006	26.3531	3.5600e-003	8.9000e-004	26.7074
Single Family Housing	1.03032e+007	138.3337	0.0187	4.6700e-003	140.1938
Total		**388.1775**	**0.0525**	**0.0131**	**393.3969**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Electric Lawnmower

Use Electric Leafblower

Use Electric Chainsaw

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

Use Low VOC Cleaning Supplies

	ROG	NOx	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	21.7342	0.2044	16.9172	7.7000e-004		0.0924	0.0924		0.0924	0.0924	0.0000	25.5441	25.5441	0.0182	0.0000	25.9996
Unmitigated	30.0154	0.2569	22.2702	1.1800e-003		0.1239	0.1239		0.1239	0.1239	0.0000	36.5107	36.5107	0.0348	0.0000	37.3807

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	7.9645					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	21.3842					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	0.6667	0.2569	22.2702	1.1800e-003		0.1239	0.1239		0.1239	0.1239	0.0000	36.5107	36.5107	0.0348	0.0000	37.3807
Total	**30.0154**	**0.2569**	**22.2702**	**1.1800e-003**		**0.1239**	**0.1239**		**0.1239**	**0.1239**	**0.0000**	**36.5107**	**36.5107**	**0.0348**	**0.0000**	**37.3807**

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	1.5929					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	19.7878					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	0.3535	0.2044	16.9172	7.7000e-004		0.0924	0.0924		0.0924	0.0924	0.0000	25.5441	25.5441	0.0182	0.0000	25.9996
Total	**21.7342**	**0.2044**	**16.9172**	**7.7000e-004**		**0.0924**	**0.0924**		**0.0924**	**0.0924**	**0.0000**	**25.5441**	**25.5441**	**0.0182**	**0.0000**	**25.9996**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	231.6436	13.6147	0.3245	668.7158
Unmitigated	289.5545	17.0184	0.4056	835.8947

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			

Apartments Low Rise	84.7654 / 53.439	49.6825	2.7652	0.0660	138.4762
City Park	0 / 93.6504	13.9695	1.8900e-003	4.7000e-004	14.1574
General Light Industry	321.336 / 0	158.1223	10.4783	0.2491	494.3224
Regional Shopping Center	4.44435 / 2.72396	2.5933	0.1450	3.4600e-003	7.2487
Retirement Community	28.9935 / 18.2785	16.9936	0.9458	0.0226	47.3650
Single Family Housing	82.2244 / 51.8371	48.1932	2.6823	0.0640	134.3251
Total		**289.5545**	**17.0184**	**0.4056**	**835.8947**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	67.8123 / 42.7512	39.7460	2.2121	0.0528	110.7809
City Park	0 / 74.9203	11.1756	1.5100e-003	3.8000e-004	11.3259
General Light Industry	257.069 / 0	126.4978	8.3827	0.1993	395.4579
Regional Shopping Center	3.55548 / 2.17917	2.0746	0.1160	2.7700e-003	5.7990
Retirement Community	23.1948 / 14.6228	13.5949	0.7567	0.0181	37.8920
Single Family Housing	65.7795 / 41.4697	38.5546	2.1458	0.0512	107.4601
Total		**231.6436**	**13.6148**	**0.3245**	**668.7158**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	82.7322	4.8893	0.0000	204.9656
Unmitigated	827.3222	48.8933	0.0000	2,049.6556

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	598.46	121.4820	7.1794	0.0000	300.9664
City Park	6.76	1.3722	0.0811	0.0000	3.3996
General Light Industry	1723.05	349.7636	20.6704	0.0000	866.5245
Regional Shopping Center	63	12.7884	0.7558	0.0000	31.6828
Retirement Community	204.7	41.5523	2.4557	0.0000	102.9439
Single Family Housing	1479.69	300.3637	17.7510	0.0000	744.1384
Total		**827.3222**	**48.8934**	**0.0000**	**2,049.6556**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	59.846	12.1482	0.7179	0.0000	30.0966
City Park	0.676	0.1372	8.1100e-003	0.0000	0.3400
General Light Industry	172.305	34.9764	2.0670	0.0000	86.6525
Regional Shopping Center	6.3	1.2788	0.0756	0.0000	3.1683
Retirement Community	20.47	4.1552	0.2456	0.0000	10.2944
Single Family Housing	147.969	30.0364	1.7751	0.0000	74.4138
Total		**82.7322**	**4.8893**	**0.0000**	**204.9656**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

	Total CO2	CH4	N2O	CO2e
Category	MT			
Unmitigated	0.3555	0.0000	0.0000	0.3555

11.1 Vegetation Land Change

Vegetation Type

	Initial/Final	Total CO2	CH4	N2O	CO2e
	Acres	MT			
Grassland	186.15 / 0	-802.3065	0.0000	0.0000	-802.3065
Scrub	691.26 / 0	-9,885.0180	0.0000	0.0000	-9,885.018
Trees	2.42 / 0	-268.6200	0.0000	0.0000	-268.6200
Wetlands	6.17 / 0	0.0000	0.0000	0.0000	0.0000
Total		**-10,955.9445**	**0.0000**	**0.0000**	**-10,955.9445**

11.2 Net New Trees

Species Class

	Number of Trees	Total CO2	CH4	N2O	CO2e
		MT			

Miscellaneous	15475	10,956.3000	0.0000	0.0000	10,956.3000
Total		**10,956.3000**	**0.0000**	**0.0000**	**10,956.3000**

APPENDIX B

CALEEMOD PRINTOUT: SOLAR REDUCTIONS WITH SCHOOLS

The Project design calls for the installation of mono-crystalline silicon cell photovoltaic solar modules (PV) throughout the project site. Conservative estimates by the Project's Solar Consultant show the Project would install 8,148 kilowatts (kW) of roof mounted fixed tilt PV and 4,000 kW of single axis tracking PV on the 20.8 gross acre Solar Farm site. The Project's Solar farm would install up to 217.39 kW per acre, which is equivalent to 621 panels rated at 350-watts each or 679 panels rated at 320-watts. The single axis tracking system would increase the energy production by mechanically moving the PV panels with the sun. Additionally, the Project would require power stations, inverters, AC switchgear and medium voltage transformers. The breakdown of the Project's proposed photovoltaic specifications was prepared with the assistance of the Project Solar Consultant and shown in Table XX below.

Table XX: Photovoltaic Energy Production by Land Use (With School)

QTY	Units	Land Use	System Size (kW)	Solar Annual Production (kWh)	kW/Unit	kWh per Unit	MT CO_2e / Unit	Total MT / Land Use (CO_2e)
1,279	Dwelling Unit	Low Density Residential	3,816	5,557,496	2.98	4,345.19	1.43	1,823
790	Dwelling Unit	Medium Density Residential	1,913	2,785,739	2.42	3,526.25	1.16	914
445	Dwelling Unit	Active Adults Homes	1,068	1,555,400	2.40	3,495.28	1.15	510
435	Dwelling Unit	Village Center Area	870	1,267,039	2.00	2,912.73	0.96	416
1	Parks and Schools	Parks and Schools	240	349,528	240.00	349,528.00	114.63	115
1	All other Commercial Loads	All other Commercial Loads	240	349,528	240.00	349,528.00	114.63	115
1	Special Use	Solar Farm	4,000	8,607,309	217.39	467,788.53	153.42	2,823
		Combined Total	**12,147**	**20,472,039**				**6,714**

Based on Table XX above, the Project's photovoltaic system would generate 20,472,039 kWh per year for the with school scenario. The total energy usage was analyzed within CalEEMod and was found offset 6,714 MT CO_2e. Similarly, the project was analyzed for the without school scenario and is shown in Table YY. Based on this scenario, the Project PV without School scenario would generate 20,378,877 kWh per year and would offset 6,683 MT CO_2e per year.

Table YY: Photovoltaic Energy Production by Land Use (Without School)

QTY	Units	Land Use	System Size (kW)	Solar Annual Production (kWh)	kW/Unit	kWh per Unit	MT CO_2e / Unit	Total MT / Land Use (CO_2e)
1,338	Dwelling Unit	Low Density Residential	3,992	5,813,862	2.98	4,345.19	1.43	1,907
790	Dwelling Unit	Medium Density Residential	1,913	2,785,739	2.42	3,526.25	1.16	914
445	Dwelling Unit	Active Adults Homes	1,068	1,555,400	2.40	3,495.28	1.15	510
435	Dwelling Unit	Village Center Area	870	1,267,039	2.00	2,912.73	0.96	416
1	Parks and Schools	Parks and Schools	-	-	0.00	-	0.00	0
1	All other Commercial Loads	All other Commercial Loads	240	349,528	240.00	349,528.00	114.63	115
1	Special Use	Solar Farm	4,000	8,607,309	217.39	467,788.53	153.42	2,823
		Combined Total	**12,083**	**20,378,877**		**831,595.99**	**272.73**	**6,683**

The system sizing has been verified based on similar fixed tilt systems installed within the United States as identified by the National Renewable Energy Laboratory (NREL, 2013)[1]. The study identified a term call "packing factor" which is a ratio between the actual solar footprint and the total footprint which includes spacing between modules, setbacks and area not directly used for solar. A 100 percent packing factor would represent complete coverage of solar panels with no spacing between arrays. Based on that study, projects typically achieve packing factors which ranged between 13 and 92 percent. Another way of looking at those projects would be the total number of kilowatts (kW) per acre. Projects with higher packing factors would have a higher number of panels or kilowatts per acre. For example sites with low packing factors generally have lower amounts of solar installed per acre such as the CALRENEW-1 project site which installed 133 kW per acre vs sites with a high packing factor such as the Canton Landfill project which installed 5.7 MW on a 12.8 acre site or 445 kW per acre (Southern Sky Renewable Energy, LLC, 2020)[1]. Given this, the proposed project could reasonably install up to 275 kW per acre according to the data provided by National Renewable Energy Laboratory's (NREL)[1] and based on typical panel spacing. Given this, the Project's proposed 217.39 kW system would be conservative.

[1] https://www.nrel.gov/docs/fy13osti/56290.pdf

[2] https://www.gemmapower.com/portfolio/canton-landfill-solar-energy-project/

Fanita Solar With School - San Diego County, Annual

Fanita Solar With School

San Diego County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1.00	User Defined Unit	1.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2030
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	720.49	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Project would install 12,148 KW of solar

Land Use - Ground Mount Solar

Construction Phase -

Off-road Equipment -

Off-road Equipment - zero hours

Trips and VMT - zero

Grading -

Architectural Coating -

Vehicle Trips -

Woodstoves -

Area Coating -

Landscape Equipment - zero

Energy Use -

Water And Wastewater -

Energy Mitigation - With School Scenario - Solar would generate 20,472,039 kWh per year.

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Parking	250	0
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	250	0
tblLandUse	LotAcreage	0.00	1.00
tblOffRoadEquipment	HorsePower	187.00	174.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	WorkerTripNumber	3.00	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					
2019	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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					
2019	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
		Highest		

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	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

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	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	-6,690.441	-6,690.441	-0.2693	-0.0557	-6,713.777
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**-6,690.4418**	**-6,690.4418**	**-0.2693**	**-0.0557**	**-6,713.7774**

	ROG	NOx	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**	**33,452,209,100.00**	**33,452,209,100.00**	**0.00**	**0.00**	**33,568,887,200.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	5/2/2019	5/2/2019	5	1	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	0.00	174	0.41

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	1	0.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

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-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Industrial	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
User Defined Industrial	0.616428	0.037185	0.177402	0.097684	0.012090	0.005279	0.017663	0.025476	0.001931	0.001677	0.005617	0.000785	0.000782

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Kilowatt Hours of Renewable Electricity Generated

	ROG	NOx	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	-6,690.4410	-6,690.4410	-0.2693	-0.0557	-6,713.7770
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	-2.0472e+0	-6,690.4418	-0.2693	-0.0557	-6,713.777
Total		**-6,690.4418**	**-0.2693**	**-0.0557**	**-6,713.7774**

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	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Unmitigated	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Total	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Total	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			

User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

APPENDIX B

CALEEMOD PRINTOUT: SOLAR REDUCTIONS WITHOUT SCHOOLS

The Project design calls for the installation of mono-crystalline silicon cell photovoltaic solar modules (PV) throughout the project site. Conservative estimates by the Project's Solar Consultant show the Project would install 8,148 kilowatts (kW) of roof mounted fixed tilt PV and 4,000 kW of single axis tracking PV on the 20.8 gross acre Solar Farm site. The Project's Solar farm would install up to 217.39 kW per acre, which is equivalent to 621 panels rated at 350-watts each or 679 panels rated at 320-watts. The single axis tracking system would increase the energy production by mechanically moving the PV panels with the sun. Additionally, the Project would require power stations, inverters, AC switchgear and medium voltage transformers. The breakdown of the Project's proposed photovoltaic specifications was prepared with the assistance of the Project Solar Consultant and shown in Table XX below.

Table XX: Photovoltaic Energy Production by Land Use (With School)

QTY	Units	Land Use	System Size (kW)	Solar Annual Production (kWh)	kW/Unit	kWh per Unit	MT CO_2e / Unit	Total MT / Land Use (CO_2e)
1,279	Dwelling Unit	Low Density Residential	3,816	5,557,496	2.98	4,345.19	1.43	1,823
790	Dwelling Unit	Medium Density Residential	1,913	2,785,739	2.42	3,526.25	1.16	914
445	Dwelling Unit	Active Adults Homes	1,068	1,555,400	2.40	3,495.28	1.15	510
435	Dwelling Unit	Village Center Area	870	1,267,039	2.00	2,912.73	0.96	416
1	Parks and Schools	Parks and Schools	240	349,528	240.00	349,528.00	114.63	115
1	All other Commercial Loads	All other Commercial Loads	240	349,528	240.00	349,528.00	114.63	115
1	Special Use	Solar Farm	4,000	8,607,309	217.39	467,788.53	153.42	2,823
		Combined Total	**12,147**	**20,472,039**				**6,714**

Based on Table XX above, the Project's photovoltaic system would generate 20,472,039 kWh per year for the with school scenario. The total energy usage was analyzed within CalEEMod and was found offset 6,714 MT CO_2e. Similarly, the project was analyzed for the without school scenario and is shown in Table YY. Based on this scenario, the Project PV without School scenario would generate 20,378,877 kWh per year and would offset 6,683 MT CO_2e per year.

Table YY: Photovoltaic Energy Production by Land Use (Without School)

QTY	Units	Land Use	System Size (kW)	Solar Annual Production (kWh)	kW/Unit	kWh per Unit	MT CO_2e / Unit	Total MT / Land Use (CO_2e)
1,338	Dwelling Unit	Low Density Residential	3,992	5,813,862	2.98	4,345.19	1.43	1,907
790	Dwelling Unit	Medium Density Residential	1,913	2,785,739	2.42	3,526.25	1.16	914
445	Dwelling Unit	Active Adults Homes	1,068	1,555,400	2.40	3,495.28	1.15	510
435	Dwelling Unit	Village Center Area	870	1,267,039	2.00	2,912.73	0.96	416
1	Parks and Schools	Parks and Schools	-	-	0.00	-	0.00	0
1	All other Commercial Loads	All other Commercial Loads	240	349,528	240.00	349,528.00	114.63	115
1	Special Use	Solar Farm	4,000	8,607,309	217.39	467,788.53	153.42	2,823
		Combined Total	**12,083**	**20,378,877**		**831,595.99**	**272.73**	**6,683**

The system sizing has been verified based on similar fixed tilt systems installed within the United States as identified by the National Renewable Energy Laboratory (NREL, 2013)[1]. The study identified a term call "packing factor" which is a ratio between the actual solar footprint and the total footprint which includes spacing between modules, setbacks and area not directly used for solar. A 100 percent packing factor would represent complete coverage of solar panels with no spacing between arrays. Based on that study, projects typically achieve packing factors which ranged between 13 and 92 percent. Another way of looking at those projects would be the total number of kilowatts (kW) per acre. Projects with higher packing factors would have a higher number of panels or kilowatts per acre. For example sites with low packing factors generally have lower amounts of solar installed per acre such as the CALRENEW-1 project site which installed 133 kW per acre vs sites with a high packing factor such as the Canton Landfill project which installed 5.7 MW on a 12.8 acre site or 445 kW per acre (Southern Sky Renewable Energy, LLC, 2020)[1]. Given this, the proposed project could reasonably install up to 275 kW per acre according to the data provided by National Renewable Energy Laboratory's (NREL)[1] and based on typical panel spacing. Given this, the Project's proposed 217.39 kW system would be conservative.

[1] https://www.nrel.gov/docs/fy13osti/56290.pdf

[2] https://www.gemmapower.com/portfolio/canton-landfill-solar-energy-project/

Fanita Solar Without School

San Diego County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1.00	User Defined Unit	1.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2030
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	720.49	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Project would install 12,083 KW of solar

Land Use - Ground Mount Solar

Construction Phase -

Off-road Equipment -

Off-road Equipment - zero hours

Trips and VMT - zero

Grading -

Architectural Coating -

Vehicle Trips -

Woodstoves -

Area Coating -

Landscape Equipment - zero

Energy Use -

Water And Wastewater -

Energy Mitigation - With School Scenario - Solar would generate 20,378,877 kWh per year.

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Parking	250	0
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	250	0
tblLandUse	LotAcreage	0.00	1.00
tblOffRoadEquipment	HorsePower	187.00	174.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	WorkerTripNumber	3.00	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					
2019	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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					
2019	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
		Highest		

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	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

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	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	-6,659.995	-6,659.995	-0.2681	-0.0555	-6,683.225
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**-6,659.9956**	**-6,659.9956**	**-0.2681**	**-0.0555**	**-6,683.2251**

	ROG	NOx	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**	**33,299,978,300.00**	**33,299,978,300.00**	**0.00**	**0.00**	**33,416,125,400.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	5/2/2019	5/2/2019	5	1	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	0.00	174	0.41

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	1	0.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

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-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Industrial	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
User Defined Industrial	0.616428	0.037185	0.177402	0.097684	0.012090	0.005279	0.017663	0.025476	0.001931	0.001677	0.005617	0.000785	0.000782

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Kilowatt Hours of Renewable Electricity Generated

	ROG	NOx	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	-6,659.9953	-6,659.9953	-0.2681	-0.0555	-6,683.2251
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	-2.03789e+	-6,659.9957	-0.2681	-0.0555	-6,683.225
Total		**-6,659.9957**	**-0.2681**	**-0.0555**	**-6,683.2251**

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	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Unmitigated	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Total	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Total	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			

User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation