Chinese Bible Church
Global Climate Change Analysis

Case Number: MPA08-108

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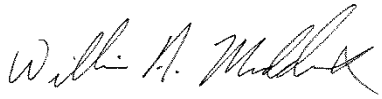

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GLOSSARY OF TERMS

° F	degrees Fahrenheit
AB	Assembly Bill
AMSL	above mean sea level
AWWA	American Water Works Association
BAU	business as usual
CAFE	Corporate Average Fuel Economy Standards
CalEEMod	California Emissions Estimator Model
CalEPA	California Environmental Protection Agency
CALGreen	California Green Building Standards Code
CalRecycle	California Department of Resources Recycling and Recovery
CAP	Climate Action Plan
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CBC	California Building Code
CCR	California Code of Regulations
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CF	Fluorocarbon
CH_4	Methane
CO_2	Carbon dioxide
CO_2e	Equivalent Carbon Dioxide
County	County of San Diego
CPUC	California Public Utilities Commission
CTR	commute trip reduction
EO	Executive Order
GDP	gross domestic product
GHG	Greenhouse gas
GWP	Global warming potential
HVAC	Heating, Ventilating, and Air Conditioning
HFC	hydrofluorocarbons
I-15	Interstate 15
IPCC	Intergovernmental Panel on Climate Change
kWh	kilowatt per hour
LCFS	Low Carbon Fuel Standard
LEED	Leadership in Energy and Environmental Design
LEV	Low Emission Vehicle
mpg	miles per gallon
MT CO_2e	metric ton CO_2 equivalent
MPO	Metro Planning Organization
MW	Megawatt
NF_3	Nitrogen trifluoride
N_2O	Nitrous oxide
PFC	perfluorocarbons
RPS	Renewable Portfolio Standard
RTP	regional transportation plan
SANDAG	San Diego Association of Governments
SB	Senate Bill
SCAQMD	South Coast Air Quality Management District l
SCS	Sustainable Communities Strategy

SDG&E	San Diego Gas & Electric
SF_6	sulfur hexafluoride
Title 24	California Code of Regulations, Title 24, Part 6, California Energy Efficiency Standards for Residential and Nonresidential Buildings
VMT	Vehicle miles traveled
UNEP	United Nations Environment Program
UNFCCC	United Nations Framework Convention on Climate Change
U.S. EPA	United States Environmental Protection Agency

EXECUTIVE SUMMARY

The applicant, Chinese Bible Church San Diego, proposes the Chinese Bible Church Project ("Project" or "proposed project"), which entails construction of a new facility at 16919 Four Gee Road in the County of San Diego, California. The facility would accommodate the church's existing congregation that attends mass at an existing facility at 12335 World Trade Drive. The facility would include a 43,500-square-foot sanctuary and administration building, a 12,934-square-foot Christian Education Building, a 5,932-square-foot Religious Meeting Building, a 13,812-square-foot Fellowship Hall, and a 13,056-square-foot Fellowship Learning Center. The proposed project would be designed and constructed with the goal of obtaining LEED certification. To achieve this, the proposed project would include several sustainable project design features such as rooftop solar photovoltaic panels to offset 10 percent of project energy demand, use of building materials that reflect light and reduce the heat island effect, installation of xeriscape landscaping, a voluntary commute trip reduction program to promote carpooling and transit, online access to worship services, and use of all-electric landscaping equipment.

This report evaluates the potential global climate change impacts associated with the proposed project. An assessment was made to estimate the total greenhouse gas (GHG) emissions that would be emitted as a result of construction and operation of the proposed project given its GHG reducing design features. The construction sources of GHG emissions that were calculated included: heavy construction equipment, worker vehicle miles traveled, and water use. The calculated operational sources of GHG emissions sources included energy, transportation, and solid waste. The proposed project would result in the equivalent annual emission of 885 metric tons (MT) of carbon dioxide equivalent (CO_2e) in 2020.

The County of San Diego (County) has not adopted a threshold of significance for general use as part of its environmental review process. This analysis assesses the proposed project's GHG emissions based on the 900 MT CO_2e threshold identified by the California Air Pollution Control Officers Association (CAPCOA). The 900 MT CO_2e threshold is a screening threshold to determine project emissions with potential to impact the environment or achievement of state GHG reduction target identified by Executive Order (EO) S-3-05 and codified by Assembly Bill (AB) 32. As the project's annual emissions do not exceed 900 MT CO_2e, impacts would be less than cumulatively considerable. Additionally, the project would be consistent with all applicable policies from the County's General Plan Open Space and Conservation Element. Therefore, the project would not conflict with any applicable plans, policies or regulations adopted for the purpose of reducing GHG emissions. Impacts to global climate change would be less than significant.

1.0 INTRODUCTION AND PROJECT DESCRIPTION

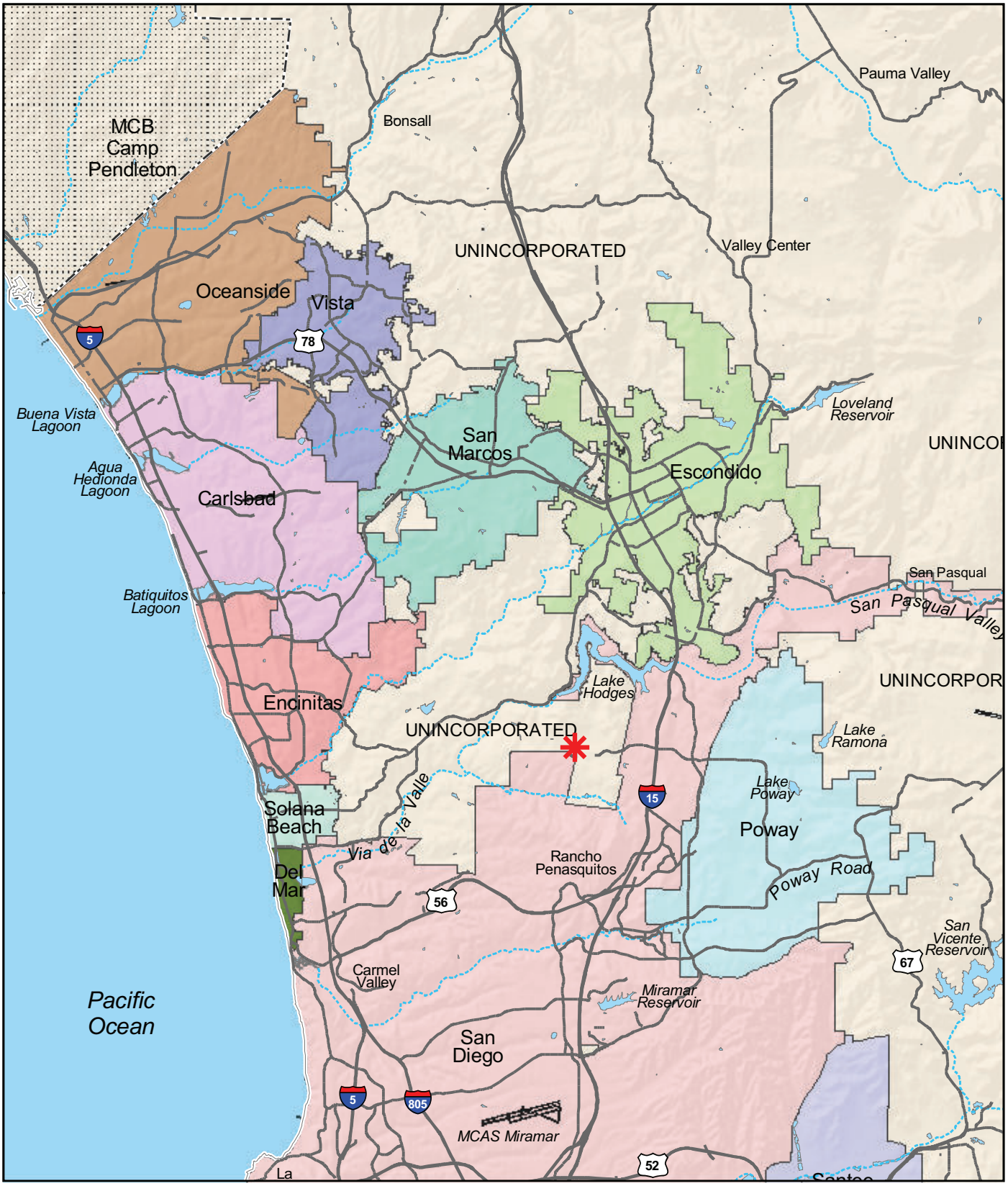
This report evaluates the significance of the Chinese Bible Church Project's ("project" or "proposed project") contribution of greenhouse gas (GHG) emissions to statewide GHG emissions. To evaluate the incremental effect of the proposed project on global climate change it is important to have a basic understanding of the nature of the global climate change problem.

1.1 Project Location and Description

The project site is located at 16919 Four Gee Road in the County of San Diego, California. The project site is within the San Dieguito community plan area. Generally, the project site is west of Interstate 15 (I-15) and north of Camino Del Sur Road; with residential development to the south and east and open space to the north and west. Figure 1 shows the regional location of the proposed project. Figure 2 shows the project boundary plotted on an aerial photograph of the project vicinity. The proposed project entails construction of a sanctuary and administration building, a Christian Education Building, a Religious Meeting Building, a Fellowship Hall, and a Fellowship Learning Center. Construction of the project would occur in two phases. Figure 3 shows the site plan for the proposed project. Table 1 details the development summary at full project buildout.

Table 1
Development Summary

Building	Use	Building Size (square feet)
Phase 1		*65,410*
A	Sanctuary and Administration	32,732
B	Christian Education	12,934
C	Religious Meeting Building	5,932
D	Fellowship Hall	13,812
Phase 2		*23,824*
A	Sanctuary and Administration	10,768
E	Fellowship Learning Center	13,056
TOTAL		**89,234**



Project Location

FIGURE 1

Regional Location

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Image source: SanGIS (flown May 2012)

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Project Area

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FIGURE 2

Project Location on Aerial Photograph

Map Source: Sillman Wright Architects

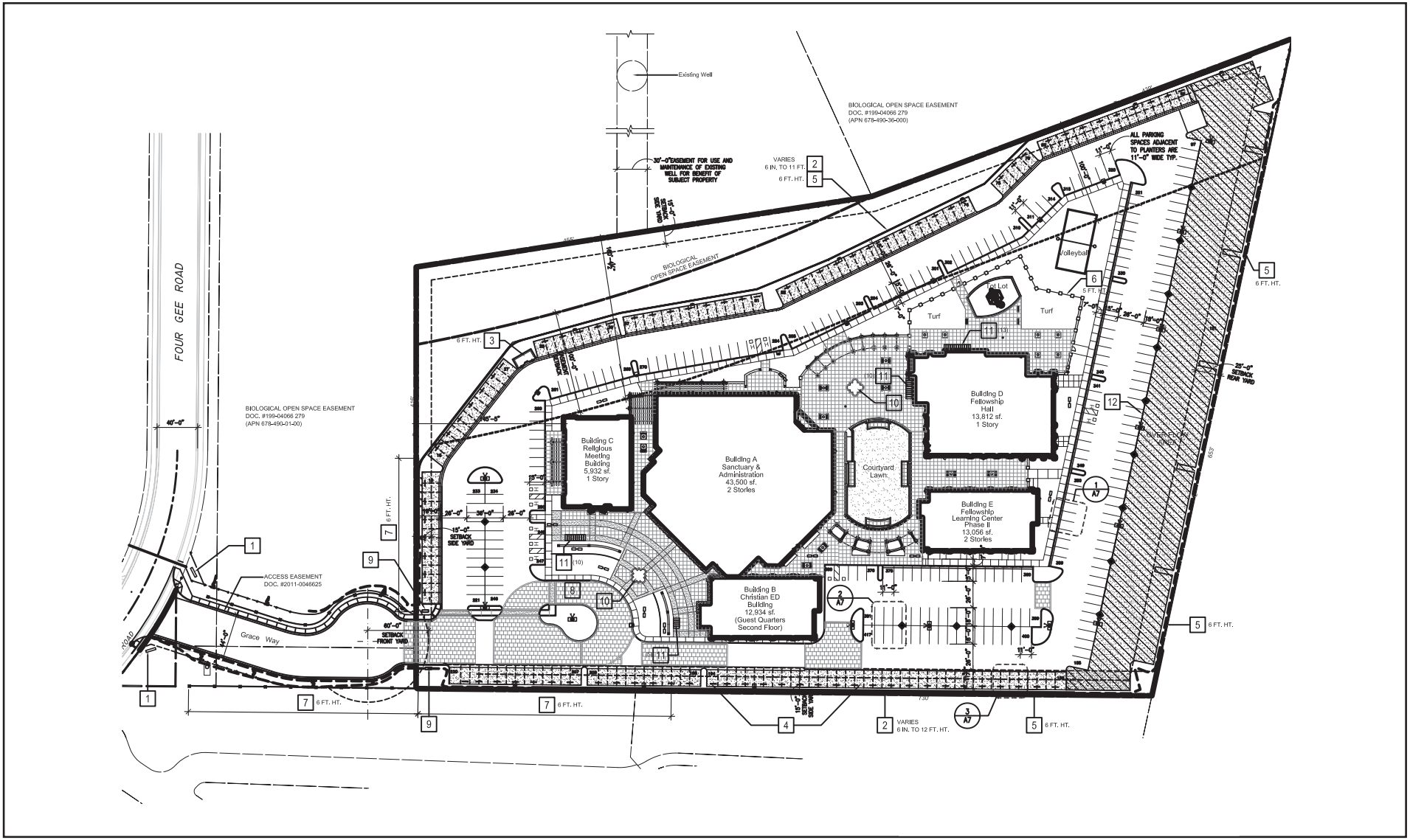

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FIGURE 3
Proposed Site Plan

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1.2 Regulations Requirements and Design Features that Reduce GHG Emissions

1.2.1 Regulatory Requirements

The proposed project would be required to comply with the following regulations for the reduction of GHG emissions:

- 2016 Title 24 Energy Code
  - Energy Code requires various building energy efficiency improvements.

- 2013 CALGreen Building Code, which requires:
  - CALGreen requires reduction of indoor potable water use by 20 percent.

- County of San Diego Municipal Code
  - The Municipal Code Sections 68.511 through 68.520 require preparation of a Construction Debris Management Plan that outlines how the project will divert 90 percent of inert debris and 70 percent of all other construction debris.

1.2.2 Sustainable Project Design Features

The proposed project has been designed with a goal to comply with criteria established in the Leadership in Energy & Environmental Design (LEED) rating system. LEED is an internationally recognized green building certification system, providing third-party verification that a building was designed and built using strategies aimed at improving building siting and orientation, energy savings, water efficiency, waste reduction, use of recycled and sustainable building materials, non-toxic building and surfacing materials, and incorporation of other innovative features such as green roofs and on-site energy generation. These strategies also serve to reduce GHG emissions.

LEED was developed by the U.S. Green Building Council and provides building owners and operators a concise framework for identifying and implementing practical and measurable green building design, construction, operation, and maintenance. Projects applying for LEED certification are awarded points that are distributed across major categories such as sustainable sites, water efficiency, energy and atmosphere, materials and resources, and indoor environmental quality. Depending on the number of points earned, projects can be classified as Certified, Silver, Gold, or Platinum.

The proposed project would be designed and constructed with the goal of obtaining LEED certification. To achieve this, the proposed project is implementing the following project design features:

PDF-1. The proposed project would incorporate rooftop solar photovoltaic panels to offset a portion of its energy demand. Solar photovoltaic panels would be designed to achieve a 10 percent offset of project energy demand. This equates to 84,027 kilowatt-hours (kWh) per year.

PDF-2. The proposed project would use lighter colored pavers in large areas of the parking lot to reduce heat absorption and radiating heat compared to normal asphalt paving.

PDF-3. The proposed project would use lighter decomposed granite in large areas of the parking lot to reduce heat absorption and radiating heat compared to normal asphalt paving.

PDF-4. The proposed project would plant large canopy trees in the parking lot, the entry street, open space, and around buildings to reduce heat absorption, radiant heat, consume CO_2, and produce oxygen to minimize heat island effect.

PDF-5. The proposed project would include several outdoor water reduction measures including xeriscape planting and installing weather- or soil moisture-based automatic irrigation system controllers and provision of outdoor water from an existing on-site well. These features are estimated to achieve at least a 25 percent reduction in outdoor water use.

PDF-6. The proposed project would incorporate cool roof technologies on all buildings which utilize light-colored, reflective roofing materials to significantly reduce heat absorption.

PDF-7. The proposed project would install U.S. Environmental Protection Agency's (U.S. EPA's) Energy Star-rated appliances in all kitchens.

PDF-8. The proposed project would install high energy efficient Heating, Ventilating, and Air Conditioning (HVAC) rooftop units.

PDF-9. The proposed project would minimize site lighting to only that necessary for security, safety, and identification. The proposed project would increase the use of low-voltage lighting and equipment.

PDF-10. The proposed project has been located more centrally for existing and future congregation members to reduce commute times compared to current congregation experiences. This would reduce the amount of ongoing transportation fuel consumption and GHG production by allowing for shorter trips to the church location during operation.

PDF-11. The proposed project would implement a voluntary commute trip reduction (CTR) program with parishioners to discourage single-occupancy vehicle trips and encourage alternative modes of transportation such as carpooling, taking transit, walking, and biking.

PDF-12. The proposed project would provide online access to worship services for teleworshipping.

PDF-13. The proposed project would use a landscape service that provides certification that only electric equipment would be used for landscaping.

1.3 Understanding Global Climate Change

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

GHGs influence the amount of heat that is trapped in the earth's atmosphere and thus play a critical role in determining the earth's surface temperature. Outgoing infrared radiation is absorbed by GHGs, resulting in a warming of the atmosphere. This phenomenon, known as the "greenhouse effect," is responsible for maintaining a habitable climate on earth. With the Industrial Revolution came an increase in the combustion of carbon-based fuels such as wood, coal, oil, and biofuels, as well as the creation of GHG-emitting substances not found in nature. Such human activities have increased atmospheric GHG levels in excess of natural ambient concentrations. This has led to a trend of unnatural warming of the earth's atmosphere and oceans, with corresponding effects on global circulation patterns and climate.

1.4 Greenhouse Gases of Primary Concern

There are numerous GHGs, both naturally occurring (i.e., biogenic) and artificial (i.e., anthropogenic). Table 2 summarizes some of the most common. Each GHG has a variable atmospheric lifetime and global warming potential (GWP).

Table 2 Global Warming Potentials and Atmospheric Lifetimes			
Gas	Atmospheric Lifetime (years)	100-year GWP	20-year GWP
Carbon dioxide (CO_2)	50–200	1	1
Methane (CH_4)*	12.4	28	84
Nitrous oxide (N_2O)	121	265	264
HFC-23	222	12,400	10,800
HFC-32	5.2	677	2,430
HFC-125	28.2	3,170	6,090
HFC-134a	13.4	1,300	3,710
HFC-143a	47.1	4,800	6,940
HFC-152a	1.5	138	506
HFC-227ea	38.9	3,350	5,360
HFC-236fa	242	8,060	6,940
HFC-43-10mee	16.1	1,650	4,310
CF_4	50,000	6,630	4,880
C_2F_6	10,000	11,100	8,210
C_3F_8	2,600	8,900	6,640
C_4F_{10}	2,600	9,200	6,870
c-C_4F_8	3,200	9,540	7,110
C_5F_{12}	4,100	8,550	6,350
C_6F_{14}	3,100	7,910	5,890
SF_6	3,200	23,500	17,500
SOURCE: Intergovernmental Panel on Climate Change (IPCC) 2014. GWP = Global warming potential			

The atmospheric lifetime of a GHG is the average time the molecule stays stable in the atmosphere. Most GHGs have long atmospheric lifetimes, staying in the atmosphere hundreds or thousands of years. The potential of a gas to trap heat and warm the atmosphere is measured by its GWP. The reference gas for establishing GWP is carbon dioxide, which—as shown in Table 1—consequently has a GWP of 1. As an example, methane, while having a shorter atmospheric lifetime than carbon dioxide, has a 100-year GWP of 28, which means that it has a greater global warming effect than carbon dioxide on a molecule-by-molecule basis. For purposes of reporting GHG emissions, all GHGs are converted to a common factor and reported as carbon dioxide equivalent (CO_2e).

Although there are dozens of GHGs, state law defines GHGs as the following seven compounds: carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF_6), and nitrogen trifluoride (NF_3). Of these gases, CO_2, CH_4, and N_2O are produced by both biogenic and anthropogenic sources, and are the GHGs of primary concern in this analysis. The remaining gases occur as the result of industrial processes, such as refrigeration, aluminum production, semiconductor manufacture, and insulation in electric power transmission and distribution equipment, and are not of primary concern to this analysis.

1.5 Sources of GHG Emissions

The main sources of GHG emissions and the major sectors identified for emissions reductions strategies by the California Air Resources Board (CARB) include transportation, electric power, residential, commercial, industrial land uses, recycling and waste, high global warming potential sources, agriculture, and forestry. Two of these GHG emission sectors account for the majority of GHG emissions generated within California: transportation and electric power.

The transportation sector includes the GHG emissions associated with on-road vehicles, off-road vehicles, aviation, ships, and rail. GHG emissions from on-road and off-road vehicles are generated from the engines' combustion of fossil fuels and thus are typically estimated based on fuel type, fuel quantity consumed, and vehicle miles traveled (VMT). CO_2 emissions account for the majority of GHG emissions from mobile sources and are directly related to the quantity of fuel combusted, while CH_4 and N_2O emissions depend more on the emissions-control technologies employed in the vehicle and distance traveled.

Emissions from the electric power sector, as measured statewide, represent the GHG emissions associated with use and production of electrical energy, including electricity generated out of state. Electricity use is associated with fulfilling commercial, residential and industrial energy needs, as well as with collecting, treating, storing, and distributing water, wastewater, and solid waste.

Direct GHG emissions from the commercial and residential sector include area sources such as landscape maintenance equipment, fireplaces, and natural gas consumption for space and water heating. Indirect GHG emissions are also generated off-site at electricity-generating plants to meet commercial and residential electricity demand for heating, cooling, ventilating, lighting, and appliance needs. At the state level, these indirect electricity emissions are counted in the electric power sector. At the project-level, both the electricity and natural gas needs of a project are counted in the operational emissions estimates.

GHG emissions associated with industrial land uses, such as manufacturing plants and refineries, are predominantly comprised of stationary sources (e.g., boilers and engines) associated with industrial processes.

The recycling and waste sector represents the GHG emissions associated with operations at waste management facilities and landfills. GHG emissions are generated from solid waste disposal (including emissions associated with anaerobic and aerobic decomposition that primarily produce CH_4 and CO_2 emissions, respectively) and alternative daily cover (i.e., organic material used to cover waste piles, which also decompose and generate GHG emissions).

Examples of high global warming potential GHG sources include refrigerants (e.g., HFCs), industrial gases (e.g., PFCs and NF_3), and electrical insulation (e.g., SF_6). Although these GHGs are typically generated in much smaller quantities than CO_2, their high GWP results in considerable CO_2e statewide.

The agriculture sector represents the GHG emissions associated with agricultural processes as generated through the use of off-road farm equipment, irrigation pumps, residue burning, livestock, and fertilizer volatilization.

GHG emissions associated with the forestry sector include emissions from forest and rangeland fires and other disturbances such as pest damage, timber harvesting, wood waste decomposition, and other sources. CARB also tracks sinks or sequestration (i.e., the removal of CO_2) associated with forestry.

1.6 Potential Climate Change Impacts

The increase in the earth's temperature is expected to have wide-ranging effects on the environment. Although global climate change is anticipated to affect all areas of the globe, there are numerous implications of direct importance to California. Statewide average temperatures are anticipated to increase by between 3 and 10.5 degrees Fahrenheit (°F) by 2100 (California Climate Change Center 2006). Some climate models indicate that this warming may be greater in the summer than in the winter. This could result in widespread adverse impacts to ecosystem health, agricultural production, water use and supply, and energy demand. Increased temperatures could reduce the Sierra Nevada snowpack and put additional strain on the region's water supply. In addition, increased temperatures would be conducive to the formation of air pollutants resulting in poor air quality.

The anticipated consequences of global climate change have the potential to result in adverse impacts to the proposed project. Future patrons of the proposed project could be exposed to increased risk of dehydration, heat stroke, heat exhaustion, heart attack, stroke, and respiratory disease. However, these risks would be no different from those experienced by the San Diego region as a whole. Increased temperatures would result in more frequent use of air conditioning that would increase energy costs and that could put a strain on the area's energy supplies. Because the proposed project is located inland well above sea level, no impacts related to sea level rise are anticipated.

It is also important to note that even if GHG emissions were to be eliminated or dramatically reduced, due to the lifespan of GHGs in the atmosphere it is projected that the effect of those emissions would continue to affect global climate for centuries.

2.0 ENVIRONMENTAL SETTING

2.1 State and Local GHG Inventories

2.1.1 Statewide GHG Emissions

The CARB performs statewide GHG inventories. The inventory is divided into nine broad sectors of economic activity: agriculture, commercial, electricity generation, forestry, high GWP emitters, industrial, recycling and waste, residential, and transportation. Emissions are quantified in million MT CO_2e. Table 3 shows the estimated statewide GHG emissions for the years 1990, 2005, and 2014.

Table 3
California GHG Emissions by Sector in 1990, 2008, and 2014

Sector	1990 Emissions in million MT CO_2e (% total)[1,2]	2005 Emissions in million MT CO_2e (% total)[2,3,4]	2014 Emissions in million MT CO_2e (% total)[2,3,4]
Sources			
Agriculture	23.4 (5%)	34.45 (7%)	36.11 (8%)
Commercial	14.4 (3%)	14.27 (3%)	14.61 (3%)
Electricity Generation	110.6 (26%)	107.85 (22%)	88.24 (20%)
High GWP	--	7.70 (2%)	17.15 (4%)
Industrial	103.0 (24%)	95.41 (20%)	93.32 (21%)
Recycling and Waste	--	7.94 (2%)	8.85 (2%)
Residential	29.7 (7%)	27.98 (6%)	23.73 (5%)
Transportation	150.7 (35%)	184.21 (38%)	159.53 (36%)
Forestry (Net CO_2 flux)[5]	-6.5	--	--
Not Specified	1.3	--	--
TOTAL	**426.6**	**479.81**	**441.54**

SOURCE: CARB 2007 and 2016.
Million MT CO_2e = million metric tons of CO_2 equivalent
[1] 1990 data was retrieved from the CARB 2007 source.
[2] Quantities and percentages may not total properly due to rounding.
[3] 2005 and 2014 data were retrieved from the CARB 2016 source.
[4] Reported emissions for key sectors. The inventory totals for 2005 and 2014 did not include Forestry or Not Specified sources.

As shown in Table 3, statewide GHG source emissions totaled about 427 million MT CO_2e in 1990, 480 million MT CO_2e in 2005, and 442 million MT CO_2e in 2014. Many factors affect year-to-year changes in GHG emissions, including economic activity, demographic influences, environmental conditions such as drought, and the impact of regulatory efforts to control GHG emissions. However, transportation-related emissions consistently contribute the most GHG emissions, followed by electricity generation and industrial emissions.

2.1.2 San Diego Countywide GHG Emissions

A San Diego County regional emissions inventory was prepared by the University of San Diego School of Law, Energy Policy Initiative Center that took into account the unique characteristics of the region. Their 2010 emissions inventory for San Diego is duplicated in Table 4. The

sectors included in this inventory are somewhat different from those in the statewide inventory, which is based on the 2008 Scoping Plan categories.

Table 4
San Diego County GHG Emissions By Sector in 2010

Sector	2010 Emissions in million MT CO_2e (% total)[1]	
Agriculture/Forestry/Land Use	0.05	0.2%
Waste	0.6	1.8%
Electricity	8.3	25.0%
Natural Gas Consumption	2.9	8.7%
Industrial Processes & Products	1.8	5.4%
On-Road Transportation	14.4	43.4%
Off-Road Equipment and Vehicles	1.4	4.2%
Civil Aviation	1.9	5.7%
Rail	0.32	1.0%
Water-Borne Navigation	0.1	0.3%
Other Fuels/Other	1.58	4.8%
Land Use Wildfires	0.28	0.8%
Development (Loss of Vegetation)	0.18	0.5%
Sequestration	-0.66	-0.5%
TOTAL	**33.15**	

SOURCE: University of San Diego 2013.
[1]Percentages may not total 100 due to rounding.

Similar to the statewide emissions, transportation-related GHG emissions contributed the most countywide, followed by emissions associated with energy use. Transportation accounts for a higher proportion of GHG emissions in San Diego compared to the state, while electricity-related emissions represent the same proportion relative to the state as a whole. Industrial and agricultural emissions are substantially less represented in San Diego County compared to the state.

2.2 Surrounding Area, Existing Land Use, and Emissions

2.2.1 Surrounding Area

The project site is within the Santa Fe Valley Specific Plan area, in the San Dieguito Community Plan Area. The site is north of the City of San Diego Future Urbanizing Area (Black Mountain Ranch), south of the Del Dios Highway and Lake Hodges, and west of the 4S Ranch Specific Plan. Access would be provided via an extension of the existing driveway, for which the applicant has obtained an easement. The access road would be directly across from the main entrance to the fire station. Within the immediate vicinity, there is residential development to the south and east, biological open space to the west, and an open space wetland preserve to the north.

2.2.2 On-site Land Use and Physical Characteristics

The topography of the project site consists of a low hill on the western half of the site. A drainage that gently slopes to the east and north occupies the eastern half of the site. Elevations on the property range between approximately 490 feet above mean sea level (AMSL) and 620 feet AMSL. A large, unnamed east–west-trending marshy drainage runs along the northern edge of the property. This drainage eventually connects to the San Dieguito River approximately 1.7 miles to the north–northwest. The hill is occupied by two houses and two garages, with scattered ornamental landscaping.

2.3 On-Site GHG Inventory

Current sources of on-site GHG emissions are associated with the vehicle use, energy use, water use, area sources (landscaping and other equipment use), and waste disposal practices with the existing two houses. Existing GHG emissions associated with the existing uses were calculated using the California Emissions Estimator Model (CalEEMod) Version 2013.2.2, and the results are summarized in Table 5. For complete CalEEMod outputs refer to Attachment 1.

Table 5
Existing (2017) GHG Emissions

Emission Source	Existing Emissions (MT CO_2e)
Vehicles	22.8
Energy Use	8.0
Area Sources	3.0
Water Use	1.1
Solid Waste Disposal	1.0
TOTAL	**36.0**

As shown in Table 5, total GHG emissions from existing uses are estimated to be approximately 36.0 MT CO_2e.

3.0 REGULATORY SETTING

An increase in the earth's temperature is expected to have wide-ranging effects on social and natural environments all over the globe, with numerous implications of direct importance to the U.S. and California. Hence, a number of international, national, and state plans and regulations have been developed to address climate change issues.

3.1 International Climate Change Policies

3.1.1 Intergovernmental Panel on Climate Change

In response to growing concern about pollutants in the upper atmosphere and the potential problem of climate change, the World Meteorological Organization and the United Nations Environment Programme (UNEP) established the Intergovernmental Panel on Climate Change (IPCC) in 1988. The IPCC was tasked with assessing the scientific, technical, and socioeconomic information relevant to understanding the scientific basis for human-induced climate change, its potential impacts, and options for adaptation and mitigation. IPCC reports provide scientific consensus on measurable changes to the climate; establish that these changes are caused by human activity; and identify that significant adverse impacts on the environment, the economy, and human health and welfare are unavoidable. As a member of the UNEP, the U.S. is a participant in the IPCC.

3.1.2 United Nations Framework Convention on Climate Change

In 1994, the United States joined a number of other nations in signing an international treaty known as the United Nations Framework Convention on Climate Change (UNFCCC). The UNFCCC recognized that the global climate is a shared resource that can be affected by industrial and other emissions of GHGs, and set an overall framework for intergovernmental efforts to tackle the challenges posed by global climate change. Under this treaty, governments agree to gather and share information on GHG emissions, national policies, and best practices; launch national strategies for addressing GHG emissions and adapting to expected impacts; and cooperate with other nations in preparing for adaptation to the impacts of climate change (UNFCCC 2007).

3.1.2.1 Kyoto Protocol

The Kyoto Protocol entered into force in 2005; it is an international agreement that extends the 1992 UNFCCC. The Kyoto Protocol recognizes that developed countries are principally responsible for the current high levels of GHG emissions in the atmosphere as a result of more than 150 years of industrial activity. The objective of the Protocol is to stabilize the concentration of GHGs in the atmosphere "at a level that would prevent dangerous antropogenic interference with the climate system". The Protocol is intended to set up internationally binding emission reduction targets.

3.1.2.2 Paris Agreement

The Paris Agreement is an international agreement that extends the 1992 UNFCCC. The agreement was adopted in December 2015 and entered into force in November 2016, when 55 countries that produce at least 55 percent of the world's GHG emissions ratified the agreement; as of January 2017, 125 of 197 parties have ratified the agreement (UNFCCC 2017). The objective of the agreement is to strengthen the global response to the threat of climate change by keeping a global temperature rise this century well below 2 degrees Celsius above pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5 degrees Celsius. The agreement requires all parties to put forward their best efforts through "nationally determined contributions" and to strengthen these efforts in the years ahead.

3.2 Federal Greenhouse Gas Legislation

3.2.1 GHG Emissions Intensity Reduction Programs

Towards the effort to reduce GHG emissions, in February 2002, the U.S. set a goal to reduce its GHG emissions intensity, which is the ratio of GHG emissions to economic output. In 2002, the U.S. GHG Emissions Intensity was 183 metric tons per million dollars of gross domestic product (GDP; U.S. EPA 2007). The goal established in February 2002 was to reduce this GHG emissions intensity by 18 percent by 2012 through various GHG reduction programs. One of these programs includes the Energy Star program that was first established in 1992 by the U.S. EPA and became a joint program with the U.S. Department of Energy in 1996. Energy Star is a program that labels energy efficient products with the Energy Star label. Energy Star enables consumers to choose energy-efficient and cost-saving products, with up to 30 percent energy savings over conventional appliances such as refrigerators, dishwashers, clothes washers, and fans. Another key federal GHG reduction program is the Green Power Partnership program that establishes partnerships between the U.S. EPA, and companies and organizations that have bought or are considering buying green power (i.e., power generated from renewable energy sources). The U.S. EPA offers recognition and promotion to organizations that replace electricity consumption with green power.

3.2.2 U.S. EPA Authority to Regulate GHGs

On April 2, 2007, in Massachusetts v. EPA; Case *549 U.S. 497* (2007), the U.S Supreme Court ruled that CO_2 is an air pollutant as defined under the Clean Air Act, and that the U.S. EPA has the authority to regulate GHG emissions.

3.2.3 Corporate Average Fuel Economy

The federal Corporate Average Fuel Economy (CAFE) standards determine the fuel efficiency of certain vehicle classes in the U.S. While the standards had not changed since 1990, as a part of the Energy and Security Act of 2007, the CAFE standards were increased for new light-duty vehicles to achieve the equivalent of 35 miles per gallon (mpg) by 2020. In October 2012, the U.S. EPA and National Highway Traffic Safety Administration issued a final rule for new light-

duty vehicles for model years 2017 to 2025 to achieve an equivalent of 54.5 mpg. With improved gas mileage, fewer gallons of transportation fuel would be combusted to travel the same distance, thereby reducing nationwide GHG emissions associated with vehicle travel.

3.3 State of California Greenhouse Gas Regulations

The State of California has passed a number of policies and regulations that are either directly or indirectly related to GHG emissions. Only those most relevant to land use development projects are included in this discussion.

3.3.1 Executive Order S-3-05

Executive Order (EO) S-3-05 proclaims that California is vulnerable to the impacts of climate change, including increased temperatures that could reduce the Sierra Nevada's snowpack, further exacerbate California's air quality problems, and potentially cause a rise in sea levels. To combat those concerns, it established the following GHG emission reduction targets for the state of California:

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

This EO also directed the secretary of the California EPA (CalEPA) to oversee the efforts made to reach these targets, and to prepare biannual reports on the progress made toward meeting the targets and on the impacts to California related to global warming. The first such Climate Action Team Assessment Report was produced in March 2006 and has been updated every two years thereafter.

Of note, in adopting Assembly Bill (AB) 32, discussed below, the Legislature did not adopt the 2050 horizon-year goal from the EO; and, in the last legislative session, the Legislature rejected legislation to enact the EO's 2050 goal (see *Cleveland National Forest Foundation v. San Diego Association of Governments* (2017) Case No. S223603; *Professional Engineers in California Government v. Schwarzenegger* (2010) 50 Cal.4th 989, 1015; and State of California 2004).

3.3.2 Assembly Bill 32—California Global Warming Solutions Act

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

3.3.3 Executive Order B-30-15

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

3.3.4 Senate Bill 32—California Global Warming Solutions Act: Emissions Limit

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

3.3.5 Senate Bill 375—Sustainable Communities and Climate Protection Act of 2008

SB 375, the Sustainable Communities and Climate Protection Act of 2008, was signed into law in September 2008 and requires CARB to set regional targets for reducing passenger vehicle GHG emissions. The purpose of SB 375 is to align regional transportation planning efforts, regional GHG reduction targets, and fair-share housing allocations under state housing law. SB 375 requires Metropolitan Planning Organizations (MPOs) to adopt a Sustainable Communities Strategy (SCS) or Alternative Planning Strategy to address GHG reduction targets from cars and light-duty trucks in the context of that MPO's Regional Transportation Plan (RTP).

3.3.6 Senate Bill 97—California Environmental Quality Act Greenhouse Gas Amendments

SB 97 (Chapter 185, Statutes of 2007; Public Resources Code, Sections 21083.05 and 21097) acknowledges that climate change is a prominent environmental issue that requires analysis under the California Environmental Quality Act (CEQA). The California Natural Resources Agency adopted amendments to the CEQA Guidelines (California Code of Regulations [CCR], Title 14, Sections 15000-15387) to address GHG emissions, consistent with Legislature's directive in Public Resources Code Section 21083.05 (enacted as part of SB 97 [Chapter 185, Statutes 2007]). These changes took effect in March 2010.

3.3.7 Title 24—California Building Code

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

3.3.7.1 Title 24, Part 6—Energy Efficiency Standards

The CCR, Title 24, Part 6 is the California Energy Efficiency Standards for Residential and Nonresidential Buildings (also known as the California Energy Code). This Code, originally enacted in 1978, establishes energy efficiency standards for residential and non-residential buildings in order to reduce California's energy consumption. The Energy Code is updated periodically to incorporate and consider new energy-efficient technologies and methodologies as they become available, and incentives in the form of rebates and tax breaks are provided on a sliding scale for buildings achieving energy efficiency above the minimum standards.

The current version of the Energy Code, known as 2016 Title 24, or the 2016 Energy Code, became effective January 1, 2017. The 2016 Energy Code provides mandatory energy-efficiency measures as well as voluntary tiers for increased energy efficiency. The California Energy Commission (CEC) has not yet released impact analysis for the 2016 Energy Code; however, preliminary CEC estimates indicate that residences built consistent with 2016 Title 24 requirements will be 28 percent more energy efficient than residences built consistent with 2013 Title 24 requirements and non-residential buildings built consistent with 2016 Title 24 requirements will be 5 percent more energy efficient than non-residential buildings built consistent with 2013 Title 24 requirements (CEC 2015). Based on an impact analysis prepared by the CEC, for single-family residences the 2013 Energy Code has been estimated to achieve a 36.4 percent increase in electricity efficiencies and a 6.5 percent increase in natural gas efficiencies over the 2008 Title 24 standards (CEC 2013). Non-residential structures are estimated to achieve a 21.8 and 16.8 percent increase in electricity and natural gas efficiencies, respectively. The 2008 Title 24 required energy savings of 15–35 percent above the former 2005 Title 24 Energy Code. The reference to 2005 Title 24 Energy Code is relevant in that many of the state's long-term energy and GHG reduction goals identify energy-saving targets relative to 2005 Title 24. The CEC, in conjunction with the California Public Utilities Commission (CPUC), has adopted a goal that all new residential and commercial construction achieve zero net energy by 2020 and 2030, respectively (CPUC 2013). It is expected that achievement of the zero net energy goal will occur via revisions to the Title 24 standards.

New construction and major renovations must demonstrate their compliance with the current Energy Code through submission and approval of a Title 24 Compliance Report to the local building permit review authority and the CEC. The compliance reports must demonstrate a building's energy performance through use of CEC-approved energy performance software that

shows iterative increases in energy efficiency given the selection of various HVAC; sealing; glazing; insulation; and other components related to the building envelope.

3.3.7.2 Title 24, Part 11—California Green Building Standards

The California Green Building Standards Code, referred to as CALGreen, was added to Title 24 as Part 11 first in 2009 as a voluntary code, which then became mandatory effective January 1, 2011 (as part of the 2010 CBC). The 2016 CALGreen institutes mandatory minimum environmental performance standards for all ground-up new construction of non-residential and residential structures. Local jurisdictions must enforce the minimum mandatory Green Building Standards and may adopt additional amendments for stricter requirements.

The mandatory standards require:

- Outdoor water use requirements as outlined in Model Water Efficient Landscape Ordinance emergency standards
- 20 percent mandatory reduction in indoor water use relative to specified baseline levels;
- 65 percent construction/demolition waste diverted from landfills;
- Infrastructure requirements for electric vehicle charging stations;
- Mandatory inspections of energy systems to ensure optimal working efficiency; and
- Requirements for low-pollutant emitting exterior and interior finish materials such as paints, carpets, vinyl flooring and particleboards.

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

3.4 State of California Greenhouse Gas Reduction Plan and Programs

3.4.1 Climate Change Scoping Plan

As directed by the California Global Warming Solutions Act of 2006, in 2008, CARB adopted the *Climate Change Scoping Plan: A Framework for Change* (Original Scoping Plan). CARB has periodically revised GHG emissions forecasts and prepared supplemental revisions to the Original Scoping Plan. In 2014, CARB adopted the comprehensive First Update to the Climate Change Scoping Plan: Building on the Framework (First Update to the Scoping Plan) (CARB 2014). The First Update to the Scoping Plan ". . . highlights California's success to date in reducing its GHG emissions and lays the foundation for establishing a broad framework for continued emission reductions beyond 2020, on the path to 80 percent below 1990 levels by 2050" (CARB 2014). The First Update to the Scoping Plan found that California is on track to

meet the 2020 emissions reduction mandate established by AB 32, and notes that California could reduce emissions further by 2030 to levels squarely in line with those needed to stay on track to reduce emissions to 80 percent below 1990 levels by 2050, if the state realizes the expected benefits of existing policy goals (CARB 2014).

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

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

In January 2017, CARB released the *2017 Climate Change Scoping Plan Update, The Proposed Strategy for Achieving California's 2030 Greenhouse Gas Target* (Draft Scoping Plan; CARB 2017). The comment period for the Draft Scoping Plan will last until March 2017. The Draft Scoping Plan identifies state strategy for achieving the state's 2030 interim GHG emissions reduction target codified by SB 32. The Draft Scoping Plan assessed three scenarios: (1) a Reference Scenario that represents current policies prior to the passage of SB 350 (i.e., October 2015); (2) a Proposed Scoping Plan Scenario (referred to as the "Draft Scoping Plan Scenario") that represents current policies, known commitments, as well as additional measures to reduce emissions from the refinery sector, and (3) an Alternative 1 Scenario that represents all policies and programs included in the Draft Scoping Plan Scenario, as well as additional prescriptive measures to meet the 2030 statewide reduction target without reliance on the Cap-and-Trade Program or a carbon tax.

3.4.2 Original Scoping Plan GHG Reduction Strategies

The majority of the Scoping Plan's GHG reduction strategies are directed at the two sectors with the largest GHG emissions contributions: transportation and electricity generation. The GHG reduction strategies for these sectors involve statutory mandates affecting vehicle or fuel manufacture, public transit, and public utilities. The reduction strategies employed by CARB are designed to reduce emissions from existing sources as well as future sources. The most relevant are outlined in the following sections.

3.4.2.1 AB 1493—Light-Duty Vehicle GHG Emissions Standards

AB 1493, enacted in July 2002, directed CARB to adopt vehicle standards that lowered GHG emissions from passenger vehicles and light-duty trucks to the maximum extent technologically feasible, beginning with the 2009 model year.

CARB adopted these regulations (termed "Pavley I") as a discrete early action measure pursuant to AB 32, and estimates that full implementation of Pavley I will reduce GHG emissions from California passenger vehicles by about 26 million MT CO_2e (CARB 2011a and 2011b). CARB has also adopted a second phase of the Pavley regulations that covers model years 2017 to 2025. These regulations were originally termed "Pavley II" but are now referred to as either the Low Emission Vehicle III" (LEV III) standards or the Advanced Clean Cars Program. In this report, they are referred to as the LEV III standards. CARB estimates that LEV III will reduce vehicle GHGs by an additional 4.0 million MT CO_2e for a 2.4 percent reduction over Pavley I (CARB 2011a). These reductions come from improved vehicle technologies such as smaller engines with superchargers, continuously variable transmissions, and hybrid electric drives. On August 7, 2012 the final regulation for the adoption of LEV III became effective. It is expected that Pavley I and LEV III regulations will reduce GHG emissions from California passenger vehicles by about 22 percent in 2012 and about 30 percent in 2016, while improving fuel efficiency and reducing motorists' costs (CARB 2013).

CARB 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, which includes efforts to support and accelerate the numbers of plug-in hybrids and zero-emission vehicles in California (CARB 2013).

3.4.2.2 Low Carbon Fuel Standard

An executive order (EO S-1-07) signed in 2007 directed that a statewide goal be established to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020 through a Low Carbon Fuel Standard (LCFS).

CARB adopted the LCFS as a discrete early action measure pursuant to AB 32 in April 2009. The LCFS is a performance standard with flexible compliance mechanisms intended to incentivize the development of a diverse set of clean low-carbon transportation fuel options. Its aim is to accelerate the availability and diversity of low-carbon fuels such as biofuels, electricity, and hydrogen by taking into consideration the full life cycle of GHG emissions.

3.4.2.3 Renewable Portfolio Standard

The RPS promotes diversification of the state's electricity supply and decrease reliance on fossil fuel energy sources. Originally adopted in 2002 with a mandate to achieve a 20 percent renewable energy mix by 2020 (referred to as the "Initial RPS"), the mandate was accelerated and increased to 33 percent by 2020. Recently, SB 350 was passed and signed into law, which increased the RPS to 50 percent by 2030. Renewable energy includes (but is not limited to) wind, solar, geothermal, small hydroelectric, biomass, anaerobic digestion, and landfill gas.

3.4.2.4 Tire Pressure Program

CARB's Tire Pressure Regulation took effect in September 2010. The purpose of this regulation is to reduce GHG emissions from vehicles operating with under-inflated tires by inflating them to the recommended tire pressure rating. Automotive service providers must meet the regulation's following requirements:

- Check and inflate each vehicle's tires to the recommended tire pressure rating, with air or nitrogen, as appropriate, at the time of performing any automotive maintenance or repair service.
- Indicate on the vehicle service invoice that a tire inflation service was completed and the tire pressure measurements after the service were performed.
- Perform the tire pressure service using a tire pressure gauge with a total permissible error no greater than +2 pounds per square inch.
- Have access to a tire inflation reference that is current within three years of publication.
- Keep a copy of the service invoice for a minimum of three years, and make the vehicle service invoice available to CARB or its authorized representative upon request.

3.4.2.5 Million Solar Roofs Program

The Million Solar Roofs Program is one of CARB's GHG-reduction measures identified in the Scoping Plan to reduce energy sector emissions. The Million Solar Roofs Program was created by SB 1 in 2006 and includes the CPUC's California Solar Initiative and CEC's New Solar Homes Partnership. It requires publicly owned utilities to adopt, implement, and finance solar-incentive programs to lower the cost of solar systems and help achieve the goal of installing 3,000 megawatts (MW) of new solar capacity by 2020. Achievement of the program's goal is expected to equate to a reduction of 1.1 million MT CO_2e (CARB 2011a).

3.4.2.6 Solid Waste Sources

The California Integrated Waste Management Act of 1989, as modified by AB 341, requires each jurisdiction's source reduction and recycling element to include an implementation schedule that shows: (1) diversion of 25 percent of all solid waste by January 1, 1995, through source reduction, recycling, and composting activities; (2) diversion of 50 percent of all solid waste on and after January 1, 2000; and (3) diversion of 75 percent of all solid waste by 2020, and annually thereafter. The California Department of Resources Recycling and Recovery (CalRecycle) is required to develop strategies, including source reduction, recycling, and composting activities, to achieve the 2020 goal.

CalRecycle published a discussion document, entitled *California's New Goal: 75 Percent Recycling,* which identified concepts that would assist the state in reaching the 75 percent goal

by 2020. Subsequently, in October 2013, CalRecycle released a revised concept list, entitled *Update on AB 341 Legislative Report: Statewide Strategies to Achieve the 75 Percent Goal by 2020*.

3.4.2.7 Cap-and-Trade Program

The California Cap-and-Trade Program began in January 2013 and was originally authorized to continue until the end of 2020. The program is a market-based regulation that is designed to reduce GHG emissions associated with major sources by setting a firm cap on overall GHG emissions from covered entities and gradually reducing that cap over time. The program defines major sources as facilities that generate more than 25,000 MT CO_2e per year, which includes many electricity generators, refineries, cement production facilities, oil and gas production facilities, glass manufacturing facilities, and food processing plants. Each entity covered by the program is allocated specific GHG emission allowances and is able to buy or sell additional offset credits to other major sources-covered entities. Thus, the program employs market mechanisms to cost effectively reduce overall GHG emissions. Throughout the program's duration, CARB continues to adjust the overall GHG emissions cap to achieve emission levels consistent with 2020 statewide GHG emission reduction targets established by AB 32.

The California Cap-and-Trade Program was extended through passage of AB 398 on July 17, 2017. Pursuant to AB 398 the program will be continued through 2030; AB 398 directs CARB to ensure that statewide GHG emissions are reduced to at least 40 percent below the 1990 level by 2030.

3.4.3 Draft Scoping Plan GHG Reduction Strategies

Measures under the Draft Scoping Plan Scenario build on existing programs such as the LCFS, Advanced Clean Cars Program, RPS, SCS, the Short-Lived Climate Pollutant Reduction Strategy, and the Cap-and-Trade Program. Additionally, the Draft Scoping Plan proposes further strategies to reduce waste emissions through cogeneration, reduction of GHG emissions from the refinery sector by 20 percent, and new policies to address GHG emissions from natural and working lands. As discussed in Section 3.4.2.7, CARB continues to adjust the cap of the Cap-and-Trade Program to achieve emission levels consistent with 2020 statewide GHG emissions reduction targets established by AB 32. Modeling for the Draft Scoping Plan Scenario does not reflect reductions achieved by the Cap-and-Trade Program.

As identified in the Alternative 1 Scenario, prescriptive measures necessary to achieve the State's 2030 interim GHG reduction target without reliance on the Cap-and-Trade Program include a 5 percent renewable pipeline gas standard, a 25 percent reduction in GHG emissions from the oil and gas extraction sector, a 25 percent reduction in the GHG emissions from the industrial sector, 20 percent flexible demand response from residential and commercial electric appliances, an additional 7 percent increase in the Low Carbon Fuel Standard (from 18 to 25 percent), an additional 10 percent reduction from the refining sector (from 20 to 30 percent), an additional 10 percent increase to California Renewable Portfolio Standard (from 50 to

60 percent), increased building energy efficiency standards, and additional transportation demand measures.

3.5 San Diego Association of Governments Plans

3.5.1 Regional Transportation Plan—San Diego Forward

The San Diego Association of Governments (SANDAG) is the San Diego region's MPO. SANDAG completed and adopted the San Diego Forward in October 2015. CARB's targets for SANDAG call for a 7 percent reduction in GHG emissions per capita from automobiles and light duty trucks compared to 2005 levels by 2020, and a 13 percent reduction by 2035 (SANDAG 2015). The reduction targets are to be updated every eight years, but can be updated every four years if advancements in emissions technologies affect the reduction strategies to achieve the targets. As stated by SANDAG, the strategy set forth in San Diego Forward is to "focus housing and job growth in the urbanized areas where there is existing and planned infrastructure, protect sensitive habitat and open space, invest in a network that gives residents and workers transportation options that reduce GHG emissions, promote equity for all, and implement the plan through incentives and collaboration" (SANDAG 2015).

Pursuant to Government Code Section 65080(b)(2)(K), an SCS does not: (i) regulate the use of land; (ii) supersede the land use authority of cities and counties; or (iii) require that a city's or county's land use policies and regulations, including those in a general plan, be consistent with it. Nonetheless, SB 375 makes regional and local planning agencies responsible for developing those strategies as part of the federally required metropolitan transportation planning process and the state-mandated housing element process (CARB 2014, see also Gov. Code § 65080(b)).

3.6 County of San Diego Policies and Plans

3.6.1 County of San Diego General Plan

The County's General Plan incorporates smart growth and land planning principles intended to reduce VMT, and thus a reduction of GHGs. The General Plan aims to accomplish this by locating future development within and near existing infrastructure. The General Plan also directs preparation of a County CAP with reduction targets; development of regulations to encourage energy-efficient building design and construction; and development of regulations that encourage energy recovery and renewable energy facilities, among other actions. These planning and regulatory efforts are intended to ensure that actions of the County of San Diego do not impede AB 32 and SB 375 mandates.

3.6.2 County of San Diego Green Building Incentive Program

The County's Green Building Incentive Program is designed to promote the use of resource-efficient construction materials, water conservation, and energy efficiency in new and remodeled residential and commercial buildings. The program offers incentives of reduced plan check

turnaround time and a 7.5 percent reduction in plan check and building permit fees for projects meeting minimum program requirements. Minimum program requirements include compliance with resource conservation measures related to natural resource conservation, water conservation, and energy conservation.

3.6.3 County of San Diego Construction and Demolition Debris Deposit Ordinance

The County's Construction and Demolition Recycling Ordinance is designed to promote the diversion of debris from construction and demolition projects away from landfills. The ordinance requires that construction, demolition, or renovation projects with 40,000 square feet or greater prepare a Debris Management Plan. The plan must demonstrate how the project will achieve diversion of 90 percent diversion of inerts and 70 percent of all other construction materials from a project.

4.0 THRESHOLDS FOR DETERMINING SIGNIFICANCE

4.1 State CEQA Guidelines

The California Natural Resources Agency maintains State CEQA Guidelines to assist lead agencies in developing significance thresholds for assessing potentially significant environmental impacts. According to CEQA Guidelines Appendix G Environmental Checklist, implementation of the proposed project would have significant environmental impacts on global climate change if it would:

1) Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment; or

2) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emission of GHGs.

Individual projects do not generate sufficient GHG emissions to have a substantial direct effect on global climate change (South Coast Air Quality Management District [SCAQMD] 2008; San Joaquin Valley Air Pollution Control District 2009). However, continued development may contribute to the cumulative global accumulation of GHG emissions that could result in adverse impacts to the environment. Therefore, assessment of climate change impacts is by its nature a cumulative impact.

The State CEQA Guidelines state that a lead agency should make a good-faith effort estimate the GHG emissions resulting from a project and, in the absence of regulatory standards for GHG emissions or other scientific data to clearly define what constitutes a significant impact, undertake a project-by-project analysis consistent with available guidance and current CEQA practice. When determining appropriate thresholds, the State CEQA Guidelines allow lead agencies to consider thresholds of significance adopted or recommended by other public agencies, or recommended by experts, provided that the thresholds are supported by substantial evidence.

4.2 County of San Diego Guidance—Climate Action Plan

The Conservation and Open Space Element of the County's General Plan requires that the County prepare, maintain, and implement a CAP. The CAP will establish significance thresholds for assessing GHG emissions. The development of the CAP is currently being processed by the County under the supervision of a court pursuant to a judgment voiding a prior CAP. The County General Plan does not prohibit the County from adopting interim thresholds prior to adoption of a court approved CAP; however, the County has not adopted a threshold of significance for general use as part of its environmental review process, at this time.

4.3 CAPCOA Guidance—CEQA & Climate Change

Guidance from the California Air Pollution Control Officers Association (CAPCOA) report CEQA & Climate Change, dated January 2008, identifies several potential approaches for assessing a project's GHG emissions (CAPCOA 2008). Among these approaches, the guidance introduces the concept of establishing thresholds based on GHG emission market capture rates. Following this approach, a lead agency defines an acceptable market capture rate and identifies the corresponding emissions level.

The CAPCOA Guidance identifies a project-level threshold that would correspond to a 90 percent GHG emissions market capture rate, annual emission of 900 MT CO_2e. Following the rationale presented in the CAPCOA Guidance, projects with annual emissions that do not exceed a screening level of 900 MT CO_2e would not impede achievement of state reduction targets and would therefore be less than cumulatively considerable.

4.4 Significance Thresholds

The proposed project is anticipated to be operational prior to 2020. Emissions are generally highest during the first year the project is fully operational and continue to decline in the future as a result of continued implementation of federal and state reduction measures, such as increased federal and state vehicle efficiency standards and utility renewables generation requirements. This analysis estimates the proposed project's annual emissions in 2020 and assesses proposed project's contribution of GHG emissions to statewide GHG emissions and GHG emissions reduction targets based on a screening level of 900 MT CO_2e identified by CAPCOA. Project annual emissions that do not exceed 900 MT CO_2e would not conflict with the state reduction targets and would therefore be less than cumulatively considerable. Project annual emissions that exceed 900 MT CO_2e would warrant more detailed conformity analysis for 2020 and 2030 targets.

The screening level used in this analysis is not based on the future County CAP and not based upon a threshold adopted by a public hearing process, but rather it is considered to be appropriate based on the nature of the proposed project. The screening level used in this analysis represents a good faith effort to evaluate whether GHG impacts from the proposed project may be significant, taking into account the type and location of the proposed development, the best available scientific data regarding GHG emissions, and the current state reduction targets and strategies for reduction of GHG emissions.

5.0 PROJECT EMISSIONS INVENTORY

5.1 Methodology and Assumptions

This analysis estimates GHG emissions associated with construction and operation of the proposed project and determines whether the proposed project would result in a cumulatively considerable incremental contribution to global climate change. GHG emissions estimates include both direct and reasonably foreseeable indirect GHG emissions from operations.

GHG emissions were estimated using CalEEMod Version 2013.2.2 (CAPCOA 2013). CalEEMod was developed with the participation of several state air districts including the San Diego Air Pollution Control District. Emissions scenarios included both the condition of completion of Phase 1 and the full buildout of the project (condition at completion of Phase 2). Attachment 1 includes the CalEEMod input and output files.

5.1.1 Construction Emission Sources

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

Every phase of the construction process, including demolition, grading, paving, and building, results in GHG emissions in volumes directly related to the quantity and type of construction equipment used. The GHG emissions associated with each phase of construction are calculated by multiplying the total fuel consumed by the construction equipment and worker trips by applicable emission factors. The number and pieces of construction equipment are calculated based on the project-specific design. In the absence of project-specific construction information, equipment for all phases of construction is estimated based on the size of the land use. Based on guidance from the SCAQMD, total construction GHG emissions resulting from the proposed project are amortized over 30 years and added to operational GHG emissions to account for their contribution to GHG emissions over the lifetime of the proposed project (SCAQMD 2009).

5.1.2 Carbon Sequestration Loss

The project site is 9.03 acres. Apart from the area occupied by two existing houses and associated landscaping, the project site includes low-lying vegetation and limited trees. This vegetation may be characterized as grassland (CALEEMOD 2016). Loss of sequestration was calculated using emission factors from CalEEMod (CAPCOA 2013). Temporary GHG emissions associated with loss of carbon sequestration are amortized over the average growth period of vegetation communities, 20 years.

5.1.3 Operational Emission Sources

The project is anticipated to be complete and in operation by 2020. Project operational emission sources include vehicle use, energy use, and area sources (landscaping equipment) were modeled for the year 2020.

5.1.3.1 Vehicles

Transportation-related GHG emissions comprise the largest sector contributing to both inventoried and projected statewide GHG emissions. GHG emissions from vehicles come from the combustion of fossil fuels in vehicle engines. Mobile emissions are estimated in CalEEMod by first calculating trip rate, trip length, trip purpose (e.g., home to work, home to shop, home to other), and trip type percentages for each land use type, based on the land use types and quantities. For this analysis, trip rates were obtained from the traffic analysis prepared for the proposed project (KOA Corporation 2016). The anticipated congregation associated with the proposed project currently attends mass at Chinese Bible Church - San Diego at 12335 World Trade Drive (53 percent), Westview High School 13500 Camino Del Sur (32 percent), and Maranatha Christian School at 9050 Maranatha Drive (15 percent). Surveys of congregation families indicate that the overall attendance of mass at the current locations results in approximately 13,199 VMT per week and that attendance of mass at the proposed project would result in approximately 10,854 VMT per week. The relocation would result in a 17.8 percent reduction in VMT associated with the congregation. This reduction is due to the proposed project being more centrally located than existing facilities. To account for this reduction in VMT, the standard trip lengths included in CalEEMod were reduced by 17.8 percent. The default CalEEMod fleet mix was used. Vehicle emission factors and fleet mix included in CalEEMod are derived from the 2011 Emission Factors (EMFAC 2011) model and include the effects of Pavley I and the LCFS.

Phase 1 of the project would accommodate approximately 1,000 seats and Phase 2 would expand the Sanctuary Building (Building A) to accommodate an additional 500 seats for a total of 1,500 seats.

5.1.3.2 Energy Use

Activities in buildings for which electricity and natural gas are used as energy sources result in GHG emissions. Building energy use is typically divided into energy consumed by the built environment and energy consumed by uses that are independent of the construction of the building such as plug-in appliances. In California, the Energy Code governs energy consumed by the built environment, mechanical systems, and some types of fixed lighting. Non-building energy use, or “plug-in energy use,” can be further subdivided by specific end-use (refrigeration, cooking, office equipment, etc.).

When this energy use occurs in a building they are considered to be direct emissions associated with that building. Direct emission sources include combustion of natural gas for

space and water heating. Natural gas consumption was multiplied by standard emission factors published by the U.S. EPA's *AP-42: Compilation of Air Emissions Factors*.

Indirect GHG emissions associated with a building result from the generation of electricity from fossil fuels off-site in power plants. Energy use values are calculated in CalEEMod based on energy values from the CEC-sponsored California Commercial End Use Survey, which identifies energy use by building type and climate zone. By default, CalEEMod estimates energy emission assuming compliance with the 2008 Energy Code. All proposed land use changes would be subject to the 2016 Energy Code. As discussed in Section 3.3.7, non-residential buildings constructed consistent with 2013 Title 24 requirements are estimated to achieve a 21.8 and 16.8 percent increase in electricity and natural gas efficiencies as compared to those built consistent with 2008 Title 24 requirements; non-residential buildings constructed consistent with 2016 Title 24 requirements are estimated to achieve an additional 5 percent energy use reduction. To account for compliance with the 2016 Energy Code, CalEEMod electricity use assumptions are reduced 25.7 percent to account for the increase in electrical efficiency and a 21.0 percent reduction was applied natural gas emissions to account increase in natural gas efficiency.

Additionally, the project would incorporate solar photovoltaic panels would be designed to achieve a 10 percent offset of the proposed project's electricity demand (84,027 kWh). Project solar photovoltaic panels would be installed during Phase 2 of the project. Modeling for Phase 1 does not account for the reduced electricity demand. Modeling for project buildout accounts for the reduced electricity demand.

The proposed project would be served by San Diego Gas & Electric (SDG&E). Therefore, SDG&E's specific energy-intensity factors (i.e., the amount of CO_2, CH_4, and N_2O per kilowatt-hour) are used in the calculations of GHG emissions. As discussed, the state mandate for renewable energy is 33 percent by 2020. However, the energy-intensity factors included in CalEEMod by default only represent a 10.2 percent procurement of renewable energy (SDG&E 2011). Energy-intensity factors were adjusted to account for continuing effects of RPS through 2020. SDG&E energy intensity factors are shown in Table 6.

Table 6
San Diego Gas & Electric Energy Intensity Factors

Gas	2009 Factors (lbs/MWh)	2020 Factors (lbs/MWh)
Carbon Dioxide (CO_2)	720.49	537.56
Methane (CH_4)	0.029	0.022
Nitrous Oxide (N_2O)	0.006	0.005
SOURCE: SDG&E 2011. lbs = pounds; MWh = megawatt hour		

5.1.3.3 Area Source

Common area sources of GHG emissions include the use of hearths (fireplaces), woodstoves, and landscaping equipment. The use of landscape equipment results in GHG emissions associated with the fuel (wood or natural gas) combustion. No hearths or woodstoves would be included in the proposed project, thus, the proposed project would not result in fuel combustion associated with hearths or woodstoves. The use of landscape equipment results in GHG emissions associated with the equipment fuel (gasoline or diesel) combustion. The proposed project includes a design feature that would only allow for the use of electric landscaping equipment, thus, the proposed project would not result in fuel combustion associated with landscape equipment.

5.1.3.4 Water and Wastewater

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

Indoor and outdoor water use estimated for various land uses are based on the Pacific Institute's *Waste Not, Want Not: The Potential for Urban Water Conservation in California* 2003 report that gives water demand in gallons per dwelling unit type (CARB 2011b). For a few land uses (place of worship, movie theater, and civic center) where the Pacific Institute report did not provide sufficient data, the water consumption rates are based on the American Water Works Association (AWWA) Research Foundation's Commercial and Institutional End Uses of Water report (AWWA 2000).

The GHG emissions from water and wastewater are calculated in CalEEMod based on electricity intensity values for various phases of the supply and treatment cycle of water from CEC's 2006 *Refining Estimates of Water-related Energy Use in California*. Estimates are generated by multiplying the total projected water/wastewater demand by the applicable water electricity intensities and by the utility intensity GHG factors. Energy intensity factors are estimated to change over time due to the effects of RPS. This is shown in the reduction in GHG emissions associated with the conveyance of water for the proposed project as calculated in CalEEMod with the varying SDG&E energy intensity factors.

The proposed project includes several outdoor water reduction measures including xeriscape planting and installing weather- or soil moisture-based automatic irrigation system controllers and provision of outdoor water from an existing on-site well. These design features are estimated to achieve at least a 25 percent reduction in outdoor water use. Additionally, the emissions estimates incorporate an overall 20 percent reduction in indoor water use in accordance with 2013 Title 24 Part 11 (CALGreen).

Outdoor landscaping would be installed during Phase 1 of the project. Therefore, Phase 1 was assumed to require the same amount of outdoor water use as the full buildout of the project.

5.1.3.5 Solid Waste

The disposal of solid waste produces GHG emissions from anaerobic decomposition in landfills, incineration, and transportation of waste. GHG emissions are generally associated with disposal of solid waste into landfills and the subsequent decomposition. To estimate the GHG emissions that would be generated by disposing of the solid waste associated with the proposed project, the total volume of solid waste was first estimated using waste disposal rates identified by CalRecycle. Emission factors for GHG emissions from solid waste are based on the IPCC method using the degradable organic content of waste.

The disposal of solid waste produces GHG emissions from anaerobic decomposition in landfills, incineration, and transportation of waste. To calculate the GHG emissions generated by disposing of solid waste for the proposed project, the total volume of solid waste was calculated using waste disposal rates identified by California Department of Resources Recycling and Recovery. The methods for quantifying GHG emissions from solid waste are based on the Intergovernmental Panel on Climate Change method, using the degradable organic content of waste. GHG emissions associated with the proposed project's waste disposal are calculated using these parameters. AB 341, Commercial Recycling Requirements, mandate that businesses (including public entities) that generate greater than 4 cubic yards of solid waste per week, institute certain waste diversion practices. Compliance with AB 341 is anticipated to increase waste diversion by 25 percent and thereby reduce GHG emissions associated with the proposed project's solid waste.

5.1.4 Emissions Modeling Summary

Table 7 provides a summary of the calculation methodology for each emission source calculated.

Table 7 Methodology Summary Table	
Source	Methodology
Construction	Construction emissions amortized over 30 years and added to operational emissions.
Sequestration Loss	One-time sequestration loss was amortized over 20 years and added to operational emissions.
Vehicles	Vehicle emissions account for Pavley I, LEV III, and LCFS. Additionally, vehicle emissions account for reduced trip lengths (-17.8 %) resulting from the more central location of the project site as compared to the existing church location.
Energy	Energy emissions include, increased energy efficiency (25.7 percent over 2008 Title 24, Part 6 standards for electricity and 21.0 percent for natural gas.) Electricity-related emissions to account for the difference between the SDG&E renewable mix in 2009 and the final requirement of RPS in 2020 of 33 percent.
Area	The proposed project would not include fireplace or woodstove and all landscaping equipment would be electric.
Water	Water use emissions were based on standard water consumption rates and energy intensity factors and account for a 20 percent reduction in indoor water use from CALGreen and a 25 percent reduction in outdoor water use from xeriscaping.
Solid Waste	Emissions were calculated using standard generation rates and emission factors, which are based on CalRecycle waste generation rates. Emissions take into account a 25 percent reduction in standard waste generation rates to account for the remaining reduction requirements of AB 341.
SOURCE: SDG&E 2011. lbs = pounds; MWh = megawatt hour	

5.2 Estimated GHG Emission

Emissions associated with the proposed project are summarized below. For complete CalEEMod outputs refer to Attachment 1.

5.2.1 Construction Emissions

Based on the time frame and the type and size of the proposed land use, the proposed project would generate approximately 626 MT CO_2e. Total annual and amortized construction emissions are presented in Table 8.

Table 8 Summary of Construction Emissions (MT CO_2e)			
Construction Phase	Total Emissions	Amortization Period	Amortized Emissions
Phase 1	366	30 years	12
Phase 2	261		9
Total	**626**		**21**

As construction emissions are finite in time, i.e., when construction ends, so do construction-related GHG emissions, no additional construction emissions would be associated with future conditions. The amortized construction emissions are added to the annual operational emissions.

5.2.2 Carbon Sequestration Loss

Based on the size and type of the existing vegetation community, the project would result in a one-time carbon sequestration loss of approximately 39 MT CO_2e. Carbon sequestration loss is a one-time occurrence. The amortized construction emissions are added to the annual operational emissions.

5.2.3 Operational Emissions

Based on the methodology summarized in Section 5.1.3, the primary sources of direct and indirect GHG emissions have been calculated. Table 9 summarizes the operational emissions associated with the proposed project. Additionally, Table 9 includes a summation of operational emissions and amortized GHG emissions associated with construction.

Table 9
Operational GHG Emissions in 2020 (MT CO_2e)

Emission Source	Phase 1	Phase 2*	Project Buildout
Vehicles	300	150	450
Energy Use	175	45	220
Area Sources	>1	>1	>1
Water Use	127	46	174
Solid Waste Disposal	16	3	19
Operations	**618**	**244**	**862**
Construction	12	9	21
Sequestration Loss	2	-	2
Total	**632**	**253**	**885**

*Operations emissions associated with Phase 2 of the project were calculated by subtracting Phase 1 emissions from project buildout emissions.

6.0 IMPACTS ANALYSIS

6.1 GHG Emissions

The first criterion identified in Appendix G of the State CEQA Guidelines indicates that implementation of the proposed project would have significant environmental impacts on global climate change if it would generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment.

As discussed in Section 4.0, the County has not adopted a threshold of significance for general use as part of its environmental review process. This analysis uses a screening level of 900 MT CO_2e that was adapted from the CAPCOA report CEQA & Climate Change. This screening level is based upon a 90 percent emissions market capture rate.

As shown in Table 9, Phase 1 of the proposed project would result in the equivalent annual emission of 632 MT CO_2e and full buildout of the proposed project would result in the equivalent annual emission of 885 MT CO_2e. As annual emissions do not exceed 900 MT CO_2e, the proposed project would not conflict with the state reduction targets and emissions would therefore be less than cumulatively considerable. Impacts would be less than significant.

6.2 Plan, Policy, and Regulatory Conflicts

The second criterion identified in Appendix G of the State CEQA Guidelines indicates that implementation of the proposed project would have significant environmental impacts on global climate change if it would conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emission of GHGs. As discussed in Section 3.0, numerous local, state, and federal plans, policies, and regulations have been adopted for the purpose of reducing the GHG emissions. As the proposed project includes land use development that is anticipated to be complete and in operation by 2020, conformity with state reduction targets codified by AB 32 and conformity with the County of San Diego General Plan policies are assessed.

6.2.1 State Scoping Plan and Reduction Targets—EO S-3-05, AB 32, EO B-30-15, and SB 32

EO S-3-05 established the following GHG emission reduction targets for the state of California:

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

AB 32 codified the 2020 goal of EO S-3-05 and launched the Climate Change Scoping Plan that outlined the reduction measures needed to reach this target. EO B-30-15 established an additional interim GHG emission reduction goal for the state of California by 2030 of 40 percent below 1990 levels.

- by 2030, reduce GHG emissions to 40 percent below 1990 levels.

SB 32 codified the 2030 goal of EO B-30-15 and called for revision of the Climate Change Scoping Plan to outline the reduction measures needed to reach this target.

The 900 MT CO_2e threshold identified by CAPCOA identifies small projects with emissions that would result in less than cumulatively significant impacts to achievement of state reduction targets. CAPCOA guidance indicates that projects that meet the 900 MT CO_2e would be consistent with state reduction targets identified by AB 32.

While the project is anticipated to be constructed and operational by 2020, project emissions would decline beyond 2020 as a result of continued implementation of federal, state, and local reduction measures such as increased federal and state vehicle efficiency standards, and SDG&E's increased renewable sources of energy in accordance with RPS goals. Based on currently available models and regulatory forecasting, project emissions would continue to decline from 2020 through at least 2050. Given the reasonably anticipated decline in project emissions once fully constructed and operational, the project is in line with the GHG reductions needed to achieve the 2030 GHG emission reduction targets identified by EO B-30-15 and SB 32.

The project is anticipated to be complete and in operation by 2020. The annual emissions of the project do not exceed 900 MT CO_2e, the proposed project would not conflict with the state Scoping Plan or the achievement of state reduction goals codified by AB 32, and the annual emissions of the project would continue to decline after 2020 and thus would not conflict with the achievement of state reduction goals identified and codified by B-30-15 and SB 32. Impacts would be less than significant.

6.2.2 SB 375 and the San Diego Forward

Pursuant to SB 375, CARB directed SANDAG to prepare a regional transportation plan that would achieve a 7 percent reduction in GHG emissions per capita from automobiles and light duty trucks compared to 2005 levels by 2020, and a 13 percent reduction by 2035. SANDAG's regional transportation plan – the San Diego Forward - proposes policy and public infrastructure changes to meet and exceed these goals.

The San Diego Forward was developed based on local land use plans. As such, projects that propose development that is consistent with the growth anticipated by the local land use plan would be consistent with the VMT budgets used in the San Diego Forward. In the event that a project would propose development that would result in less VMT than is assumed by the San Diego Forward, then the project would likewise be consistent with the San Diego Forward.

The project site is located within the Santa Fe Valley Specific Plan area in the San Dieguito Community Plan area. The project would remove two existing residences and would construct a church. As discussed in Section 5.1.3.1, surveys of congregation families indicate that the overall attendance of mass at the current locations results in approximately 13,199 VMT per week and that attendance of mass at the proposed project would result in approximately

10,854 VMT per week. The relocation would result in a 17.8 percent reduction in VMT associated with the congregation. This reduction is due to the proposed project being more centrally located than existing facilities. The 17.8 percent reduction achieved by the project would exceed the regional VMT reduction target of 13 percent by 2035, thus the project would not conflict with the San Diego Forward. Impacts would be less than significant.

6.2.3 General Plan

The Conservation and Open Space Element of the County's General Plan includes policies intended to reduce GHG emissions through sustainable land development, architecture and buildings, mobility, solid waste management, energy, water supply. Project consistency with these policies is assessed in Table 10. It should be noted that several of the policies identified in Table 10 are beyond the scope of individual land use projects. All policies related to sustainability are included for disclosure, regardless of whether or not the proposed project could reasonably conflict with the policy.

As shown in Table 10, the proposed project would not conflict with policies outlined in the Conservation and Open Space Element of the County's General Plan. Impacts would be less than significant.

Table 10 Project Consistency with County General Plan Policies		
Policy	Policy Description	Project Consistency
COS-14.1	Land Use Development Form. Require that development be located and designed to reduce vehicular trips (and associated air pollution) by utilizing compact regional and community-level development patterns while maintaining community character.	The proposed project has been located more centrally for existing and future congregation members to reduce commute times compared to current congregation experiences.
COS-14.2	Villages and Rural Villages. Incorporate a mixture of uses within Villages and Rural Villages that encourage people to walk, bicycle, or use public transit to reduce air pollution and GHG emissions.	The proposed project would not conflict with implementation of the policy.
COS-14.3	Sustainable Development. Require design of residential subdivisions and nonresidential development through "green" and sustainable land development practices to conserve energy, water, open space, and natural resources.	The proposed project would not conflict with implementation of the policy.
COS-14.4	Sustainable Technology and Projects. Require technologies and projects that contribute to the conservation of resources in a sustainable manner, that are compatible with community character, and that increase the self-sufficiency of individual communities, residents, and businesses.	The proposed project would not conflict with implementation of the policy.
COS-14.5	Building Siting and Orientation in Subdivisions. Require that buildings be located and oriented in new subdivisions and multi-structure non-residential projects to maximize passive solar heating during cool seasons, minimize heat gains during hot periods, enhance natural ventilation, and promote the effective use of daylight.	The proposed project would incorporate cool roof technologies on all buildings which utilize light-colored, reflective roofing materials to significantly reduce heat absorption.
COS-14.6	Solar Access for Infill Development. Require that property setbacks and building massing of new construction located within existing developed areas maintain an envelope that maximizes solar access to the extent feasible.	The proposed project would incorporate solar photovoltaic panels to offset a portion of its energy use.
COS-14.7	Alternative Energy Sources for Development Projects. Encourage development projects that use energy recovery, photovoltaic, and wind energy.	
COS-14.8	Minimize Air Pollution. Minimize land use conflicts that expose people to significant amounts of air pollutants.	The proposed project would not conflict with implementation of the policy.
COS-14.9	Significant Producers of Air Pollutants. Require projects that generate potentially significant levels of air pollutants and/or GHGs such as quarries, landfill operations, or large land development projects to incorporate renewable energy, and the best available control technologies and practices into the project design.	The proposed project would not conflict with implementation of the policy.
COS-14.10	Low-Emission Construction Vehicles and Equipment. Require County contractors and encourage other developers to use low-emission construction vehicles and equipment to improve air quality and reduce GHG emissions.	Project construction equipment is regulated by the U.S. EPA non-road diesel engine standards. Although primarily intended to reduce criteria pollutant emissions, use of more fuel-efficient and cleaner-burning equipment may result in modest GHG emissions reductions.

Table 10 Project Consistency with County General Plan Policies		
Policy	Policy Description	Project Consistency
COS-14.11	Native Vegetation. Require development to minimize the vegetation management of native vegetation while ensuring sufficient clearing is provided for fire control.	The proposed project is infill development and would include limited vegetation management.
COS-14.12	Heat Island Effect. Require that development be located and designed to minimize the "heat island" effect as appropriate to the location and density of development, incorporating such elements as cool roofs, cool pavements, and strategically placed shade trees.	The proposed project would incorporate cool roof technologies on all buildings, lighter colored pavers in large areas of the parking lot, lighter decomposed granite in large areas of the parking lot, and large canopy trees in the parking lot, the entry street, open space, and around buildings.
COS-14.13	Incentives for Sustainable and Low GHG Development. Provide incentives such as expedited project review and entitlement processing for developers that maximize use of sustainable and low GHG land development practices in exceedance of State and local standards.	The proposed project would not conflict with implementation of the policy.
COS-15.1	Design and Construction of New Buildings. Require that new buildings be designed and constructed in accordance with "green building" programs that incorporate techniques and materials that maximize energy efficiency, incorporate the use of sustainable resources and recycled materials, and reduce emissions of GHGs and toxic air contaminants.	The proposed project would be designed and with the goal of obtaining LEED certification.
COS-15.2	Upgrade of Existing Buildings. Promote and, as appropriate, develop standards for the retrofit of existing buildings to incorporate design elements, heating and cooling, water, energy, and other elements that improve their environmental sustainability and reduce GHG.	The proposed project would not conflict with implementation of the policy.
COS-15.3	Green Building Programs. Require all new County facilities and the renovation and expansion of existing County buildings to meet identified "green building" programs that demonstrate energy efficiency, energy conservation, and renewable technologies.	The proposed project would not conflict with implementation of the policy.
COS-15.4	Title 24 Energy Standards. Require development to minimize energy impacts from new buildings in accordance with or exceeding Title 24 energy standards.	The proposed project would comply with Title 24 Energy Standards.
COS-15.5	Energy Efficiency Audits. Encourage energy conservation and efficiency in existing development through energy efficiency audits and adoption of energy saving measures resulting from the audits.	The proposed project would not conflict with implementation of the policy.
COS-15.6	Design and Construction Methods. Require development design and construction methods to minimize impacts to air quality.	The proposed project would not conflict with implementation of the policy.
COS-16.1	Alternative Transportation Modes. Work with SANDAG and local transportation agencies to expand opportunities for transit use. Support the development of alternative transportation modes, as provided by Mobility Element policies.	The proposed project would not conflict with implementation of the policy.

Table 10 Project Consistency with County General Plan Policies		
Policy	Policy Description	Project Consistency
COS-16.2	Single-Occupancy Vehicles. Support transportation management programs that reduce the use of single-occupancy vehicles.	The proposed project will implement a voluntary commute trip reduction program with parishioners to discourage single-occupancy vehicle trips and encourage alternative modes of transportation such as carpooling, taking transit, walking, and biking.
COS-16.3	Low-Emissions Vehicles and Equipment. Require County operations and encourage private development to provide incentives (such as priority parking) for the use of low- and zero-emission vehicles and equipment to improve air quality and reduce GHG emissions.	The proposed project would not conflict with implementation of the policy.
COS-16.4	Alternative Fuel Sources. Explore the potential of developing alternative fuel stations at maintenance yards and other County facilities for the municipal fleet and general public.	The proposed project would not conflict with implementation of the policy.
COS-16.5	Transit-Center Development. Encourage compact development patterns along major transit routes.	The proposed project would not conflict with implementation of the policy.
COS-17.1	Reduction of Solid Waste Materials. Reduce greenhouse gas emissions and future landfill capacity needs through reduction, reuse, or recycling of all types of solid waste that is generated. Divert solid waste from landfills in compliance with State law.	The proposed project would comply with Construction and Demolition Debris Ordinance, which requires that 90 percent of inerts and 70 percent of all other construction materials from a project be recycled.
COS-17.2	Construction and Demolition Waste. Require recycling, reduction and reuse of construction and demolition debris.	
COS-17.3	Landfill Waste Management. Require landfills to use waste management and disposal techniques and practices to meet all applicable environmental standards.	The proposed project would not conflict with implementation of the policy.
COS-17.4	Composting. Encourage composting throughout the County and minimize the amount of organic materials disposed at landfills.	The proposed project would not conflict with implementation of the policy.
COS-17.5	Methane Recapture. Promote efficient methods for methane recapture in landfills and the use of composting facilities and anaerobic digesters and other sustainable strategies to reduce the release of GHG emissions from waste disposal or management sites and to generate additional energy such as electricity.	The proposed project would not conflict with implementation of the policy.
COS-17.6	Recycling Containers. Require that all new land development projects include space for recycling containers.	The proposed project would incorporate space for recycling containers.
COS-17.7	Material Recovery Program. Improve the County's rate of recycling by expanding solid waste recycling programs for residential and non-residential uses.	The proposed project would not conflict with implementation of the policy.
COS-17.8	Education. Continue programs to educate industry and the public regarding the need and methods for waste reduction, recycling, and reuse.	The proposed project would not conflict with implementation of the policy.

Table 10 Project Consistency with County General Plan Policies		
Policy	Policy Description	Project Consistency
COS-18.1	Alternate Energy Systems Design. Work with San Diego Gas and Electric and non-utility developers to facilitate the development of alternative energy systems that are located and designed to maintain the character of their setting.	The proposed project would not conflict with implementation of the policy.
COS-18.2	Energy Generation from Waste. Encourage use of methane sequestration and other sustainable strategies to produce energy and/or reduce GHG emissions from waste disposal or management sites.	The proposed project would not conflict with implementation of the policy.
COS-18.3	Alternate Energy Systems Impacts. Require alternative energy system operators to properly design and maintain these systems to minimize adverse impacts to the environment.	The proposed project would not conflict with implementation of the policy.
COS-19.1	Sustainable Development Practices. Require land development, building design, landscaping, and operational practices that minimize water consumption.	The proposed project includes several outdoor water reduction measures including xeriscape planting and installing weather- or soil moisture-based automatic irrigation system controllers and provision of outdoor water from an existing on-site well. All landscaping equipment would be electric.
COS-19.2	Recycled Water in New Development. Require the use of recycled water in development wherever feasible. Restrict the use of recycled water when it increases salt loading in reservoirs.	The proposed project would not conflict with implementation of the policy.

7.0 CONCLUSION

The proposed project entails construction of a new facility at 16919 Four Gee Road in the County of San Diego, California. The facility would accommodate the church's existing congregation that attends mass at an existing facility at 12335 World Trade Drive. The facility would include a 43,500-square-foot sanctuary and administration building, a 12,934-square-foot Christian Education Building, a 5,932-square-foot Religious Meeting Building, a 13,812-square-foot Fellowship Hall, and a 13,056-square-foot Fellowship Learning Center. The proposed project would be designed and constructed with the goal of obtaining LEED certification. To achieve this, the proposed project would include several sustainable project design features such as rooftop solar photovoltaic panels to offset 10 percent of project energy demand, use of building materials that reflect light and reduce the heat island effect, installation of xeriscape landscaping, a voluntary commute trip reduction program to promote carpooling and transit, online access to worship services, and use of all-electric landscaping equipment.

This proposed project's potential to result in impacts to global climate change was assessed based on the 900 MT CO_2e threshold identified by the CAPCOA. The 900 MT CO_2e threshold is a screening threshold to determine project emissions with potential to impact the environment or achievement of state GHG reduction targets. As shown in Table 9, construction and operation of Phase 1 of the proposed project would result in the equivalent annual emission of 632 MT CO_2e. Equivalent annual emissions would increase to 885 MT CO_2e at full buildout of the proposed project. As annual emissions do not exceed 900 MT CO_2e, the proposed project's impact on global climate change would therefore be less than cumulatively considerable. Additionally, as shown in Table 10, the project would be consistent with all applicable policies from the County's General Plan Open Space and Conservation Element. Therefore, the project would not conflict with applicable plans, policies or regulations adopted for the purpose of reducing GHG emissions. Impacts global climate change would be less than significant.

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10.0 APPENDIX

1) CalEEMod Output

1) CalEEMod Input/Output – proposed project in 2020

Existing Project Site Land Uses - Two Residences

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
Single Family Housing	2.00	Dwelling Unit	9.03	3,600.00	6

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2017
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

Table Name	Column Name	Default Value	New Value
tblEnergyUse	T24E	550.61	550.61
tblEnergyUse	T24NG	24,260.55	24,260.55
tblLandUse	LotAcreage	0.65	9.03
tblProjectCharacteristics	OperationalYear	2014	2017

2.0 Emissions Summary

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	0.1457	1.8800e-003	0.1696	6.0000e-005		0.0218	0.0218		0.0218	0.0218	2.0659	0.8907	2.9566	1.9300e-003	1.6000e-004	3.0475
Energy	3.2000e-004	2.7700e-003	1.1800e-003	2.0000e-005		2.2000e-004	2.2000e-004		2.2000e-004	2.2000e-004	0.0000	7.9486	7.9486	2.5000e-004	1.0000e-004	7.9843
Mobile	0.0124	0.0296	0.1317	3.0000e-004	0.0205	3.8000e-004	0.0208	5.4700e-003	3.5000e-004	5.8200e-003	0.0000	22.7951	22.7951	9.5000e-004	0.0000	22.8151
Waste						0.0000	0.0000		0.0000	0.0000	0.4994	0.0000	0.4994	0.0295	0.0000	1.1191
Water						0.0000	0.0000		0.0000	0.0000	0.0413	0.8528	0.8941	4.2800e-003	1.1000e-004	1.0173
Total	**0.1583**	**0.0343**	**0.3025**	**3.8000e-004**	**0.0205**	**0.0224**	**0.0429**	**5.4700e-003**	**0.0224**	**0.0278**	**2.6066**	**32.4872**	**35.0938**	**0.0369**	**3.7000e-004**	**35.9833**

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	0.1457	1.8800e-003	0.1696	6.0000e-005		0.0218	0.0218		0.0218	0.0218	2.0659	0.8907	2.9566	1.9300e-003	1.6000e-004	3.0475
Energy	3.2000e-004	2.7700e-003	1.1800e-003	2.0000e-005		2.2000e-004	2.2000e-004		2.2000e-004	2.2000e-004	0.0000	7.9486	7.9486	2.5000e-004	1.0000e-004	7.9843
Mobile	0.0124	0.0296	0.1317	3.0000e-004	0.0205	3.8000e-004	0.0208	5.4700e-003	3.5000e-004	5.8200e-003	0.0000	22.7951	22.7951	9.5000e-004	0.0000	22.8151
Waste						0.0000	0.0000		0.0000	0.0000	0.4994	0.0000	0.4994	0.0295	0.0000	1.1191
Water						0.0000	0.0000		0.0000	0.0000	0.0413	0.8528	0.8941	4.2800e-003	1.1000e-004	1.0172
Total	**0.1583**	**0.0343**	**0.3025**	**3.8000e-004**	**0.0205**	**0.0224**	**0.0429**	**5.4700e-003**	**0.0224**	**0.0278**	**2.6066**	**32.4872**	**35.0938**	**0.0369**	**3.7000e-004**	**35.9833**

	ROG	NOx	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**

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	0.0124	0.0296	0.1317	3.0000e-004	0.0205	3.8000e-004	0.0208	5.4700e-003	3.5000e-004	5.8200e-003	0.0000	22.7951	22.7951	9.5000e-004	0.0000	22.8151
Unmitigated	0.0124	0.0296	0.1317	3.0000e-004	0.0205	3.8000e-004	0.0208	5.4700e-003	3.5000e-004	5.8200e-003	0.0000	22.7951	22.7951	9.5000e-004	0.0000	22.8151

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	19.14	20.16	17.54	54,414	54,414
Total	19.14	20.16	17.54	54,414	54,414

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
Single Family Housing	10.80	7.30	7.50	41.60	18.80	39.60	86	11	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.510423	0.073380	0.192408	0.132453	0.036550	0.005219	0.012745	0.022253	0.001862	0.002079	0.006550	0.000609	0.003468

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: Y

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	4.7382	4.7382	1.9000e-004	4.0000e-005	4.7545
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	4.7382	4.7382	1.9000e-004	4.0000e-005	4.7545
NaturalGas Mitigated	3.2000e-004	2.7700e-003	1.1800e-003	2.0000e-005		2.2000e-004	2.2000e-004		2.2000e-004	2.2000e-004	0.0000	3.2103	3.2103	6.0000e-005	6.0000e-005	3.2299
NaturalGas Unmitigated	3.2000e-004	2.7700e-003	1.1800e-003	2.0000e-005		2.2000e-004	2.2000e-004		2.2000e-004	2.2000e-004	0.0000	3.2103	3.2103	6.0000e-005	6.0000e-005	3.2299

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					
Single Family Housing	60159.1	3.2000e-004	2.7700e-003	1.1800e-003	2.0000e-005		2.2000e-004	2.2000e-004		2.2000e-004	2.2000e-004	0.0000	3.2103	3.2103	6.0000e-005	6.0000e-005	3.2299
Total		**3.2000e-004**	**2.7700e-003**	**1.1800e-003**	**2.0000e-005**		**2.2000e-004**	**2.2000e-004**		**2.2000e-004**	**2.2000e-004**	**0.0000**	**3.2103**	**3.2103**	**6.0000e-005**	**6.0000e-005**	**3.2299**

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					
Single Family Housing	60159.1	3.2000e-004	2.7700e-003	1.1800e-003	2.0000e-005		2.2000e-004	2.2000e-004		2.2000e-004	2.2000e-004	0.0000	3.2103	3.2103	6.0000e-005	6.0000e-005	3.2299
Total		**3.2000e-004**	**2.7700e-003**	**1.1800e-003**	**2.0000e-005**		**2.2000e-004**	**2.2000e-004**		**2.2000e-004**	**2.2000e-004**	**0.0000**	**3.2103**	**3.2103**	**6.0000e-005**	**6.0000e-005**	**3.2299**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	14498.5	4.7382	1.9000e-004	4.0000e-005	4.7545
Total		**4.7382**	**1.9000e-004**	**4.0000e-005**	**4.7545**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e

Land Use	kWh/yr	MT/yr			
Single Family Housing	14498.5	4.7382	1.9000e-004	4.0000e-005	4.7545
Total		**4.7382**	**1.9000e-004**	**4.0000e-005**	**4.7545**

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	0.1457	1.8800e-003	0.1696	6.0000e-005		0.0218	0.0218		0.0218	0.0218	2.0659	0.8907	2.9566	1.9300e-003	1.6000e-004	3.0475
Unmitigated	0.1457	1.8800e-003	0.1696	6.0000e-005		0.0218	0.0218		0.0218	0.0218	2.0659	0.8907	2.9566	1.9300e-003	1.6000e-004	3.0475

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	5.6300e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0141					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Hearth	0.1255	1.7000e-003	0.1546	6.0000e-005		0.0217	0.0217		0.0217	0.0217	2.0659	0.8664	2.9323	1.9100e-003	1.6000e-004	3.0227
Landscaping	4.7000e-004	1.7000e-004	0.0150	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	0.0243	0.0243	2.0000e-005	0.0000	0.0248
Total	**0.1457**	**1.8700e-003**	**0.1696**	**6.0000e-005**		**0.0218**	**0.0218**		**0.0218**	**0.0218**	**2.0659**	**0.8907**	**2.9566**	**1.9300e-003**	**1.6000e-004**	**3.0475**

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	5.6300e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0141					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.1255	1.7000e-003	0.1546	6.0000e-005		0.0217	0.0217		0.0217	0.0217	2.0659	0.8664	2.9323	1.9100e-003	1.6000e-004	3.0227
Landscaping	4.7000e-004	1.7000e-004	0.0150	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	0.0243	0.0243	2.0000e-005	0.0000	0.0248
Total	**0.1457**	**1.8700e-003**	**0.1696**	**6.0000e-005**		**0.0218**	**0.0218**		**0.0218**	**0.0218**	**2.0659**	**0.8907**	**2.9566**	**1.9300e-003**	**1.6000e-004**	**3.0475**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.8941	4.2800e-003	1.1000e-004	1.0172
Unmitigated	0.8941	4.2800e-003	1.1000e-004	1.0173

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	0.130308 / 0.0821507	0.8941	4.2800e-003	1.1000e-004	1.0173
Total		**0.8941**	**4.2800e-003**	**1.1000e-004**	**1.0173**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	0.130308 / 0.0821507	0.8941	4.2800e-003	1.1000e-004	1.0172
Total		**0.8941**	**4.2800e-003**	**1.1000e-004**	**1.0172**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.4994	0.0295	0.0000	1.1191
Unmitigated	0.4994	0.0295	0.0000	1.1191

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	2.46	0.4994	0.0295	0.0000	1.1191
Total		**0.4994**	**0.0295**	**0.0000**	**1.1191**

Mitigated

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

Single Family Housing	2.46	0.4994	0.0295	0.0000	1.1191
Total		**0.4994**	**0.0295**	**0.0000**	**1.1191**

9.0 Operational Offroad

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

10.0 Vegetation

Santa Fe Valley Chinese Church - P1 Construction

San Diego County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Place of Worship	64.63	1000sqft	9.03	64,625.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2016
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	720.49	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Land Use - Project description

Construction Off-road Equipment Mitigation - PER AQ

Construction Phase - Per Client Schedule and AQ

Off-road Equipment - Per Client Schedule and AQ

Off-road Equipment - Per Client Schedule and AQ

Off-road Equipment - Per Client Schedule and AQ

Off-road Equipment - Per Client Schedule and AQ

Off-road Equipment - Per Client Schedule and AQ

Off-road Equipment - Per Client Schedule and AQ

Grading - Per Client Schedule and AQ

Trips and VMT - Per Client Schedule and AQ

Architectural Coating - Per Client Schedule and AQ

Vehicle Trips - Calculated Seperately

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	150.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	100.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	150
tblAreaCoating	Area_EF_Nonresidential_Interior	250	100
tblConstructionPhase	NumDays	20.00	33.00
tblConstructionPhase	NumDays	230.00	140.00
tblConstructionPhase	NumDays	20.00	55.00
tblConstructionPhase	NumDays	20.00	25.00
tblConstructionPhase	NumDays	20.00	10.00
tblConstructionPhase	PhaseEndDate	4/15/2016	4/17/2016
tblConstructionPhase	PhaseEndDate	2/29/2016	3/1/2016
tblConstructionPhase	PhaseEndDate	6/16/2015	6/15/2015
tblGrading	AcresOfGrading	20.63	0.00
tblGrading	AcresOfGrading	9.38	10.00
tblLandUse	LandUseSquareFeet	64,630.00	64,625.00
tblLandUse	LotAcreage	1.48	9.03
tblOffRoadEquipment	HorsePower	226.00	208.00
tblOffRoadEquipment	HorsePower	89.00	149.00
tblOffRoadEquipment	HorsePower	174.00	162.00
tblOffRoadEquipment	HorsePower	174.00	162.00
tblOffRoadEquipment	HorsePower	125.00	89.00
tblOffRoadEquipment	HorsePower	130.00	82.00
tblOffRoadEquipment	HorsePower	80.00	84.00

tblOffRoadEquipment	HorsePower	255.00	358.00
tblOffRoadEquipment	HorsePower	255.00	358.00
tblOffRoadEquipment	HorsePower	97.00	75.00
tblOffRoadEquipment	HorsePower	97.00	75.00
tblOffRoadEquipment	HorsePower	97.00	75.00
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tblOffRoadEquipment	HorsePower	97.00	75.00
tblOffRoadEquipment	LoadFactor	0.29	0.43
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tblOffRoadEquipment	LoadFactor	0.41	0.61
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tblOffRoadEquipment	LoadFactor	0.38	0.57
tblOffRoadEquipment	LoadFactor	0.38	0.57
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tblOffRoadEquipment	LoadFactor	0.37	0.55

tblOffRoadEquipment	LoadFactor	0.37	0.55
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	PhaseName		Paving
tblOffRoadEquipment	PhaseName		Trenching
tblOffRoadEquipment	PhaseName		Mass Site Grading
tblOffRoadEquipment	PhaseName		Fine Site Grading
tblOffRoadEquipment	PhaseName		Trenching
tblOffRoadEquipment	PhaseName		Trenching
tblOffRoadEquipment	PhaseName		Paving
tblOffRoadEquipment	UsageHours	7.00	4.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	7.00
tblOffRoadEquipment	UsageHours	8.00	6.00

tblOffRoadEquipment	UsageHours	8.00	7.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	8.00	7.00
tblOffRoadEquipment	UsageHours	8.00	7.00
tblProjectCharacteristics	OperationalYear	2014	2016
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblVehicleTrips	ST_TR	10.37	0.00
tblVehicleTrips	SU_TR	36.63	0.00
tblVehicleTrips	WD_TR	9.11	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					
2015	0.4255	3.6655	2.4212	3.2900e-003	0.2024	0.2053	0.4077	0.1037	0.1922	0.2959	0.0000	298.3841	298.3841	0.0757	0.0000	299.9730
2016	0.4305	0.6353	0.4926	7.6000e-004	6.8600e-003	0.0398	0.0467	1.8500e-003	0.0382	0.0401	0.0000	65.2957	65.2957	0.0129	0.0000	65.5671
Total	**0.8560**	**4.3008**	**2.9138**	**4.0500e-003**	**0.2093**	**0.2451**	**0.4544**	**0.1055**	**0.2304**	**0.3360**	**0.0000**	**363.6799**	**363.6799**	**0.0886**	**0.0000**	**365.5400**

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					
2015	0.4255	3.6655	2.4212	3.2900e-003	0.0904	0.2053	0.2957	0.0435	0.1922	0.2358	0.0000	298.3838	298.3838	0.0757	0.0000	299.9726
2016	0.4305	0.6353	0.4926	7.6000e-004	6.8600e-003	0.0398	0.0467	1.8500e-003	0.0382	0.0401	0.0000	65.2957	65.2957	0.0129	0.0000	65.5670
Total	**0.8560**	**4.3008**	**2.9138**	**4.0500e-003**	**0.0972**	**0.2451**	**0.3424**	**0.0454**	**0.2304**	**0.2758**	**0.0000**	**363.6795**	**363.6795**	**0.0886**	**0.0000**	**365.5397**

	ROG	NOx	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**	**53.54**	**0.00**	**24.66**	**57.01**	**0.00**	**17.91**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Mass Site Grading	Grading	4/1/2015	6/15/2015	5	55	
2	Fine Site Grading	Grading	6/16/2015	7/20/2015	5	25	
3	Trenching	Trenching	7/21/2015	8/3/2015	5	10	
4	Paving	Paving	8/4/2015	8/17/2015	5	10	
5	Building Construction	Building Construction	8/18/2015	3/1/2016	5	140	
6	Architectural Coating	Architectural Coating	3/2/2016	4/17/2016	5	33	

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: 96,938; Non-Residential Outdoor: 32,313 (Architectural Coating –

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Mass Site Grading	Graders	1	6.00	162	0.61
Mass Site Grading	Off-Highway Trucks	1	8.00	250	0.57
Mass Site Grading	Rubber Tired Dozers	1	6.00	358	0.59
Mass Site Grading	Tractors/Loaders/Backhoes	1	7.00	75	0.55
Fine Site Grading	Graders	1	6.00	162	0.61
Fine Site Grading	Off-Highway Trucks	1	8.00	250	0.57
Fine Site Grading	Rubber Tired Dozers	1	6.00	358	0.59
Fine Site Grading	Tractors/Loaders/Backhoes	1	7.00	75	0.55
Trenching	Excavators	2	8.00	157	0.57
Trenching	Other General Industrial Equipment	1	8.00	150	0.51
Trenching	Tractors/Loaders/Backhoes	1	8.00	75	0.55
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Paving	Pavers	1	7.00	89	0.62
Paving	Paving Equipment	2	6.00	82	0.53
Paving	Rollers	1	7.00	84	0.56
Paving	Tractors/Loaders/Backhoes	1	7.00	75	0.55
Building Construction	Cranes	1	4.00	208	0.43
Building Construction	Forklifts	2	6.00	149	0.30
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	8.00	75	0.55
Building Construction	Welders	3	8.00	46	0.45
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Mass Site Grading	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Fine Site Grading	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Trenching	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	9	23.00	4.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	8	27.00	11.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Mass Site Grading - 2015

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					0.1220	0.0000	0.1220	0.0670	0.0000	0.0670	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1251	1.3571	0.7948	9.6000e-004		0.0680	0.0680		0.0625	0.0625	0.0000	91.5759	91.5759	0.0273	0.0000	92.1500
Total	**0.1251**	**1.3571**	**0.7948**	**9.6000e-004**	**0.1220**	**0.0680**	**0.1899**	**0.0670**	**0.0625**	**0.1296**	**0.0000**	**91.5759**	**91.5759**	**0.0273**	**0.0000**	**92.1500**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0200e-003	1.3500e-003	0.0129	3.0000e-005	2.1700e-003	2.0000e-005	2.1800e-003	5.8000e-004	2.0000e-005	5.9000e-004	0.0000	2.0909	2.0909	1.2000e-004	0.0000	2.0934
Total	**1.0200e-003**	**1.3500e-003**	**0.0129**	**3.0000e-005**	**2.1700e-003**	**2.0000e-005**	**2.1800e-003**	**5.8000e-004**	**2.0000e-005**	**5.9000e-004**	**0.0000**	**2.0909**	**2.0909**	**1.2000e-004**	**0.0000**	**2.0934**

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					0.0476	0.0000	0.0476	0.0261	0.0000	0.0261	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1251	1.3571	0.7948	9.6000e-004		0.0680	0.0680		0.0625	0.0625	0.0000	91.5758	91.5758	0.0273	0.0000	92.1499
Total	**0.1251**	**1.3571**	**0.7948**	**9.6000e-004**	**0.0476**	**0.0680**	**0.1155**	**0.0261**	**0.0625**	**0.0887**	**0.0000**	**91.5758**	**91.5758**	**0.0273**	**0.0000**	**92.1499**

Mitigated Construction Off-Site

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

Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0200e-003	1.3500e-003	0.0129	3.0000e-005	2.1700e-003	2.0000e-005	2.1800e-003	5.8000e-004	2.0000e-005	5.9000e-004	0.0000	2.0909	2.0909	1.2000e-004	0.0000	2.0934
Total	**1.0200e-003**	**1.3500e-003**	**0.0129**	**3.0000e-005**	**2.1700e-003**	**2.0000e-005**	**2.1800e-003**	**5.8000e-004**	**2.0000e-005**	**5.9000e-004**	**0.0000**	**2.0909**	**2.0909**	**1.2000e-004**	**0.0000**	**2.0934**

3.3 Fine Site Grading - 2015

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					0.0618	0.0000	0.0618	0.0316	0.0000	0.0316	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0579	0.6283	0.3680	4.4000e-004		0.0315	0.0315		0.0290	0.0290	0.0000	42.3963	42.3963	0.0127	0.0000	42.6621
Total	**0.0579**	**0.6283**	**0.3680**	**4.4000e-004**	**0.0618**	**0.0315**	**0.0932**	**0.0316**	**0.0290**	**0.0606**	**0.0000**	**42.3963**	**42.3963**	**0.0127**	**0.0000**	**42.6621**

Unmitigated Construction Off-Site

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

Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.7000e-004	6.2000e-004	5.9800e-003	1.0000e-005	1.0000e-003	1.0000e-005	1.0100e-003	2.7000e-004	1.0000e-005	2.7000e-004	0.0000	0.9680	0.9680	5.0000e-005	0.0000	0.9692
Total	**4.7000e-004**	**6.2000e-004**	**5.9800e-003**	**1.0000e-005**	**1.0000e-003**	**1.0000e-005**	**1.0100e-003**	**2.7000e-004**	**1.0000e-005**	**2.7000e-004**	**0.0000**	**0.9680**	**0.9680**	**5.0000e-005**	**0.0000**	**0.9692**

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					0.0241	0.0000	0.0241	0.0123	0.0000	0.0123	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0579	0.6283	0.3680	4.4000e-004		0.0315	0.0315		0.0290	0.0290	0.0000	42.3962	42.3962	0.0127	0.0000	42.6620
Total	**0.0579**	**0.6283**	**0.3680**	**4.4000e-004**	**0.0241**	**0.0315**	**0.0556**	**0.0123**	**0.0290**	**0.0413**	**0.0000**	**42.3962**	**42.3962**	**0.0127**	**0.0000**	**42.6620**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.7000e-004	6.2000e-004	5.9800e-003	1.0000e-005	1.0000e-003	1.0000e-005	1.0100e-003	2.7000e-004	1.0000e-005	2.7000e-004	0.0000	0.9680	0.9680	5.0000e-005	0.0000	0.9692

Total	**4.7000e-004**	**6.2000e-004**	**5.9800e-003**	**1.0000e-005**	**1.0000e-003**	**1.0000e-005**	**1.0100e-003**	**2.7000e-004**	**1.0000e-005**	**2.7000e-004**	**0.0000**	**0.9680**	**0.9680**	**5.0000e-005**	**0.0000**	**0.9692**

3.4 Trenching - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0115	0.1269	0.0872	1.3000e-004		7.0200e-003	7.0200e-003		6.4600e-003	6.4600e-003	0.0000	12.1622	12.1622	3.6300e-003	0.0000	12.2385
Total	**0.0115**	**0.1269**	**0.0872**	**1.3000e-004**		**7.0200e-003**	**7.0200e-003**		**6.4600e-003**	**6.4600e-003**	**0.0000**	**12.1622**	**12.1622**	**3.6300e-003**	**0.0000**	**12.2385**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9000e-004	2.5000e-004	2.3900e-003	0.0000	4.0000e-004	0.0000	4.0000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3872	0.3872	2.0000e-005	0.0000	0.3877
Total	**1.9000e-004**	**2.5000e-004**	**2.3900e-003**	**0.0000**	**4.0000e-004**	**0.0000**	**4.0000e-004**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**0.3872**	**0.3872**	**2.0000e-005**	**0.0000**	**0.3877**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0115	0.1269	0.0872	1.3000e-004		7.0200e-003	7.0200e-003		6.4600e-003	6.4600e-003	0.0000	12.1622	12.1622	3.6300e-003	0.0000	12.2384
Total	**0.0115**	**0.1269**	**0.0872**	**1.3000e-004**		**7.0200e-003**	**7.0200e-003**		**6.4600e-003**	**6.4600e-003**	**0.0000**	**12.1622**	**12.1622**	**3.6300e-003**	**0.0000**	**12.2384**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9000e-004	2.5000e-004	2.3900e-003	0.0000	4.0000e-004	0.0000	4.0000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3872	0.3872	2.0000e-005	0.0000	0.3877
Total	**1.9000e-004**	**2.5000e-004**	**2.3900e-003**	**0.0000**	**4.0000e-004**	**0.0000**	**4.0000e-004**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**0.3872**	**0.3872**	**2.0000e-005**	**0.0000**	**0.3877**

3.5 Paving - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0119	0.1071	0.0688	9.0000e-005		8.0200e-003	8.0200e-003		7.4000e-003	7.4000e-003	0.0000	8.5160	8.5160	2.4100e-003	0.0000	8.5665
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0119**	**0.1071**	**0.0688**	**9.0000e-005**		**8.0200e-003**	**8.0200e-003**		**7.4000e-003**	**7.4000e-003**	**0.0000**	**8.5160**	**8.5160**	**2.4100e-003**	**0.0000**	**8.5665**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.6000e-004	2.2500e-003	2.9600e-003	0.0000	1.3000e-004	4.0000e-005	1.7000e-004	4.0000e-005	3.0000e-005	7.0000e-005	0.0000	0.4366	0.4366	0.0000	0.0000	0.4367
Worker	4.3000e-004	5.7000e-004	5.5100e-003	1.0000e-005	9.2000e-004	1.0000e-005	9.3000e-004	2.5000e-004	1.0000e-005	2.5000e-004	0.0000	0.8906	0.8906	5.0000e-005	0.0000	0.8916
Total	**6.9000e-004**	**2.8200e-003**	**8.4700e-003**	**1.0000e-005**	**1.0500e-003**	**5.0000e-005**	**1.1000e-003**	**2.9000e-004**	**4.0000e-005**	**3.2000e-004**	**0.0000**	**1.3272**	**1.3272**	**5.0000e-005**	**0.0000**	**1.3283**

Mitigated Construction On-Site

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

Off-Road	0.0119	0.1071	0.0688	9.0000e-005		8.0200e-003	8.0200e-003		7.4000e-003	7.4000e-003	0.0000	8.5160	8.5160	2.4100e-003	0.0000	8.5665
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0119**	**0.1071**	**0.0688**	**9.0000e-005**		**8.0200e-003**	**8.0200e-003**		**7.4000e-003**	**7.4000e-003**	**0.0000**	**8.5160**	**8.5160**	**2.4100e-003**	**0.0000**	**8.5665**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.6000e-004	2.2500e-003	2.9600e-003	0.0000	1.3000e-004	4.0000e-005	1.7000e-004	4.0000e-005	3.0000e-005	7.0000e-005	0.0000	0.4366	0.4366	0.0000	0.0000	0.4367
Worker	4.3000e-004	5.7000e-004	5.5100e-003	1.0000e-005	9.2000e-004	1.0000e-005	9.3000e-004	2.5000e-004	1.0000e-005	2.5000e-004	0.0000	0.8906	0.8906	5.0000e-005	0.0000	0.8916
Total	**6.9000e-004**	**2.8200e-003**	**8.4700e-003**	**1.0000e-005**	**1.0500e-003**	**5.0000e-005**	**1.1000e-003**	**2.9000e-004**	**4.0000e-005**	**3.2000e-004**	**0.0000**	**1.3272**	**1.3272**	**5.0000e-005**	**0.0000**	**1.3283**

3.6 Building Construction - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2049	1.3739	0.9296	1.3400e-003		0.0897	0.0897		0.0859	0.0859	0.0000	116.9473	116.9473	0.0287	0.0000	117.5502
Total	**0.2049**	**1.3739**	**0.9296**	**1.3400e-003**		**0.0897**	**0.0897**		**0.0859**	**0.0859**	**0.0000**	**116.9473**	**116.9473**	**0.0287**	**0.0000**	**117.5502**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.9400e-003	0.0606	0.0797	1.3000e-004	3.5100e-003	9.7000e-004	4.4700e-003	1.0000e-003	8.9000e-004	1.8900e-003	0.0000	11.7674	11.7674	1.0000e-004	0.0000	11.7696
Worker	4.9900e-003	6.6100e-003	0.0633	1.3000e-004	0.0106	9.0000e-005	0.0107	2.8200e-003	8.0000e-005	2.9000e-003	0.0000	10.2456	10.2456	5.7000e-004	0.0000	10.2575
Total	**0.0119**	**0.0672**	**0.1430**	**2.6000e-004**	**0.0141**	**1.0600e-003**	**0.0152**	**3.8200e-003**	**9.7000e-004**	**4.7900e-003**	**0.0000**	**22.0131**	**22.0131**	**6.7000e-004**	**0.0000**	**22.0271**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2049	1.3739	0.9296	1.3400e-003		0.0897	0.0897		0.0859	0.0859	0.0000	116.9472	116.9472	0.0287	0.0000	117.5501
Total	**0.2049**	**1.3739**	**0.9296**	**1.3400e-003**		**0.0897**	**0.0897**		**0.0859**	**0.0859**	**0.0000**	**116.9472**	**116.9472**	**0.0287**	**0.0000**	**117.5501**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.9400e-003	0.0606	0.0797	1.3000e-004	3.5100e-003	9.7000e-004	4.4700e-003	1.0000e-003	8.9000e-004	1.8900e-003	0.0000	11.7674	11.7674	1.0000e-004	0.0000	11.7696
Worker	4.9900e-003	6.6100e-003	0.0633	1.3000e-004	0.0106	9.0000e-005	0.0107	2.8200e-003	8.0000e-005	2.9000e-003	0.0000	10.2456	10.2456	5.7000e-004	0.0000	10.2575
Total	**0.0119**	**0.0672**	**0.1430**	**2.6000e-004**	**0.0141**	**1.0600e-003**	**0.0152**	**3.8200e-003**	**9.7000e-004**	**4.7900e-003**	**0.0000**	**22.0131**	**22.0131**	**6.7000e-004**	**0.0000**	**22.0271**

3.6 Building Construction - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0825	0.5701	0.4005	5.9000e-004		0.0362	0.0362		0.0346	0.0346	0.0000	51.0258	51.0258	0.0121	0.0000	51.2804
Total	**0.0825**	**0.5701**	**0.4005**	**5.9000e-004**		**0.0362**	**0.0362**		**0.0346**	**0.0346**	**0.0000**	**51.0258**	**51.0258**	**0.0121**	**0.0000**	**51.2804**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.6900e-003	0.0231	0.0324	6.0000e-005	1.5400e-003	3.4000e-004	1.8800e-003	4.4000e-004	3.1000e-004	7.5000e-004	0.0000	5.1024	5.1024	4.0000e-005	0.0000	5.1033
Worker	1.9900e-003	2.6300e-003	0.0251	6.0000e-005	4.6600e-003	4.0000e-005	4.6900e-003	1.2400e-003	3.0000e-005	1.2700e-003	0.0000	4.3381	4.3381	2.3000e-004	0.0000	4.3430
Total	**4.6800e-003**	**0.0257**	**0.0574**	**1.2000e-004**	**6.2000e-003**	**3.8000e-004**	**6.5700e-003**	**1.6800e-003**	**3.4000e-004**	**2.0200e-003**	**0.0000**	**9.4406**	**9.4406**	**2.7000e-004**	**0.0000**	**9.4462**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0825	0.5701	0.4005	5.9000e-004		0.0362	0.0362		0.0346	0.0346	0.0000	51.0257	51.0257	0.0121	0.0000	51.2803
Total	**0.0825**	**0.5701**	**0.4005**	**5.9000e-004**		**0.0362**	**0.0362**		**0.0346**	**0.0346**	**0.0000**	**51.0257**	**51.0257**	**0.0121**	**0.0000**	**51.2803**

Mitigated Construction Off-Site

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

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.6900e-003	0.0231	0.0324	6.0000e-005	1.5400e-003	3.4000e-004	1.8800e-003	4.4000e-004	3.1000e-004	7.5000e-004	0.0000	5.1024	5.1024	4.0000e-005	0.0000	5.1033
Worker	1.9900e-003	2.6300e-003	0.0251	6.0000e-005	4.6600e-003	4.0000e-005	4.6900e-003	1.2400e-003	3.0000e-005	1.2700e-003	0.0000	4.3381	4.3381	2.3000e-004	0.0000	4.3430
Total	**4.6800e-003**	**0.0257**	**0.0574**	**1.2000e-004**	**6.2000e-003**	**3.8000e-004**	**6.5700e-003**	**1.6800e-003**	**3.4000e-004**	**2.0200e-003**	**0.0000**	**9.4406**	**9.4406**	**2.7000e-004**	**0.0000**	**9.4462**

3.7 Architectural Coating - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.3370					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.0800e-003	0.0391	0.0311	5.0000e-005		3.2400e-003	3.2400e-003		3.2400e-003	3.2400e-003	0.0000	4.2129	4.2129	5.0000e-004	0.0000	4.2233
Total	**0.3431**	**0.0391**	**0.0311**	**5.0000e-005**		**3.2400e-003**	**3.2400e-003**		**3.2400e-003**	**3.2400e-003**	**0.0000**	**4.2129**	**4.2129**	**5.0000e-004**	**0.0000**	**4.2233**

Unmitigated Construction Off-Site

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

Worker	2.8000e-004	3.7000e-004	3.5600e-003	1.0000e-005	6.6000e-004	1.0000e-005	6.7000e-004	1.8000e-004	0.0000	1.8000e-004	0.0000	0.6165	0.6165	3.0000e-005	0.0000	0.6172
Total	**2.8000e-004**	**3.7000e-004**	**3.5600e-003**	**1.0000e-005**	**6.6000e-004**	**1.0000e-005**	**6.7000e-004**	**1.8000e-004**	**0.0000**	**1.8000e-004**	**0.0000**	**0.6165**	**0.6165**	**3.0000e-005**	**0.0000**	**0.6172**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.3370					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.0800e-003	0.0391	0.0311	5.0000e-005		3.2400e-003	3.2400e-003		3.2400e-003	3.2400e-003	0.0000	4.2129	4.2129	5.0000e-004	0.0000	4.2233
Total	**0.3431**	**0.0391**	**0.0311**	**5.0000e-005**		**3.2400e-003**	**3.2400e-003**		**3.2400e-003**	**3.2400e-003**	**0.0000**	**4.2129**	**4.2129**	**5.0000e-004**	**0.0000**	**4.2233**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.8000e-004	3.7000e-004	3.5600e-003	1.0000e-005	6.6000e-004	1.0000e-005	6.7000e-004	1.8000e-004	0.0000	1.8000e-004	0.0000	0.6165	0.6165	3.0000e-005	0.0000	0.6172
Total	**2.8000e-004**	**3.7000e-004**	**3.5600e-003**	**1.0000e-005**	**6.6000e-004**	**1.0000e-005**	**6.7000e-004**	**1.8000e-004**	**0.0000**	**1.8000e-004**	**0.0000**	**0.6165**	**0.6165**	**3.0000e-005**	**0.0000**	**0.6172**

5395 Santa Fe Valley Church Phase 1 - 2020

San Diego County APCD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Place of Worship	65.41	1000sqft	9.03	65,410.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2020
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	537.56	**CH4 Intensity (lb/MWhr)**	0.022	**N2O Intensity (lb/MWhr)**	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics - RPS Intensity Factor for 2020

Land Use - Gross Site Area = 9.03 Acres
65,410 square foot Sanctuary, meeting building, fellowship hall, and ed building (Phase 1)
89,234 square foot church (Phase I and II)

Construction Phase - Construction Calculated Seperately

Off-road Equipment - Per Client Schedule and Data

Off-road Equipment - Construction Calculated Seperately

Trips and VMT - Construction Calculated Seperately

Grading - Construction Calculated Seperately

Architectural Coating - Per SDAPCD Rule 67

Vehicle Trips - See Attached Traffic Input Parameter Spreadsheet; Phase 1 includes 1,000 of 1,500 total seats and thus was assumed to have two thirds the total trip generation of the project

Area Coating - Per SCAQMD Rule 67 limiting VOC content in architecural coatings and Air Quality Report

Energy Use - Reductions in Electricity and Nat Gas over 2008 Energy Code/2016 Energy Code (1.48 T24 Elec. -> 1.10 T24 Elec. and 4.54 KBTU NG -> 3.59 KBTU NG)

Water And Wastewater - 20% reduction in indoor water use per 2013 CalGreen (31,289 gal * 65.41 ksf * 0.8 = 1,637,297 gal); Outdoor water use assumed to be consistent with Total project

Solid Waste - 25% Reduction per AB 493 (372.84 T/yr -> 279.63 T/yr.)

Energy Mitigation - Solar incoporated as part of Phase II

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	150
tblCommuteMitigation	EmployeeVanpoolPercentModeShare	2	0
tblEnergyUse	T24E	1.48	1.10
tblEnergyUse	T24NG	4.54	3.59
tblLandUse	LotAcreage	1.50	9.03
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.022
tblProjectCharacteristics	CO2IntensityFactor	720.49	537.56
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblProjectCharacteristics	OperationalYear	2014	2020
tblSolidWaste	SolidWasteGenerationRate	372.84	279.63
tblTripsAndVMT	VendorTripLength	7.30	0.00
tblTripsAndVMT	WorkerTripLength	10.80	0.00
tblVehicleTrips	CC_TL	7.30	6.00
tblVehicleTrips	CNW_TL	7.30	6.00
tblVehicleTrips	CW_TL	9.50	7.80
tblVehicleTrips	ST_TR	10.37	9.43
tblVehicleTrips	SU_TR	36.63	28.28
tblVehicleTrips	WD_TR	9.11	3.20
tblWater	IndoorWaterUseRate	2,046,607.50	1,637,297.00
tblWaterMitigation	UseWaterEfficientIrrigationSystemPercentReduction	6.1	0

2.0 Emissions Summary

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	0.3237	1.0000e-005	6.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.1700e-003	1.1700e-003	0.0000	0.0000	1.2300e-003
Energy	3.8200e-003	0.0348	0.0292	2.1000e-004		2.6400e-003	2.6400e-003		2.6400e-003	2.6400e-003	0.0000	175.3188	175.3188	6.3500e-003	1.9700e-003	176.0636
Mobile	0.2306	0.3724	1.9319	4.3200e-003	0.2903	5.1800e-003	0.2955	0.0776	4.7800e-003	0.0824	0.0000	299.7143	299.7143	0.0122	0.0000	299.9711
Waste						0.0000	0.0000		0.0000	0.0000	56.7624	0.0000	56.7624	3.3546	0.0000	127.2081
Water						0.0000	0.0000		0.0000	0.0000	0.5194	13.8701	14.3895	0.0539	1.3900e-003	15.9523
Total	**0.5582**	**0.4072**	**1.9617**	**4.5300e-003**	**0.2903**	**7.8200e-003**	**0.2981**	**0.0776**	**7.4200e-003**	**0.0851**	**57.2818**	**488.9043**	**546.1861**	**3.4271**	**3.3600e-003**	**619.1964**

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	0.3237	0.0000	3.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	6.3000e-004	6.3000e-004	0.0000	0.0000	6.6000e-004
Energy	3.8200e-003	0.0348	0.0292	2.1000e-004		2.6400e-003	2.6400e-003		2.6400e-003	2.6400e-003	0.0000	173.9073	173.9073	6.2900e-003	1.9600e-003	174.6468
Mobile	0.2306	0.3724	1.9319	4.3200e-003	0.2903	5.1800e-003	0.2955	0.0776	4.7800e-003	0.0824	0.0000	299.7143	299.7143	0.0122	0.0000	299.9711
Waste						0.0000	0.0000		0.0000	0.0000	56.7624	0.0000	56.7624	3.3546	0.0000	127.2081
Water						0.0000	0.0000		0.0000	0.0000	0.5194	13.8701	14.3895	0.0539	1.3900e-003	15.9517

Total	**0.5581**	**0.4072**	**1.9614**	**4.5300e-003**	**0.2903**	**7.8200e-003**	**0.2981**	**0.0776**	**7.4200e-003**	**0.0851**	**57.2818**	**487.4922**	**544.7740**	**3.4270**	**3.3500e-003**	**617.7783**

	ROG	NOx	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	**0.01**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.29**	**0.26**	**0.00**	**0.30**	**0.23**

2.3 Vegetation

Vegetation

	CO2e
Category	MT
Vegetation Land Change	-38.9193
Total	**-38.9193**

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	0.2306	0.3724	1.9319	4.3200e-003	0.2903	5.1800e-003	0.2955	0.0776	4.7800e-003	0.0824	0.0000	299.7143	299.7143	0.0122	0.0000	299.9711
Unmitigated	0.2306	0.3724	1.9319	4.3200e-003	0.2903	5.1800e-003	0.2955	0.0776	4.7800e-003	0.0824	0.0000	299.7143	299.7143	0.0122	0.0000	299.9711

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Place of Worship	209.31	616.82	1849.79	772,026	772,026
Total	209.31	616.82	1,849.79	772,026	772,026

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Place of Worship	7.80	6.00	6.00	0.00	95.00	5.00	64	25	11

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

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

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	136.0700	136.0700	5.5700e-003	1.2700e-003	136.5792
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	137.4815	137.4815	5.6300e-003	1.2800e-003	137.9960
NaturalGas Mitigated	3.8200e-003	0.0348	0.0292	2.1000e-004		2.6400e-003	2.6400e-003		2.6400e-003	2.6400e-003	0.0000	37.8373	37.8373	7.3000e-004	6.9000e-004	38.0676

NaturalGas Unmitigated	3.8200e-003	0.0348	0.0292	2.1000e-004		2.6400e-003	2.6400e-003		2.6400e-003	2.6400e-003	0.0000	37.8373	37.8373	7.3000e-004	6.9000e-004	38.0676

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					
Place of Worship	709044	3.8200e-003	0.0348	0.0292	2.1000e-004		2.6400e-003	2.6400e-003		2.6400e-003	2.6400e-003	0.0000	37.8373	37.8373	7.3000e-004	6.9000e-004	38.0676
Total		**3.8200e-003**	**0.0348**	**0.0292**	**2.1000e-004**		**2.6400e-003**	**2.6400e-003**		**2.6400e-003**	**2.6400e-003**	**0.0000**	**37.8373**	**37.8373**	**7.3000e-004**	**6.9000e-004**	**38.0676**

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					
Place of Worship	709044	3.8200e-003	0.0348	0.0292	2.1000e-004		2.6400e-003	2.6400e-003		2.6400e-003	2.6400e-003	0.0000	37.8373	37.8373	7.3000e-004	6.9000e-004	38.0676
Total		**3.8200e-003**	**0.0348**	**0.0292**	**2.1000e-004**		**2.6400e-003**	**2.6400e-003**		**2.6400e-003**	**2.6400e-003**	**0.0000**	**37.8373**	**37.8373**	**7.3000e-004**	**6.9000e-004**	**38.0676**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Place of Worship	563834	137.4815	5.6300e-003	1.2800e-003	137.9960
Total		**137.4815**	**5.6300e-003**	**1.2800e-003**	**137.9960**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Place of Worship	558045	136.0700	5.5700e-003	1.2700e-003	136.5792
Total		**136.0700**	**5.5700e-003**	**1.2700e-003**	**136.5792**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Electric Lawnmower

Use Electric Leafblower

Use Electric Chainsaw

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	0.3237	0.0000	3.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	6.3000e-004	6.3000e-004	0.0000	0.0000	6.6000e-004
Unmitigated	0.3237	1.0000e-005	6.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.1700e-003	1.1700e-003	0.0000	0.0000	1.2300e-003

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	0.0682					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2555					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	6.0000e-005	1.0000e-005	6.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.1700e-003	1.1700e-003	0.0000	0.0000	1.2300e-003
Total	**0.3237**	**1.0000e-005**	**6.0000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.1700e-003**	**1.1700e-003**	**0.0000**	**0.0000**	**1.2300e-003**

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	0.0682					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2555					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Landscaping	2.0000e-005	0.0000	3.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	6.3000e-004	6.3000e-004	0.0000	0.0000	6.6000e-004
Total	**0.3237**	**0.0000**	**3.5000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**6.3000e-004**	**6.3000e-004**	**0.0000**	**0.0000**	**6.6000e-004**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	14.3895	0.0539	1.3900e-003	15.9517
Unmitigated	14.3895	0.0539	1.3900e-003	15.9523

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Place of Worship	1.6373 / 3.2011	14.3895	0.0539	1.3900e-003	15.9523
Total		**14.3895**	**0.0539**	**1.3900e-003**	**15.9523**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Place of Worship	1.6373 / 3.2011	14.3895	0.0539	1.3900e-003	15.9517
Total		**14.3895**	**0.0539**	**1.3900e-003**	**15.9517**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	56.7624	3.3546	0.0000	127.2081
Unmitigated	56.7624	3.3546	0.0000	127.2081

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e

Land Use	tons	MT/yr			
Place of Worship	279.63	56.7624	3.3546	0.0000	127.2081
Total		**56.7624**	**3.3546**	**0.0000**	**127.2081**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Place of Worship	279.63	56.7624	3.3546	0.0000	127.2081
Total		**56.7624**	**3.3546**	**0.0000**	**127.2081**

9.0 Operational Offroad

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

10.0 Vegetation

	Total CO2	CH4	N2O	CO2e
Category	MT			
Unmitigated	-38.9193	0.0000	0.0000	-38.9193

10.1 Vegetation Land Change

Vegetation Type

	Initial/Final	Total CO2	CH4	N2O	CO2e
	Acres	MT			
Grassland	9.03 / 0	-38.9193	0.0000	0.0000	-38.9193
Total		**-38.9193**	**0.0000**	**0.0000**	**-38.9193**

Santa Fe Valley Chinese Church - P2 Construction

San Diego County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Place of Worship	12.93	1000sqft	3.00	12,925.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2018
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

Construction Off-road Equipment Mitigation - Per Client and AQ Analysis

Construction Phase - Per Client and AQ Analysis

Off-road Equipment - Per Client and AQ Analysis

Off-road Equipment - Per Client and AQ Analysis

Off-road Equipment - Per Client and AQ Analysis

Off-road Equipment - Per Client and AQ Analysis

Off-road Equipment - Per Client and AQ Analysis

Grading - Per Client and AQ Analysis

Trips and VMT - Per Client and AQ Analysis

Architectural Coating - SDAPCD Rule 67 et seq.

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	150.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	100.00
tblConstructionPhase	NumDays	10.00	35.00
tblConstructionPhase	NumDays	220.00	140.00
tblConstructionPhase	NumDays	6.00	25.00
tblConstructionPhase	PhaseEndDate	7/20/2017	7/18/2017
tblGrading	AcresOfGrading	9.38	12.50
tblLandUse	LandUseSquareFeet	12,930.00	12,925.00
tblLandUse	LotAcreage	0.30	3.00
tblOffRoadEquipment	HorsePower	226.00	208.00
tblOffRoadEquipment	HorsePower	89.00	149.00
tblOffRoadEquipment	HorsePower	174.00	162.00
tblOffRoadEquipment	HorsePower	125.00	89.00
tblOffRoadEquipment	HorsePower	130.00	82.00
tblOffRoadEquipment	HorsePower	80.00	84.00
tblOffRoadEquipment	HorsePower	255.00	358.00
tblOffRoadEquipment	HorsePower	97.00	75.00
tblOffRoadEquipment	HorsePower	97.00	75.00
tblOffRoadEquipment	HorsePower	97.00	75.00
tblOffRoadEquipment	HorsePower	162.00	157.00
tblOffRoadEquipment	HorsePower	400.00	250.00
tblOffRoadEquipment	HorsePower	87.00	150.00
tblOffRoadEquipment	HorsePower	97.00	75.00
tblOffRoadEquipment	LoadFactor	0.29	0.43
tblOffRoadEquipment	LoadFactor	0.20	0.30
tblOffRoadEquipment	LoadFactor	0.41	0.61

tblOffRoadEquipment	LoadFactor	0.42	0.62
tblOffRoadEquipment	LoadFactor	0.36	0.53
tblOffRoadEquipment	LoadFactor	0.38	0.56
tblOffRoadEquipment	LoadFactor	0.40	0.59
tblOffRoadEquipment	LoadFactor	0.37	0.55
tblOffRoadEquipment	LoadFactor	0.37	0.55
tblOffRoadEquipment	LoadFactor	0.37	0.55
tblOffRoadEquipment	LoadFactor	0.38	0.57
tblOffRoadEquipment	LoadFactor	0.38	0.57
tblOffRoadEquipment	LoadFactor	0.34	0.51
tblOffRoadEquipment	LoadFactor	0.37	0.55
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	PhaseName		Trenching
tblOffRoadEquipment	PhaseName		Fine Site Grading
tblOffRoadEquipment	PhaseName		Trenching
tblOffRoadEquipment	PhaseName		Trenching
tblOffRoadEquipment	UsageHours	7.00	4.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00

tblOffRoadEquipment	UsageHours	8.00	7.00
tblOffRoadEquipment	UsageHours	6.00	7.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	8.00	7.00
tblOffRoadEquipment	UsageHours	8.00	7.00
tblProjectCharacteristics	OperationalYear	2014	2018
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	2.00	11.00
tblTripsAndVMT	WorkerTripNumber	5.00	27.00
tblTripsAndVMT	WorkerTripNumber	1.00	5.00
tblVehicleTrips	ST_TR	10.37	0.00
tblVehicleTrips	SU_TR	36.63	0.00
tblVehicleTrips	WD_TR	9.11	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2017	0.2502	1.9828	1.4955	2.2600e-003	0.0745	0.1140	0.1885	0.0337	0.1076	0.1412	0.0000	196.8247	196.8247	0.0450	0.0000	197.7686
2018	0.1402	0.5172	0.4545	7.5000e-004	6.7500e-003	0.0302	0.0370	1.8200e-003	0.0290	0.0309	0.0000	62.8184	62.8184	0.0117	0.0000	63.0638
Total	**0.3904**	**2.5000**	**1.9500**	**3.0100e-003**	**0.0813**	**0.1442**	**0.2255**	**0.0355**	**0.1366**	**0.1721**	**0.0000**	**259.6431**	**259.6431**	**0.0566**	**0.0000**	**260.8324**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2017	0.2502	1.9828	1.4955	2.2600e-003	0.0391	0.1140	0.1531	0.0159	0.1076	0.1234	0.0000	196.8245	196.8245	0.0450	0.0000	197.7684
2018	0.1402	0.5172	0.4545	7.5000e-004	6.7500e-003	0.0302	0.0370	1.8200e-003	0.0290	0.0309	0.0000	62.8183	62.8183	0.0117	0.0000	63.0637
Total	**0.3904**	**2.5000**	**1.9500**	**3.0100e-003**	**0.0459**	**0.1442**	**0.1901**	**0.0177**	**0.1366**	**0.1542**	**0.0000**	**259.6428**	**259.6428**	**0.0566**	**0.0000**	**260.8321**

	ROG	NOx	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**	**43.55**	**0.00**	**15.70**	**50.21**	**0.00**	**10.36**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Fine Site Grading	Grading	6/16/2017	7/18/2017	5	25	
2	Trenching	Trenching	7/19/2017	8/1/2017	5	10	
3	Paving	Paving	8/2/2017	8/15/2017	5	10	
4	Building Construction	Building Construction	8/16/2017	2/27/2018	5	140	
5	Architectural Coating	Architectural Coating	2/28/2018	4/17/2018	5	35	

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: 19,388; Non-Residential Outdoor: 6,463 (Architectural Coating –

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Fine Site Grading	Graders	1	6.00	162	0.61
Fine Site Grading	Off-Highway Trucks	1	8.00	250	0.57
Fine Site Grading	Rubber Tired Dozers	1	6.00	358	0.59
Fine Site Grading	Tractors/Loaders/Backhoes	1	7.00	75	0.55
Trenching	Excavators	2	8.00	157	0.57
Trenching	Other General Industrial Equipment	1	8.00	150	0.51
Trenching	Tractors/Loaders/Backhoes	1	8.00	75	0.55
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Paving	Pavers	1	7.00	89	0.62
Paving	Paving Equipment	2	6.00	82	0.53
Paving	Rollers	1	7.00	84	0.56
Paving	Tractors/Loaders/Backhoes	1	7.00	75	0.55
Building Construction	Cranes	1	4.00	208	0.43
Building Construction	Forklifts	2	6.00	149	0.30
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	8.00	75	0.55
Building Construction	Welders	3	8.00	46	0.45
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Fine Site Grading	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

Trenching	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	9	23.00	4.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	8	27.00	11.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Fine Site Grading - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0580	0.0000	0.0580	0.0292	0.0000	0.0292	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0484	0.5123	0.3137	4.1000e-004		0.0255	0.0255		0.0235	0.0235	0.0000	37.9680	37.9680	0.0116	0.0000	38.2123
Total	**0.0484**	**0.5123**	**0.3137**	**4.1000e-004**	**0.0580**	**0.0255**	**0.0836**	**0.0292**	**0.0235**	**0.0527**	**0.0000**	**37.9680**	**37.9680**	**0.0116**	**0.0000**	**38.2123**

Unmitigated Construction Off-Site

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

Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.6000e-004	4.7000e-004	4.4800e-003	1.0000e-005	9.2000e-004	1.0000e-005	9.3000e-004	2.5000e-004	1.0000e-005	2.5000e-004	0.0000	0.8262	0.8262	4.0000e-005	0.0000	0.8271
Total	**3.6000e-004**	**4.7000e-004**	**4.4800e-003**	**1.0000e-005**	**9.2000e-004**	**1.0000e-005**	**9.3000e-004**	**2.5000e-004**	**1.0000e-005**	**2.5000e-004**	**0.0000**	**0.8262**	**0.8262**	**4.0000e-005**	**0.0000**	**0.8271**

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					0.0226	0.0000	0.0226	0.0114	0.0000	0.0114	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0484	0.5123	0.3137	4.1000e-004		0.0255	0.0255		0.0235	0.0235	0.0000	37.9679	37.9679	0.0116	0.0000	38.2122
Total	**0.0484**	**0.5123**	**0.3137**	**4.1000e-004**	**0.0226**	**0.0255**	**0.0482**	**0.0114**	**0.0235**	**0.0349**	**0.0000**	**37.9679**	**37.9679**	**0.0116**	**0.0000**	**38.2122**

Mitigated Construction Off-Site

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

Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.6000e-004	4.7000e-004	4.4800e-003	1.0000e-005	9.2000e-004	1.0000e-005	9.3000e-004	2.5000e-004	1.0000e-005	2.5000e-004	0.0000	0.8262	0.8262	4.0000e-005	0.0000	0.8271
Total	**3.6000e-004**	**4.7000e-004**	**4.4800e-003**	**1.0000e-005**	**9.2000e-004**	**1.0000e-005**	**9.3000e-004**	**2.5000e-004**	**1.0000e-005**	**2.5000e-004**	**0.0000**	**0.8262**	**0.8262**	**4.0000e-005**	**0.0000**	**0.8271**

3.3 Trenching - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0100	0.1065	0.0864	1.3000e-004		5.8700e-003	5.8700e-003		5.4000e-003	5.4000e-003	0.0000	11.8454	11.8454	3.6300e-003	0.0000	11.9216
Total	**0.0100**	**0.1065**	**0.0864**	**1.3000e-004**		**5.8700e-003**	**5.8700e-003**		**5.4000e-003**	**5.4000e-003**	**0.0000**	**11.8454**	**11.8454**	**3.6300e-003**	**0.0000**	**11.9216**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.6000e-004	2.1000e-004	1.9500e-003	0.0000	4.0000e-004	0.0000	4.0000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3592	0.3592	2.0000e-005	0.0000	0.3596

Total	**1.6000e-004**	**2.1000e-004**	**1.9500e-003**	**0.0000**	**4.0000e-004**	**0.0000**	**4.0000e-004**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**0.3592**	**0.3592**	**2.0000e-005**	**0.0000**	**0.3596**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0100	0.1065	0.0864	1.3000e-004		5.8700e-003	5.8700e-003		5.4000e-003	5.4000e-003	0.0000	11.8454	11.8454	3.6300e-003	0.0000	11.9216
Total	**0.0100**	**0.1065**	**0.0864**	**1.3000e-004**		**5.8700e-003**	**5.8700e-003**		**5.4000e-003**	**5.4000e-003**	**0.0000**	**11.8454**	**11.8454**	**3.6300e-003**	**0.0000**	**11.9216**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.6000e-004	2.1000e-004	1.9500e-003	0.0000	4.0000e-004	0.0000	4.0000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3592	0.3592	2.0000e-005	0.0000	0.3596
Total	**1.6000e-004**	**2.1000e-004**	**1.9500e-003**	**0.0000**	**4.0000e-004**	**0.0000**	**4.0000e-004**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**0.3592**	**0.3592**	**2.0000e-005**	**0.0000**	**0.3596**

3.4 Paving - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0105	0.0947	0.0677	9.0000e-005		6.9000e-003	6.9000e-003		6.3700e-003	6.3700e-003	0.0000	8.3102	8.3102	2.4100e-003	0.0000	8.3607
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0105**	**0.0947**	**0.0677**	**9.0000e-005**		**6.9000e-003**	**6.9000e-003**		**6.3700e-003**	**6.3700e-003**	**0.0000**	**8.3102**	**8.3102**	**2.4100e-003**	**0.0000**	**8.3607**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.1000e-004	1.7500e-003	2.5900e-003	0.0000	1.3000e-004	2.0000e-005	1.6000e-004	4.0000e-005	2.0000e-005	6.0000e-005	0.0000	0.4242	0.4242	0.0000	0.0000	0.4243
Worker	3.6000e-004	4.7000e-004	4.4800e-003	1.0000e-005	9.2000e-004	1.0000e-005	9.3000e-004	2.5000e-004	1.0000e-005	2.5000e-004	0.0000	0.8262	0.8262	4.0000e-005	0.0000	0.8271
Total	**5.7000e-004**	**2.2200e-003**	**7.0700e-003**	**1.0000e-005**	**1.0500e-003**	**3.0000e-005**	**1.0900e-003**	**2.9000e-004**	**3.0000e-005**	**3.1000e-004**	**0.0000**	**1.2504**	**1.2504**	**4.0000e-005**	**0.0000**	**1.2514**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0105	0.0947	0.0677	9.0000e-005		6.9000e-003	6.9000e-003		6.3700e-003	6.3700e-003	0.0000	8.3102	8.3102	2.4100e-003	0.0000	8.3607
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0105**	**0.0947**	**0.0677**	**9.0000e-005**		**6.9000e-003**	**6.9000e-003**		**6.3700e-003**	**6.3700e-003**	**0.0000**	**8.3102**	**8.3102**	**2.4100e-003**	**0.0000**	**8.3607**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.1000e-004	1.7500e-003	2.5900e-003	0.0000	1.3000e-004	2.0000e-005	1.6000e-004	4.0000e-005	2.0000e-005	6.0000e-005	0.0000	0.4242	0.4242	0.0000	0.0000	0.4243
Worker	3.6000e-004	4.7000e-004	4.4800e-003	1.0000e-005	9.2000e-004	1.0000e-005	9.3000e-004	2.5000e-004	1.0000e-005	2.5000e-004	0.0000	0.8262	0.8262	4.0000e-005	0.0000	0.8271
Total	**5.7000e-004**	**2.2200e-003**	**7.0700e-003**	**1.0000e-005**	**1.0500e-003**	**3.0000e-005**	**1.0900e-003**	**2.9000e-004**	**3.0000e-005**	**3.1000e-004**	**0.0000**	**1.2504**	**1.2504**	**4.0000e-005**	**0.0000**	**1.2514**

3.5 Building Construction - 2017

Unmitigated Construction On-Site

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

Off-Road	0.1705	1.2140	0.8931	1.3400e-003		0.0749	0.0749		0.0716	0.0716	0.0000	115.3283	115.3283	0.0266	0.0000	115.8869
Total	**0.1705**	**1.2140**	**0.8931**	**1.3400e-003**		**0.0749**	**0.0749**		**0.0716**	**0.0716**	**0.0000**	**115.3283**	**115.3283**	**0.0266**	**0.0000**	**115.8869**

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	5.6100e-003	0.0471	0.0697	1.3000e-004	3.5100e-003	6.7000e-004	4.1800e-003	1.0000e-003	6.2000e-004	1.6200e-003	0.0000	11.4322	11.4322	9.0000e-005	0.0000	11.4340
Worker	4.1100e-003	5.4500e-003	0.0515	1.3000e-004	0.0106	8.0000e-005	0.0107	2.8200e-003	7.0000e-005	2.8900e-003	0.0000	9.5049	9.5049	4.8000e-004	0.0000	9.5151
Total	**9.7200e-003**	**0.0525**	**0.1212**	**2.6000e-004**	**0.0141**	**7.5000e-004**	**0.0149**	**3.8200e-003**	**6.9000e-004**	**4.5100e-003**	**0.0000**	**20.9371**	**20.9371**	**5.7000e-004**	**0.0000**	**20.9491**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1705	1.2140	0.8931	1.3400e-003		0.0749	0.0749		0.0716	0.0716	0.0000	115.3281	115.3281	0.0266	0.0000	115.8868
Total	**0.1705**	**1.2140**	**0.8931**	**1.3400e-003**		**0.0749**	**0.0749**		**0.0716**	**0.0716**	**0.0000**	**115.3281**	**115.3281**	**0.0266**	**0.0000**	**115.8868**

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	5.6100e-003	0.0471	0.0697	1.3000e-004	3.5100e-003	6.7000e-004	4.1800e-003	1.0000e-003	6.2000e-004	1.6200e-003	0.0000	11.4322	11.4322	9.0000e-005	0.0000	11.4340
Worker	4.1100e-003	5.4500e-003	0.0515	1.3000e-004	0.0106	8.0000e-005	0.0107	2.8200e-003	7.0000e-005	2.8900e-003	0.0000	9.5049	9.5049	4.8000e-004	0.0000	9.5151
Total	**9.7200e-003**	**0.0525**	**0.1212**	**2.6000e-004**	**0.0141**	**7.5000e-004**	**0.0149**	**3.8200e-003**	**6.9000e-004**	**4.5100e-003**	**0.0000**	**20.9371**	**20.9371**	**5.7000e-004**	**0.0000**	**20.9491**

3.5 Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0635	0.4614	0.3704	5.8000e-004		0.0273	0.0273		0.0261	0.0261	0.0000	49.0093	49.0093	0.0110	0.0000	49.2403
Total	**0.0635**	**0.4614**	**0.3704**	**5.8000e-004**		**0.0273**	**0.0273**		**0.0261**	**0.0261**	**0.0000**	**49.0093**	**49.0093**	**0.0110**	**0.0000**	**49.2403**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.2600e-003	0.0182	0.0286	5.0000e-005	1.5000e-003	2.7000e-004	1.7700e-003	4.3000e-004	2.5000e-004	6.8000e-004	0.0000	4.8153	4.8153	4.0000e-005	0.0000	4.8161
Worker	1.6000e-003	2.1300e-003	0.0200	6.0000e-005	4.5500e-003	3.0000e-005	4.5800e-003	1.2100e-003	3.0000e-005	1.2400e-003	0.0000	3.9206	3.9206	1.9000e-004	0.0000	3.9246
Total	**3.8600e-003**	**0.0204**	**0.0485**	**1.1000e-004**	**6.0500e-003**	**3.0000e-004**	**6.3500e-003**	**1.6400e-003**	**2.8000e-004**	**1.9200e-003**	**0.0000**	**8.7359**	**8.7359**	**2.3000e-004**	**0.0000**	**8.7407**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0635	0.4614	0.3704	5.8000e-004		0.0273	0.0273		0.0261	0.0261	0.0000	49.0092	49.0092	0.0110	0.0000	49.2402
Total	**0.0635**	**0.4614**	**0.3704**	**5.8000e-004**		**0.0273**	**0.0273**		**0.0261**	**0.0261**	**0.0000**	**49.0092**	**49.0092**	**0.0110**	**0.0000**	**49.2402**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.2600e-003	0.0182	0.0286	5.0000e-005	1.5000e-003	2.7000e-004	1.7700e-003	4.3000e-004	2.5000e-004	6.8000e-004	0.0000	4.8153	4.8153	4.0000e-005	0.0000	4.8161
Worker	1.6000e-003	2.1300e-003	0.0200	6.0000e-005	4.5500e-003	3.0000e-005	4.5800e-003	1.2100e-003	3.0000e-005	1.2400e-003	0.0000	3.9206	3.9206	1.9000e-004	0.0000	3.9246
Total	**3.8600e-003**	**0.0204**	**0.0485**	**1.1000e-004**	**6.0500e-003**	**3.0000e-004**	**6.3500e-003**	**1.6400e-003**	**2.8000e-004**	**1.9200e-003**	**0.0000**	**8.7359**	**8.7359**	**2.3000e-004**	**0.0000**	**8.7407**

3.6 Architectural Coating - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0674					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.2300e-003	0.0351	0.0325	5.0000e-005		2.6300e-003	2.6300e-003		2.6300e-003	2.6300e-003	0.0000	4.4682	4.4682	4.2000e-004	0.0000	4.4771
Total	**0.0726**	**0.0351**	**0.0325**	**5.0000e-005**		**2.6300e-003**	**2.6300e-003**		**2.6300e-003**	**2.6300e-003**	**0.0000**	**4.4682**	**4.4682**	**4.2000e-004**	**0.0000**	**4.4771**

Unmitigated Construction Off-Site

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

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.5000e-004	3.3000e-004	3.0800e-003	1.0000e-005	7.0000e-004	1.0000e-005	7.1000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.6050	0.6050	3.0000e-005	0.0000	0.6057
Total	**2.5000e-004**	**3.3000e-004**	**3.0800e-003**	**1.0000e-005**	**7.0000e-004**	**1.0000e-005**	**7.1000e-004**	**1.9000e-004**	**0.0000**	**1.9000e-004**	**0.0000**	**0.6050**	**0.6050**	**3.0000e-005**	**0.0000**	**0.6057**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0674					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.2300e-003	0.0351	0.0325	5.0000e-005		2.6300e-003	2.6300e-003		2.6300e-003	2.6300e-003	0.0000	4.4682	4.4682	4.2000e-004	0.0000	4.4771
Total	**0.0726**	**0.0351**	**0.0325**	**5.0000e-005**		**2.6300e-003**	**2.6300e-003**		**2.6300e-003**	**2.6300e-003**	**0.0000**	**4.4682**	**4.4682**	**4.2000e-004**	**0.0000**	**4.4771**

Mitigated Construction Off-Site

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

Worker	2.5000e-004	3.3000e-004	3.0800e-003	1.0000e-005	7.0000e-004	1.0000e-005	7.1000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.6050	0.6050	3.0000e-005	0.0000	0.6057
Total	**2.5000e-004**	**3.3000e-004**	**3.0800e-003**	**1.0000e-005**	**7.0000e-004**	**1.0000e-005**	**7.1000e-004**	**1.9000e-004**	**0.0000**	**1.9000e-004**	**0.0000**	**0.6050**	**0.6050**	**3.0000e-005**	**0.0000**	**0.6057**

5395 Santa Fe Valley Church Buildout - 2020

San Diego County APCD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Place of Worship	89.23	1000sqft	9.03	89,234.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2020
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	537.56	**CH4 Intensity (lb/MWhr)**	0.022	**N2O Intensity (lb/MWhr)**	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics - RPS Intensity Factor for 2020

Land Use - Gross Site Area = 9.03 Acres
89,234 square foot church (Phase I and II)

Construction Phase - Construction Calculated Seperately

Off-road Equipment - Per Client Schedule and Data

Off-road Equipment - Construction Calculated Seperately

Trips and VMT - Construction Calculated Seperately

Grading - Construction Calculated Seperately

Architectural Coating - Per SDAPCD Rule 67

Vehicle Trips - See Attached Traffic Input Parameter Spreadsheet

Area Coating - Per SCAQMD Rule 67 limiting VOC content in architecural coatings and Air Quality Report

Energy Use - Reductions in Electricity and Nat Gas over 2008 Energy Code/2016 Energy Code (1.48 T24 Elec. -> 1.10 T24 Elec. and 4.54 KBTU NG -> 3.59 KBTU NG)

Water And Wastewater - 20% reduction in indoor water use per 2013 CalGreen (31,289 gal * 89.234 ksf * 0.8 = 2,233,634 gal); 25% Reduction in Exterior for Xeroscape and onsite water supply (48,939 gal * 89.234 ksf * 0.75 = 3,275,267 gal).

Solid Waste - 25% Reduction per AB 493 (508.61 T/yr -> 381.4575 T/yr.)

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	150
tblAreaCoating	Area_Nonresidential_Interior	133851	124224
tblCommuteMitigation	EmployeeVanpoolPercentModeShare	2	0
tblConstructionPhase	NumDays	230.00	1.00
tblEnergyUse	T24E	1.48	1.10
tblEnergyUse	T24NG	4.54	3.59
tblLandUse	LandUseSquareFeet	89,230.00	89,234.00
tblLandUse	LotAcreage	2.05	9.03
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.022
tblProjectCharacteristics	CO2IntensityFactor	720.49	537.56
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblProjectCharacteristics	OperationalYear	2014	2020
tblSolidWaste	SolidWasteGenerationRate	508.61	381.46
tblTripsAndVMT	HaulingTripLength	20.00	0.00
tblTripsAndVMT	VendorTripLength	7.30	0.00
tblTripsAndVMT	VendorTripNumber	15.00	0.00
tblTripsAndVMT	WorkerTripLength	10.80	0.00
tblTripsAndVMT	WorkerTripNumber	37.00	0.00
tblVehicleTrips	CC_TL	7.30	6.00
tblVehicleTrips	CNW_TL	7.30	6.00

tblVehicleTrips	CW_TL	9.50	7.80
tblVehicleTrips	SU_TR	36.63	31.10
tblVehicleTrips	WD_TR	9.11	3.52
tblWater	IndoorWaterUseRate	2,791,909.29	2,233,634.00
tblWater	OutdoorWaterUseRate	4,366,832.49	3,275,267.00
tblWaterMitigation	UseWaterEfficientIrrigationSystemPercentReduction	6.1	0

2.0 Emissions Summary

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	0.4361	1.0000e-005	8.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.5900e-003	1.5900e-003	0.0000	0.0000	1.6800e-003
Energy	5.2200e-003	0.0474	0.0398	2.8000e-004		3.6000e-003	3.6000e-003		3.6000e-003	3.6000e-003	0.0000	239.1744	239.1744	8.6700e-003	2.6900e-003	240.1905
Mobile	0.3460	0.5588	2.8984	6.4800e-003	0.4355	7.7700e-003	0.4433	0.1165	7.1700e-003	0.1237	0.0000	449.6618	449.6618	0.0184	0.0000	450.0471
Waste						0.0000	0.0000		0.0000	0.0000	77.4329	0.0000	77.4329	4.5762	0.0000	173.5322
Water						0.0000	0.0000		0.0000	0.0000	0.7086	15.9643	16.6730	0.0734	1.8700e-003	18.7939
Total	**0.7873**	**0.6062**	**2.9390**	**6.7600e-003**	**0.4355**	**0.0114**	**0.4469**	**0.1165**	**0.0108**	**0.1273**	**78.1416**	**704.8021**	**782.9436**	**4.6766**	**4.5600e-003**	**882.5654**

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	0.4360	0.0000	4.8000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	8.6000e-004	8.6000e-004	0.0000	0.0000	9.0000e-004
Energy	5.2200e-003	0.0474	0.0398	2.8000e-004		3.6000e-003	3.6000e-003		3.6000e-003	3.6000e-003	0.0000	218.6857	218.6857	7.8300e-003	2.5000e-003	219.6252
Mobile	0.3460	0.5588	2.8984	6.4800e-003	0.4355	7.7700e-003	0.4433	0.1165	7.1700e-003	0.1237	0.0000	449.6618	449.6618	0.0184	0.0000	450.0471
Waste						0.0000	0.0000		0.0000	0.0000	77.4329	0.0000	77.4329	4.5762	0.0000	173.5322
Water						0.0000	0.0000		0.0000	0.0000	0.7086	15.9643	16.6730	0.0734	1.8600e-003	18.7930
Total	**0.7872**	**0.6062**	**2.9387**	**6.7600e-003**	**0.4355**	**0.0114**	**0.4469**	**0.1165**	**0.0108**	**0.1273**	**78.1416**	**684.3127**	**762.4543**	**4.6758**	**4.3600e-003**	**861.9984**

	ROG	NOx	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	**0.01**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**2.91**	**2.62**	**0.02**	**4.39**	**2.33**

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	0.3460	0.5588	2.8984	6.4800e-003	0.4355	7.7700e-003	0.4433	0.1165	7.1700e-003	0.1237	0.0000	449.6618	449.6618	0.0184	0.0000	450.0471
Unmitigated	0.3460	0.5588	2.8984	6.4800e-003	0.4355	7.7700e-003	0.4433	0.1165	7.1700e-003	0.1237	0.0000	449.6618	449.6618	0.0184	0.0000	450.0471

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Place of Worship	314.09	925.32	2775.05	1,158,272	1,158,272
Total	314.09	925.32	2,775.05	1,158,272	1,158,272

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
Place of Worship	7.80	6.00	6.00	0.00	95.00	5.00	64	25	11

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

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

Percent of Electricity Use Generated with Renewable Energy

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	167.0671	167.0671	6.8400e-003	1.5500e-003	167.6924
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	187.5557	187.5557	7.6800e-003	1.7400e-003	188.2577
NaturalGas Mitigated	5.2200e-003	0.0474	0.0398	2.8000e-004		3.6000e-003	3.6000e-003		3.6000e-003	3.6000e-003	0.0000	51.6186	51.6186	9.9000e-004	9.5000e-004	51.9328
NaturalGas Unmitigated	5.2200e-003	0.0474	0.0398	2.8000e-004		3.6000e-003	3.6000e-003		3.6000e-003	3.6000e-003	0.0000	51.6186	51.6186	9.9000e-004	9.5000e-004	51.9328

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					
Place of Worship	967297	5.2200e-003	0.0474	0.0398	2.8000e-004		3.6000e-003	3.6000e-003		3.6000e-003	3.6000e-003	0.0000	51.6186	51.6186	9.9000e-004	9.5000e-004	51.9328
Total		**5.2200e-003**	**0.0474**	**0.0398**	**2.8000e-004**		**3.6000e-003**	**3.6000e-003**		**3.6000e-003**	**3.6000e-003**	**0.0000**	**51.6186**	**51.6186**	**9.9000e-004**	**9.5000e-004**	**51.9328**

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					
Place of Worship	967297	5.2200e-003	0.0474	0.0398	2.8000e-004		3.6000e-003	3.6000e-003		3.6000e-003	3.6000e-003	0.0000	51.6186	51.6186	9.9000e-004	9.5000e-004	51.9328
Total		**5.2200e-003**	**0.0474**	**0.0398**	**2.8000e-004**		**3.6000e-003**	**3.6000e-003**		**3.6000e-003**	**3.6000e-003**	**0.0000**	**51.6186**	**51.6186**	**9.9000e-004**	**9.5000e-004**	**51.9328**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			

Place of Worship	769197	187.5557	7.6800e-003	1.7400e-003	188.2577
Total		**187.5557**	**7.6800e-003**	**1.7400e-003**	**188.2577**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Place of Worship	685170	167.0671	6.8400e-003	1.5500e-003	167.6924
Total		**167.0671**	**6.8400e-003**	**1.5500e-003**	**167.6924**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Electric Lawnmower

Use Electric Leafblower

Use Electric Chainsaw

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	0.4360	0.0000	4.8000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	8.6000e-004	8.6000e-004	0.0000	0.0000	9.0000e-004

Unmitigated	0.4361	1.0000e-005	8.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.5900e-003	1.5900e-003	0.0000	0.0000	1.6800e-003

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	0.0875					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.3485					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	8.0000e-005	1.0000e-005	8.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.5900e-003	1.5900e-003	0.0000	0.0000	1.6800e-003
Total	**0.4361**	**1.0000e-005**	**8.3000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.5900e-003**	**1.5900e-003**	**0.0000**	**0.0000**	**1.6800e-003**

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					
Consumer Products	0.3485					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	3.0000e-005	0.0000	4.8000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	8.6000e-004	8.6000e-004	0.0000	0.0000	9.0000e-004
Architectural Coating	0.0875					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.4360**	**0.0000**	**4.8000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**8.6000e-004**	**8.6000e-004**	**0.0000**	**0.0000**	**9.0000e-004**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	16.6730	0.0734	1.8600e-003	18.7930
Unmitigated	16.6730	0.0734	1.8700e-003	18.7939

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Place of Worship	2.23363 / 3.27527	16.6730	0.0734	1.8700e-003	18.7939
Total		**16.6730**	**0.0734**	**1.8700e-003**	**18.7939**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e

Land Use	Mgal	MT/yr			
Place of Worship	2.23363 / 3.27527	16.6730	0.0734	1.8600e-003	18.7930
Total		**16.6730**	**0.0734**	**1.8600e-003**	**18.7930**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	77.4329	4.5762	0.0000	173.5322
Unmitigated	77.4329	4.5762	0.0000	173.5322

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Place of Worship	381.46	77.4329	4.5762	0.0000	173.5322

Total		**77.4329**	**4.5762**	**0.0000**	**173.5322**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Place of Worship	381.46	77.4329	4.5762	0.0000	173.5322
Total		**77.4329**	**4.5762**	**0.0000**	**173.5322**

9.0 Operational Offroad

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

10.0 Vegetation