Air Quality & Greenhouse Gas Assessment
Grace Church Remodel and Griffin Senior Living Community Project

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Laguna Niguel, California

Prepared For:

City of Laguna Niguel
30111 Crown Valley Parkway
Laguna Niguel, CA 92677

Prepared By:

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

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LIST OF ACRONYMS AND ABBREVIATIONS

°F	Degrees Fahrenheit
µg/m3	Micrograms per cubic meter; ppm = parts per million
1992 CO Plan	1992 Federal Attainment Plan for Carbon Monoxide
AB	Assembly Bill
AQMD	Air Quality Management District
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CalEEMod	California Emissions Estimator Model
Caltrans	California Department of Transportation
CAP	Climate Action Plan
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CCAA	California Clean Air Act
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CH_4	Methane
City	City of Laguna Niguel
CO_2	Carbon dioxide
CO_2e	Carbon dioxide equivalent
County	Orange County
DPM	Diesel particulate matter
EO	Executive Order
GHG	Greenhouse gas
GWP	Global warming potential
IPCC	Intergovernmental Panel on Climate Change
LOS	Level of service

LIST OF ACRONYMS AND ABBREVIATIONS

LSTs	Localized significance threshold
N_2O	Nitrous oxide
NAAQS	National Ambient Air Quality Standards
NO_2	Nitrogen dioxide
NO_x	Nitric oxides
O_3	Ozone
PM	Particulate matter
PM_{10}	Coarse particulate matter
$PM_{2.5}$	Fine particulate matter
ppb	Parts per billion
Project	Grace Church Remodel & Senior Living Facility Project
RCPG	Regional Comprehensive Plan and Guide
ROGs	Reactive organic gases
RTP/SCS	Regional Transportation Plan/Sustainable Communities Strategy
SB	Senate Bill
SCAG	Southern California Association of Governments
SCE	Southern California Edison
SCAQMD	South Coast Air Quality Management District
SIP	State Implementation Plan
SO_2	Sulfur dioxide
SO_x	Sulfur oxides
SR	State Route
SRA	Source receptor area
SoCAB	South Coast Air Basin
TACs	Toxic air contaminants
USEPA	U.S. Environmental Protection Agency
VOCs	Volatile organic compounds
VMT	Vehicle Miles Traveled

1.0 INTRODUCTION

This report documents the results of an Air Quality and Greenhouse Gas (GHG) Emissions Assessment completed for the Grace Church Remodel & Senior Living Facility Project (Project), which includes the remodeling of an existing church and construction of a new 108-unit senior living facility in Laguna Niguel, California. This assessment was prepared using methodologies and assumptions recommended in the rules and regulations of the South Coast Air Quality Management District (SCAQMD). Regional and local existing conditions are presented, along with pertinent emissions standards and regulations. The purpose of this assessment is to estimate Project-generated criteria air pollutants and GHG emissions attributable to the Project and to determine the level of impact the Project would have on the environment.

1.1 Project Location and Description

The Project Site (APN 653-012-12) is located at 24600 La Plata Drive in the City of Laguna Niguel (City), Orange County, at the rear of the existing Grace Church site. Located near the south corner of the Crown Valley Parkway and La Plata Drive intersection, the site is predominately surrounded by low- and medium-density residential development and open space, though the Childtime Learning Center is located directly northeast adjacent to the site. The 5.34-acre Project Site is located approximately 288 feet above sea level and the topography generally slopes downward from east to west, with the western edge of the property located above the grade of the adjacent roadway, Crown Valley Parkway.

According to the Laguna Niguel General Plan, the site is designated Public/Institutional (PI). The Public/Institutional designation includes a wide range of public, quasi-public and special purpose private facilities that are aimed at providing a variety of governmental or social services to the community (Laguna Niguel 2006). Land uses such as senior housing, congregate care facilities, and managed care facilities are permitted in all City General Plan land use designations, with the exception of Single Family Detached and Open Space, provided that the proposed land use does not generate more traffic than the projected traffic generation for the land use intensity identified in the General Plan Community Profile Area for the site (Laguna Niguel 2006).

The Project proposes to subdivide the existing 5.34-acre parcel into two new parcels. Parcel 1 would include the existing Grace Church on 2.00 acres while Parcel 2 would include a new 108-unit senior living facility, known as the Griffin Senior Living Community, on 3.34 acres. Specific Project components include the following:

- Construction of a 3,822 square foot second-story addition to the existing 7,590-square foot one-story Grace Church. The new addition would add additional meeting areas and offices enlarging the existing church structure to a total of 11,412 square feet. The church façade would be remodeled to complement the proposed senior living facility.
- Demolition of 3,360 square feet of existing church modular buildings and restrooms.
- Construction of a 130,046-square foot senior living facility with 108 dwelling units.
- Construction of a 24,000-square foot subterranean parking garage.

Both the Church and proposed senior living center would have access from a new driveway on Crown Valley Parkway, as well as access to La Plata Drive through the Grace Church property and the existing driveway at 24600 La Plata Drive.

2.0 AIR QUALITY

2.1 Air Quality Setting

Air quality in a region is determined by its topography, meteorology, and existing air pollutant sources. These factors are discussed below, along with the current regulatory structure that applies to the South Coast Air Basin (SoCAB), which encompasses the Project site, pursuant to the regulatory authority of the SCAQMD.

Ambient air quality is commonly characterized by climate conditions, the meteorological influences on air quality, and the quantity and type of pollutants released. The air basin is subject to a combination of topographical and climatic factors that reduce the potential for high levels of regional and local air pollutants. The following section describes the pertinent characteristics of the air basin and provides an overview of the physical conditions affecting pollutant dispersion in the Project Area.

2.1.1 South Coast Air Basin

The California Air Resources Board CARB divides the State into air basins that share similar meteorological and topographical features. The Project site lies in the SoCAB, which includes the non-desert portions of Los Angeles, Riverside, and San Bernardino counties and all of Orange County. The air basin is on a coastal plain with connecting broad valleys and low hills and is bounded by the Pacific Ocean on the southwest, with high mountains forming the remainder of the perimeter (SCAQMD 1993).

Temperature and Precipitation

The air basin is part of a semi-permanent high-pressure zone in the eastern Pacific. As a result, the climate is mild, tempered by cool sea breezes. This usually mild weather pattern is interrupted infrequently by periods of extremely hot weather, winter storms, and Santa Ana winds. The annual average temperature varies little throughout the 6,645-square-mile SoCAB, ranging from the low 60s to the high 80s, measured in degrees Fahrenheit (°F). With a more pronounced oceanic influence, coastal areas show less variability in annual minimum and maximum temperatures than inland areas (SCAQMD 1993).

In contrast to a very steady pattern of temperature, rainfall is seasonally and annually highly variable. Almost all annual rains fall between November and April. Summer rainfall is normally restricted to widely scattered thundershowers near the coast, with slightly heavier shower activity in the east and over the mountains.

Humidity

Although the SoCAB has a semiarid climate, the air near the earth's surface is typically moist because of the presence of a shallow marine layer. Except for infrequent periods when dry, continental air is brought into the SoCAB by offshore winds, the "ocean effect" is dominant. Periods of heavy fog, especially along the coast, are frequent, and low clouds, often referred to as high fog, are a characteristic climatic feature. Annual average humidity is 70 percent at the coast and 57 percent in the eastern portions of the SoCAB (SCAQMD 1993).

Wind

Wind patterns across the south coastal region are characterized by westerly or southwesterly onshore winds during the day and by easterly or northeasterly breezes at night. Wind speed is higher during the dry summer months than during the rainy winter.

Between periods of wind, air stagnation may occur in both the morning and evening hours. Air stagnation is one of the critical determinants of air quality conditions on any given day. During the winter and fall, surface high-pressure systems over the SoCAB, combined with other meteorological conditions, can result in very strong, downslope Santa Ana winds. These winds normally continue a few days before predominant meteorological conditions are reestablished.

The mountain ranges to the east affect the diffusion of pollutants by inhibiting the eastward transport of pollutants. Air quality in the SoCAB generally ranges from fair to poor and is similar to air quality in most of coastal Southern California. The entire region experiences heavy concentrations of air pollutants during prolonged periods of stable atmospheric conditions (SCAQMD 1993).

Inversion

In conjunction with the two characteristic wind patterns that affect the rate and orientation of horizontal pollutant transport, two similarly distinct types of temperature inversions control the vertical depth through which pollutants are mixed. These inversions are the marine/subsidence inversion and the radiation inversion. The height of the base of the inversion at any given time is known as the "mixing height." The combination of winds and inversions is a critical determinant leading to highly degraded air quality in the summer and generally good air quality in the winter in Orange County (SCAQMD 1993).

2.1.2 Criteria Air Pollutants

Criteria air pollutants are defined as those pollutants for which the federal and state governments have established air quality standards for outdoor or ambient concentrations to protect public health with a determined margin of safety. Ozone (O_3), coarse particulate matter (PM_{10}), and fine particulate matter ($PM_{2.5}$) are generally considered to be regional pollutants because they or their precursors affect air quality on a regional scale. Pollutants such as carbon monoxide (CO), nitrogen dioxide (NO_2), and sulfur dioxide (SO_2) are considered to be local pollutants because they tend to accumulate in the air locally. PM is also considered a local pollutant. Health effects commonly associated with criteria pollutants are summarized in Table 2-1.

Table 2-1. Criteria Air Pollutants- Summary of Common Sources and Effects

Pollutant	Major Manmade Sources	Human Health & Welfare Effects
CO	An odorless, colorless gas formed when carbon in fuel is not burned completely; a component of motor vehicle exhaust.	Reduces the ability of blood to deliver oxygen to vital tissues, effecting the cardiovascular and nervous system. Impairs vision, causes dizziness, and can lead to unconsciousness or death.
NO_2	A reddish-brown gas formed during fuel combustion for motor vehicles, energy utilities and industrial sources.	Respiratory irritant; aggravates lung and heart problems. Precursor to ozone and acid rain. Causes brown discoloration of the atmosphere.
O_3	Formed by a chemical reaction between reactive organic gases (ROGs) and nitrous oxides (N_2O) in the presence of sunlight. Common sources of these precursor pollutants include motor vehicle exhaust, industrial emissions, solvents, paints and landfills.	Irritates and causes inflammation of the mucous membranes and lung airways; causes wheezing, coughing and pain when inhaling deeply; decreases lung capacity; aggravates lung and heart problems. Damages plants; reduces crop yield.
PM_{10} & $PM_{2.5}$	Power plants, steel mills, chemical plants, unpaved roads and parking lots, wood-burning stoves and fireplaces, automobiles and others.	Increased respiratory symptoms, such as irritation of the airways, coughing, or difficulty breathing; aggravated asthma; development of chronic bronchitis; irregular heartbeat; nonfatal heart attacks; and premature death in people with heart or lung disease. Impairs visibility (haze).
SO_2	A colorless, nonflammable gas formed when fuel containing sulfur is burned. Examples are refineries, cement manufacturing, and locomotives.	Respiratory irritant. Aggravates lung and heart problems. Can damage crops and natural vegetation. Impairs visibility.

Source: California Air Pollution Control Officers Association (CAPCOA 2013)

Carbon Monoxide

CO in the urban environment is associated primarily with the incomplete combustion of fossil fuels in motor vehicles. CO combines with hemoglobin in the bloodstream and reduces the amount of oxygen that can be circulated through the body. High CO concentrations can cause headaches, aggravate cardiovascular disease and impair central nervous system functions. CO concentrations can vary greatly over comparatively short distances. Relatively high concentrations of CO are typically found near crowded intersections and along heavy roadways with slow moving traffic. Even under the most severe meteorological and traffic conditions, high concentrations of CO are limited to locations within relatively short distances of the source. Overall CO emissions are decreasing as a result of the Federal Motor Vehicle Control Program, which has mandated increasingly lower emission levels for vehicles manufactured since 1973. CO levels in the SoCAB are in compliance with the state and federal one- and eight-hour standards.

Nitrogen Oxides

Nitrogen gas comprises about 80 percent of the air and is naturally occurring. At high temperatures and under certain conditions, nitrogen can combine with oxygen to form several different gaseous compounds collectively called nitric oxides (NO_x). Motor vehicle emissions are the main source of NO_x in urban areas. NO_x is very toxic to animals and humans because of its ability to form nitric acid with water in the eyes, lungs, mucus membrane, and skin. In animals, long-term exposure to NO_x increases susceptibility to respiratory infections, and lowering resistance to such diseases as pneumonia and influenza. Laboratory studies show that susceptible humans, such as asthmatics, who are exposed to high concentrations can suffer from lung irritation or possible lung damage. Precursors of NO_x, such as NO and NO_2, attribute to the formation of O_3 and $PM_{2.5}$. Epidemiological studies have also shown associations between NO_2 concentrations and daily mortality from respiratory and cardiovascular causes and with hospital admissions for respiratory conditions.

Ozone

O_3 is a secondary pollutant, meaning it is not directly emitted. It is formed when volatile organic compounds (VOCs) or ROGs and NO_x undergo photochemical reactions that occur only in the presence of sunlight. The primary source of ROG emissions is unburned hydrocarbons in motor vehicle and other internal combustion engine exhaust. NO_x forms as a result of the combustion process, most notably due to the operation of motor vehicles. Sunlight and hot weather cause ground-level O_3 to form. Ground-level O_3 is the primary constituent of smog. Because O_3 formation occurs over extended periods of time, both O_3 and its precursors are transported by wind and high O_3 concentrations can occur in areas well away from sources of its constituent pollutants.

People with lung disease, children, older adults, and people who are active can be affected when O_3 levels exceed ambient air quality standards. Numerous scientific studies have linked ground-level O_3 exposure to a variety of problems including lung irritation, difficult breathing, permanent lung damage to those with repeated exposure, and respiratory illnesses.

Particulate Matter

PM includes both aerosols and solid particulates of a wide range of sizes and composition. Of concern are those particles smaller than or equal to 10 microns in diameter size (PM_{10}) and small than or equal to 2.5 microns in diameter ($PM_{2.5}$). Smaller particulates are of greater concern because they can penetrate deeper into the lungs than larger particles. PM_{10} is generally emitted directly as a result of mechanical processes that crush or grind larger particles or form the resuspension of dust, typically through construction activities and vehicular travel. PM_{10} generally settles out of the atmosphere rapidly and is not readily transported over large distances. $PM_{2.5}$ is directly emitted in combustion exhaust and is formed in atmospheric reactions between various gaseous pollutants, including NO_x, sulfur oxides (SO_x) and VOCs. $PM_{2.5}$ can remain suspended in the atmosphere for days and/or weeks and can be transported long distances.

The principal health effects of airborne PM are on the respiratory system. Short-term exposure of high $PM_{2.5}$ and PM_{10} levels are associated with premature mortality and increased hospital admissions and emergency room visits. Long-term exposure is associated with premature mortality and chronic respiratory disease. According to the U.S. Environmental Protection Agency (USEPA), some people are much more sensitive than others to breathing PM_{10} and $PM_{2.5}$. People with influenza, chronic respiratory and cardiovascular diseases, and the elderly may suffer worse illnesses; people with bronchitis can expect aggravated symptoms; and children may experience decline in lung function due to breathing in PM_{10} and $PM_{2.5}$. Other groups considered sensitive include smokers and people who cannot breathe well through their noses. Exercising athletes are also considered sensitive because many breathe through their mouths.

2.1.3 Toxic Air Contaminants

In addition to the criteria pollutants discussed above, toxic air contaminants (TACs) are another group of pollutants of concern. TACs are considered either carcinogenic or noncarcinogenic based on the nature of the health effects associated with exposure to the pollutant. For regulatory purposes, carcinogenic TACs are assumed to have no safe threshold below which health impacts would not occur, and cancer risk is expressed as excess cancer cases per one million exposed individuals. Noncarcinogenic TACs differ in that there is generally assumed to be a safe level of exposure below which no negative health impact is believed to occur. These levels are determined on a pollutant-by-pollutant basis.

There are many different types of TACs, with varying degrees of toxicity. Sources of TACs include industrial processes such as petroleum refining and chrome plating operations, commercial operations such as gasoline stations and dry cleaners, and motor vehicle exhaust. Public exposure to TACs can result from emissions from normal operations, as well as from accidental releases of hazardous materials during upset conditions. The health effects of TACs include cancer, birth defects, neurological damage, and death.

Most recently, CARB identified DPM as a TAC. DPM differs from other TACs in that it is not a single substance but rather a complex mixture of hundreds of substances. Diesel exhaust is a complex mixture of particles and gases produced when an engine burns diesel fuel. DPM is a concern because it causes lung cancer; many compounds found in diesel exhaust are carcinogenic. DPM includes the particle-phase constituents in diesel exhaust. The chemical composition and particle sizes of DPM vary between different engine types (heavy-duty, light-duty), engine operating conditions (idle, accelerate, decelerate), fuel formulations (high/low sulfur fuel), and the year of the engine (USEPA 2002). Some short-term (acute) effects of diesel exhaust include eye, nose, throat, and lung irritation, and diesel exhaust can cause coughs, headaches, light-headedness, and nausea. DPM poses the greatest health risk among the TACs; due to their extremely small size, these particles can be inhaled and eventually trapped in the bronchial and alveolar regions of the lung.

2.1.4 Ambient Air Quality

Ambient air quality at the Project Site can be inferred from ambient air quality measurements conducted at nearby air quality monitoring stations. CARB maintains more than 60 monitoring stations throughout California. O_3, PM_{10} and $PM_{2.5}$ are the pollutant species most potently affecting the Project region. As

described in detail below, the region is designated as a nonattainment area for the federal O_3 and $PM_{2.5}$ standards and is also a nonattainment area for the state standards for O_3, $PM_{2.5}$ and PM_{10} (CARB 2019). The Mission Viejo air quality monitoring station (26081 Via Pera, Mission Viejo), located approximately 6.5 miles north of the Project Site, monitors ambient concentrations of O_3, PM_{10}, and $PM_{2.5}$. Ambient emission concentrations will vary due to localized variations in emission sources and climate and should be considered "generally" representative of ambient concentrations in the Project Area.

Table 2-2 summarizes the published data concerning O_3, $PM_{2.5}$ and $PM_{10}$from the Mission Viejo monitoring station. O_3, PM_{10} and $PM_{2.5}$ are the pollutant species most potently affecting the Project region.

Table 2-2. Summary of Ambient Air Quality Data

Pollutant Standards	2018	2019	2020
O_3 - Mission Viejo Monitoring Station			
Max 1-hour concentration (ppm)	0.121	0.106	0.171
Max 8-hour concentration (ppm) (State/federal)	0.088 / 0.088	0.088 / 0.087	0.123 / 0.122
Number of days above 1-hour standard (State/federal)	2 / 0	3 / 0	20 / 1
Number of days above 8-hour standard (State/federal)	10 / 9	11 / 11	34 / 32
PM_{10} - Mission Viejo Monitoring Station			
Max 24-hour concentration (µg/m3) (State/federal)	55.6 / 55.6	44.2 / 45.1	55.1 / 56.2
Number of days above 24-hour standard (State/federal)	6.0 / 0.0	0.0 / 0.0	* / *
$PM_{2.5}$ - Mission Viejo Monitoring Station			
Max 24-hour concentration (µg/m3) (State/federal)	38.9 / 38.9	20.8 / 20.8	44.8 / 44.8
Number of days above federal 24-hour standard	*	0.0	6.1

Source: CARB 2021
$\mu g/m^3$ = micrograms per cubic meter; ppm = parts per million
* = Insufficient data available

The USEPA and CARB designate air basins or portions of air basins and counties as being in "attainment" or "nonattainment" for each of the criteria pollutants. Areas that do not meet the standards are classified as nonattainment areas. The National Ambient Air Quality Standards (NAAQS) (other than O_3, PM_{10} and $PM_{2.5}$ and those based on annual averages or arithmetic mean) are not to be exceeded more than once per year. The NAAQS for O_3, PM_{10}, and $PM_{2.5}$ are based on statistical calculations over one- to three-year

periods, depending on the pollutant. The California Ambient Air Quality Standards (CAAQS) are not to be exceeded during a three-year period. The attainment status for the Orange County portion of the SoCAB, which encompasses the Project Site, is included in Table 2-3.

Table 2-3. Attainment Status of Criteria Pollutants in the Orange County Portion of the SoCAB

Pollutant	State Designation	Federal Designation
O_3	Nonattainment	Nonattainment
PM_{10}	Nonattainment	Attainment
$PM_{2.5}$	Nonattainment	Nonattainment
CO	Attainment	Unclassified/Attainment
NO_2	Attainment	Unclassified/Attainment
SO_2	Attainment	Unclassified/Attainment

Source: CARB 2019

The determination of whether an area meets the state and federal standards is based on air quality monitoring data. Some areas are unclassified, which means there is insufficient monitoring data for determining attainment or nonattainment. Unclassified areas are typically treated as being in attainment. Because the attainment/nonattainment designation is pollutant-specific, an area may be classified as nonattainment for one pollutant and attainment for another. Similarly, because the state and federal standards differ, an area could be classified as attainment for the federal standards of a pollutant and as nonattainment for the state standards of the same pollutant. The region is designated as a nonattainment area for the federal O_3 and $PM_{2.5}$ standards and is also a nonattainment area for the state standards for O_3, $PM_{2.5}$ and PM_{10} (CARB 2019).

2.1.5 Sensitive Receptors

Sensitive receptors are defined as facilities or land uses that include members of the population who are particularly sensitive to the effects of air pollutants, such as children, the elderly, and people with illnesses. Examples of these sensitive receptors are residences, schools, hospitals, and daycare centers. CARB has identified the following groups of individuals as the most likely to be affected by air pollution: the elderly over 65, children under 14, athletes, and persons with cardiovascular and chronic respiratory diseases such as asthma, emphysema, and bronchitis. The nearest sensitive receptors to the Project Site include low- and medium-density residences adjacent to the northern, southwestern, southern, and eastern boundaries of the site. Additionally, the Childtime Learning Center is located directly northeast adjacent to the site.

2.2 Regulatory Framework

2.2.1 Federal

Clean Air Act

The Clean Air Act (CAA) of 1970 and the CAA Amendments of 1971 required the USEPA to establish the NAAQS, with states retaining the option to adopt more stringent standards or to include other specific pollutants. On April 2, 2007, the Supreme Court found that carbon dioxide (CO_2) is an air pollutant covered by the CAA; however, no NAAQS have been established for CO_2.

These standards are the levels of air quality considered safe, with an adequate margin of safety, to protect the public health and welfare. They are designed to protect those "sensitive receptors" most susceptible to further respiratory distress such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and persons engaged in strenuous work or exercise. Healthy adults can tolerate occasional exposure to air pollutant concentrations considerably above these minimum standards before adverse effects are observed.

The USEPA has classified air basins (or portions thereof) as being in attainment, nonattainment, or unclassified for each criteria air pollutant, based on whether or not the NAAQS have been achieved. If an area is designated unclassified, it is because inadequate air quality data were available as a basis for a nonattainment or attainment designation. Table 2-3 lists the federal attainment status of the SoCAB for the criteria pollutants.

2.2.2 State

California Clean Air Act

The California Clean Air Act (CCAA) allows the State to adopt ambient air quality standards and other regulations provided that they are at least as stringent as federal standards. CARB, a part of the California Environmental Protection Agency, is responsible for the coordination and administration of both federal and state air pollution control programs within California, including setting the CAAQS. CARB also conducts research, compiles emission inventories, develops suggested control measures, and provides oversight of local programs. CARB establishes emissions standards for motor vehicles sold in California, consumer products (such as hairspray, aerosol paints, and barbecue lighter fluid), and various types of commercial equipment. It also sets fuel specifications to further reduce vehicular emissions. CARB also has primary responsibility for the development of California's State Implementation Plan (SIP), for which it works closely with the federal government and the local air districts.

California State Implementation Plan

The federal CAA (and its subsequent amendments) requires each state to prepare an air quality control plan referred to as the SIP. The SIP is a living document that is periodically modified to reflect the latest emissions inventories, plans, and rules and regulations of air basins as reported by the agencies with jurisdiction over them. The CAA Amendments dictate that states containing areas violating the NAAQS

revise their SIPs to include extra control measures to reduce air pollution. The SIP includes strategies and control measures to attain the NAAQS by deadlines established by the CAA. The USEPA has the responsibility to review all SIPs to determine if they conform to the requirements of the CAA.

State law makes CARB the lead agency for all purposes related to the SIP. Local air districts and other agencies prepare SIP elements and submit them to CARB for review and approval. CARB then forwards SIP revisions to the USEPA for approval and publication in the Federal Register. The *2016 Air Quality Management Plan* (2016 AQMP) is the SIP for the SoCAB. The 2016 AQMP is a regional blueprint for achieving air quality standards and healthful air in the SoCAB and those portions of the Salton Sea Air Basin that are under SCAQMD's jurisdiction. The 2016 AQMP represents a new approach, focusing on available, proven, and cost-effective alternatives to traditional strategies, while seeking to achieve multiple goals in partnership with other entities promoting reductions in GHGs and toxic risk, as well as efficiencies in energy use, transportation, and goods movement. The most effective way to reduce air pollution impacts is to reduce emissions from mobile sources. The AQMP relies on a regional and multi-level partnership of governmental agencies at the federal, state, regional, and local level. These agencies (USEPA, CARB, local governments, Southern California Association of Governments [SCAG] and the SCAQMD) are the primary agencies that implement the AQMP programs. The 2016 AQMP incorporates the latest scientific and technical information and planning assumptions, including SCAG's latest Regional Transportation Plan/Sustainable Communities Strategy, updated emission inventory methodologies for various source categories, and SCAG's latest growth forecasts. The 2016 AQMP includes integrated strategies and measures to meet the NAAQS. The current status of the SIPs for the SoCAB's nonattainment pollutants are shown below:

- On November 28, 2007, CARB submitted a SIP revision to the USEPA for O_3, $PM_{2.5}$ (1997 Standard), CO, and NO_2 in the SoCAB. This revision is identified as the "2007 South Coast SIP". The 2007 South Coast SIP demonstrates attainment of the federal $PM_{2.5}$ standard in the SoCAB by 2014 and attainment of the federal eight-hour O_3 standard by 2023. This SIP also includes a request to reclassify the O_3 attainment designation from "severe" to "extreme". The USEPA approved the redesignation effective June 4, 2010. The "extreme" designation requires the attainment of the eight-hour O_3 standard in the SoCAB by June 2024. CARB approved $PM_{2.5}$ SIP revisions in April 2011 and the O_3 SIP revisions in July 2011. The USEPA approved the $PM_{2.5}$ SIP in 2013 and has approved 46 of the 61, 1997 eight-hour O_3 SIP requirements (. In 2014, the USEPA proposed a finding that the SoCAB has attained the 1997 $PM_{2.5}$ standards. In 2016, the USEPA determined that the SoCAB had attained the 1997 $PM_{2.5}$ standards; however, the SoCAB was not redesignated as an attainment area because the USEPA had not approved a maintenance plan and additional requirements under the CAA had not been met.
- In 2012, the SCAQMD adopted the 2012 AQMP, which was a regional and multiagency effort (the SCAQMD, CARB, SCAG, and the USEPA). The primary purposes of the 2012 AQMP were to demonstrate attainment of the federal 24-hour $PM_{2.5}$ standard by 2014 and to update the USEPA-approved eight-hour Ozone Control Plan. In 2012, the 2012 AQMP was submitted to CARB and the USEPA for concurrent review and approval for inclusion in the SIP. The 2012 AQMP was approved by CARB on January 25, 2013.

- In 2017, the SCAQMD adopted the 2016 AQMP. The 2016 AQMP includes strategies and measures to meet the following NAAQS:
  - 2008 eight-hour O_3 (75 parts per billion [ppb]) by 2013
  - 2012 Annual $PM_{2.5}$ (12 µg/m^3) by 2025
  - 1997 eight-hour O_3 (80 ppb) by 2023
  - 1979 one-hour O_3 (120 ppb) by 2022
  - 2006 24-hour $PM_{2.5}$ (35 µg/m^3) by 2019

Tanner Air Toxics Act & Air Toxics "Hot Spots" Information and Assessment Act

CARB's statewide comprehensive air toxics program was established in 1983 with Assembly Bill (AB) 1807, the Toxic Air Contaminant Identification and Control Act (Tanner Air Toxics Act of 1983). AB 1807 created California's program to reduce exposure to air toxics and sets forth a formal procedure for CARB to designate substances as TACs. Once a TAC is identified, CARB adopts an airborne toxics control measure (ATCM) for sources that emit designated TACs. If there is a safe threshold for a substance at which there is no toxic effect, the control measure must reduce exposure to below that threshold. If there is no safe threshold, the measure must incorporate toxics best available control technology to minimize emissions.

CARB also administers the State's mobile source emissions control program and oversees air quality programs established by state statute, such as AB 2588, the Air Toxics "Hot Spots" Information and Assessment Act of 1987. Under AB 2588, TAC emissions from individual facilities are quantified and prioritized by the air quality management district or air pollution control district. High priority facilities are required to perform a health risk assessment (HRA) and, if specific thresholds are exceeded, required to communicate the results to the public in the form of notices and public meetings. In September 1992, the "Hot Spots" Act was amended by Senate Bill (SB) 1731, which required facilities that pose a significant health risk to the community to reduce their risk through a risk management plan.

2.2.3 Local

South Coast Air Quality Management District

The SCAQMD is the air pollution control agency for Orange County and the urban portions of Los Angeles, Riverside, and San Bernardino counties, including the Project Site. The agency's primary responsibility is ensuring that the NAAQS and CAAQS are attained and maintained in the SoCAB. The SCAQMD is also responsible for adopting and enforcing rules and regulations concerning air pollutant sources, issuing permits for stationary sources of air pollutants, inspecting stationary sources of air pollutants, responding to citizen complaints, monitoring ambient air quality and meteorological conditions, awarding grants to reduce motor vehicle emissions, and conducting public education campaigns, as well as many other activities. All projects are subject to SCAQMD rules and regulations in effect at the time of construction.

The following is a list of noteworthy SCAQMD rules that are required of construction activities associated with the Proposed Project:

- **Rule 201 & Rule 203 (Permit to Construct & Permit to Operate)** – Rule 201 requires a "Permit to Construct" prior to the installation of any equipment "the use of which may cause the issuance of air contaminants . . ." and Regulation II provides the requirements for the application for a Permit to Construct. Rule 203 similarly requires a Permit to Operate.
- **Rule 212 (Standards for Approving Permits and Issuing Public Notice)**- This rule requires the applicant to show that the equipment used of which may cause the issuance of air contaminants or the use of which may eliminate, reduce, or control the issuance of air contaminants, is so designed, controlled, or equipped with such air pollution control equipment that it may be expected to operate without emitting air contaminates in violation of Section 41700, 4170 or 44300 of the Health and Safety Code or of these rules.
- **Rule 402 (Nuisance)** – This rule prohibits the discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health, or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property. This rule does not apply to odors emanating from agricultural operations necessary for the growing of crops or the raising of fowl or animals.
- **Rule 403 (Fugitive Dust)** – This rule requires fugitive dust sources to implement best available control measures for all sources, and all forms of visible PM are prohibited from crossing any property line. This rule is intended to reduce PM_{10} emissions from any transportation, handling, construction, or storage activity that has the potential to generate fugitive dust. PM_{10} suppression techniques are summarized below.

  a) Portions of a construction site to remain inactive longer than a period of three months will be seeded and watered until grass cover is grown or otherwise stabilized.
  b) All onsite roads will be paved as soon as feasible or watered periodically or chemically stabilized.
  c) All material transported offsite will be either sufficiently watered or securely covered to prevent excessive amounts of dust.
  d) The area disturbed by clearing, grading, earthmoving, or excavation operations will be minimized at all times.
  e) Where vehicles leave a construction site and enter adjacent public streets, the streets will be swept daily or washed down at the end of the workday to remove soil tracked onto the paved surface.

- **Rule 1113 (Architectural Coatings)** – This rule requires manufacturers, distributors, and end-users of architectural and industrial maintenance coatings to reduce ROG emissions from the use of these coatings, primarily by placing limits on the ROG content of various coating categories.

- **Rule 1401 (New Source Review of Toxic Air Contaminants)** – This rule requires new source review of any new, relocated, or modified permit units that emit TACs. The rule establishes allowable risks for permit units requiring permits pursuant to Rules 201 and 203 discussed above.

Southern California Association of Governments

On September 3, 2020, the SCAG Regional Council adopted the *2020-2045 Regional Transportation Plan/ Sustainable Communities Strategy* (2020 RTP/SCS). The 2020 RTP/SCS charts a course for closely integrating land use and transportation – so that the region can grow smartly and sustainably. It was prepared through a collaborative, continuous, and comprehensive process with input from local governments, county transportation commissions, tribal governments, non-profit organizations, businesses and local stakeholders within the counties of Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura. The 2020 RTP/SCS is a long-range visioning plan that balances future mobility and housing needs with economic, environmental and public health goals. The SCAG region strives toward sustainability through integrated land use and transportation planning. The SCAG region must achieve specific federal air quality standards and is required by state law to lower regional GHG emissions. Specifically, the region has been tasked by CARB to achieve a 19 percent per capita reduction by the end of 2035.

2.3 Air Quality Emissions Impact Assessment

2.3.1 Thresholds of Significance

The impact analysis provided below is based on the following California Environmental Quality Act (CEQA) Guidelines Appendix G thresholds of significance. The Project would result in a significant impact to air quality if it would do any of the following:

1) Conflict with or obstruct implementation of any applicable air quality plan.

2) Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).

3) Expose sensitive receptors to substantial pollutant concentrations.

4) Result in other emissions (such as those leading to odors adversely affecting a substantial number of people).

The significance criteria established by the applicable air quality management or air pollution control district (SCAQMD) may be relied upon to make the above determinations. According to the SCAQMD, an air quality impact is considered significant if the Proposed Project would violate any ambient air quality standard, contribute substantially to an existing or projected air quality violation, or expose sensitive receptors to substantial pollutant concentrations. The SCAQMD has established thresholds of significance for air quality for construction and operational activities of land use development projects such as that proposed, as shown in Table 2-4.

Table 2-4. SCAQMD Regional Significance Thresholds – Pounds per Day

Air Pollutant	Construction Activities	Operations
Reactive Organic Gas	75	55
Carbon Monoxide	550	550
Nitrogen Oxide	100	55
Sulfur Oxide	150	150
Coarse Particulate Matter	150	150
Fine Particulate Matter	55	55

Source: SCAQMD 1993 ($PM_{2.5}$ threshold adopted June 1, 2007)

By its very nature, air pollution is largely a cumulative impact. No single project is sufficient in size, by itself, to result in nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. If a project's individual emissions exceed its identified significance thresholds, the project would be cumulatively considerable. Projects that do not exceed significance thresholds would not be considered cumulative considerable.

Localized Significance Thresholds

In addition to regional significance thresholds, the SCAQMD developed localized significance thresholds (LSTs) for emissions of NO_2, CO, PM_{10}, and $PM_{2.5}$ generated at new development sites (offsite mobile source emissions are not included in the LST analysis protocol). LSTs represent the maximum emissions that can be generated at a Project Site without expecting to cause or substantially contribute to an exceedance of the most stringent national or state ambient air quality standards. LSTs are based on the ambient concentrations of that pollutant within the Project source receptor area (SRA), as demarcated by the SCAQMD, and the distance to the nearest sensitive receptor. LST analysis is applicable for all projects that disturb five acres or less on a single day. The SCAQMD has prepared mass rate LST look-up tables for project disturbing one acre, two acres, and five acres. The Proposed Project spans just under three acres (2.91) and is located within SCAQMD SRA 21 (Capistrano Valley). Table 2-5 shows the interpolated LSTs for a three-acre project site in SRA 21, as derived from the SCAQMD mass rate LST look-up tables, with sensitive receptors located within 25 meters (as previously described, the nearest sensitive receptors to the Project Site are located directly adjacent).

Table 2-5. Local Significance Thresholds at 25 Meters of a Sensitive Receptor

Project Size	Pollutant (pounds per day)			
	NO_2	CO	PM_{10}	$PM_{2.5}$
Construction Threshold				
3 Acres	153.00	1,263.33	8.00	5.33
Operational Threshold				
3 Acres	153.00	1,263.33	2.33	1.33

Source: SCAQMD 2009

2.3.2 Methodology

Air quality impacts were assessed in accordance with methodologies recommended by the SCAQMD. Where criteria air pollutant quantification was required, emissions were modeled using the California Emissions Estimator Model (CalEEMod), version 2020.4.0. CalEEMod is a statewide land use emissions computer model designed to quantify potential criteria pollutant emissions associated with both construction and operations from a variety of land use projects. Project construction-generated air pollutant emissions were calculated using CalEEMod model defaults for Orange County coupled with details associated with construction timing, phasing, and duration provided by the Project Applicant. The specific construction equipment anticipated to be employed during construction has also been provided by the Project Applicant. Operational air pollutant emissions were based on the Project site plans and traffic trip generation rates from RK Engineering Group, Inc. (2021).

2.3.3 Impact Analysis

Project Construction-Generated Criteria Air Quality Emissions

Regional Construction Significance Analysis

Construction-generated emissions are temporary and short-term but have the potential to represent a significant air quality impact. Three basic sources of short-term emissions will be generated through construction of the Proposed Project: operation of the construction vehicles (i.e., excavators, trenchers, dump trucks), the creation of fugitive dust during clearing and grading, and the use of asphalt or other oil-based substances during paving activities. Construction activities such as excavation and grading operations, construction vehicle traffic, and wind blowing over exposed soils would generate exhaust emissions and fugitive PM emissions that affect local air quality at various times during construction. Effects would be variable depending on the weather, soil conditions, the amount of activity taking place, and the nature of dust control efforts. The dry climate of the area during the summer months creates a high potential for dust generation. Construction activities would be subject to SCAQMD Rule 403, which

requires taking reasonable precautions to prevent the emissions of fugitive dust, such as using water or chemicals, where possible, for control of dust during the clearing of land and other construction activities.

Construction-generated emissions associated the Proposed Project were calculated using the CARB-approved CalEEMod computer program, which is designed to model emissions for land use development projects, based on typical construction requirements. See Attachment A for more information regarding the construction assumptions, including construction equipment and duration, used in this analysis.

Predicted maximum daily construction-generated emissions for the Proposed Project are summarized in Table 2-6. Construction-generated emissions are short-term and of temporary duration, lasting only as long as construction activities occur, but would be considered a significant air quality impact if the volume of pollutants generated exceeds the SCAQMD's thresholds of significance.

Table 2-6. Unmitigated Construction-Related Emissions (Regional Significance Analysis)

Construction Year	Pollutant (pounds per day)					
	ROG	**NO_X**	**CO**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**
Construction Year One (Phase 1 Church Renovation & Phase 2 Demolition)	10.46	107.40	84.48	0.18	6.75	4.90
Construction Year Two (Phase 1 Church Renovation, Phase 3 Site Preparation, Phase 3 Grading, & Phase 3 Construction)	10.53	131.34	97.33	0.33	29.06	13.25
Construction Year Three (Phase 3 Construction)	2.53	23.03	24.40	0.04	2.33	1.39
Construction Year Four (Phase 3 Construction)	2.36	21.25	24.08	0.04	2.21	1.29
SCAQMD Regional Significance Threshold	*75*	*100*	*550*	*150*	*150*	*55*
Exceed SCAQMD Regional Threshold?	**No**	**Yes**	**No**	**No**	**No**	**No**

Source: CalEEMod version 2020.4.0. Refer to Attachment A for Model Data Outputs.

As shown in Table 2-6, emissions of the O_3 precursor, NO_x, on the peak day(s) of construction in both the first and second years of construction would exceed the SCAQMD significance thresholds of 100 pounds per day. Therefore, Mitigation Measure AQ-1 is required in order to reduce NO_x emissions to levels below the significance threshold.

Mitigation Measure AQ-1 would mandate the use of Tier 4 Certified engines for the Project offroad construction equipment used during Project construction. The first federal standards (Tier 1) for new off-road diesel engines were adopted in 1994 for engines over 50 horsepower and were phased in from 1996 to 2000. In 1996, a Statement of Principles pertaining to off-road diesel engines was signed between the USEPA, CARB, and engine makers (including Caterpillar, Cummins, Deere, Detroit Diesel, Deutz, Isuzu, Komatsu, Kubota, Mitsubishi, Navistar, New Holland, Wis-Con, and Yanmar). On August 27, 1998, the

USEPA signed the final rule reflecting the provisions of the Statement of Principles. The 1998 regulation introduced Tier 1 standards for equipment under 50 horsepower and increasingly more stringent Tier 2, Tier 3, and Tier 4 standards for all equipment with phase-in schedules from 2000 to 2015. As a result, all off-road, diesel-fueled construction equipment manufactured from 2006 to 2015 has been manufactured to Tier 3 standards. The Tier 3 standards can reduce NO_x emissions by as much as 64 percent and PM emissions by as much as 39 percent. On May 11, 2004, the USEPA signed the final rule introducing Tier 4 emission standards, which are currently phased-in over the period of 2008-2015. The Tier 4 standards require that NO_x emissions be further reduced by about 90 percent. All off-road, diesel-fueled construction equipment manufactured in 2015 or later have been manufactured to Tier 4 standards.

Mitigation Measure

AQ-1: Prior to the certificate of construction-related permits for the Grace Church Remodel and Senior Living Facility Project, the Project Applicant shall demonstrate to the satisfaction of the City of Laguna Niguel Planning Division that the following measure would be implemented during Project construction.

- All offroad equipment of greater that 50 horsepower used in Project construction shall be California Air Resources Board (CARB) Tier 4 Certified, as set forth in Section 2423 of Title 13 of the California Code of Regulations, and Part 89 of Title 40 of the Code of Federal Regulations.

Table 2-7 shows the results of construction emissions with implementation of Mitigation Measure AQ-1.

Table 2-7. Mitigated Construction-Related Emissions (Regional Significance Analysis)

Construction Year	Pollutant (pounds per day)					
	ROG	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Construction Year One (Phase 1 Church Renovation & Phase 2 Demolition)	2.61	12.78	96.38	0.18	1.51	0.63
Construction Year Two (Phase 1 Church Renovation, Phase 3 Site Preparation, Phase 3 Grading, & Phase 3 Construction)	3.21	44.46	111.60	0.33	11.93	4.58
Construction Year Three (Phase 3 Construction)	0.81	3.37	27.54	0.04	0.85	0.30
Construction Year Four (Phase 3 Construction)	0.80	3.55	27.37	0.04	0.85	0.30
SCAQMD Regional Significance Threshold	*75*	*100*	*550*	*150*	*150*	*55*
Exceed SCAQMD Regional Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Source: CalEEMod version 2020.4.0. Refer to Attachment A for Model Data Outputs.

Notes: Emission reduction/credits for construction emissions are applied based on the required implementation of SCAQMD Rule 403. The specific Rule 403 measures applied in CalEEMod include the following: sweeping/cleaning adjacent roadway access areas daily; washing equipment tires before leaving the construction site; water exposed surfaces three times daily; and limit speeds on unpaved roads to 15 miles per hour. Reductions percentages from the SCAQMD CEQA Handbook (Tables XI-A through XI-E) were applied.

As shown in Table 2-7, adherence to Mitigation Measure AQ-1 would ensure that the Proposed Project would be constructed in a manner that daily pollutants would be generated at levels below SCAQMD significance thresholds. With implementation of Mitigation Measure AQ-1, criteria pollutant emissions generated during construction of the Proposed Project would not result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is nonattainment under an applicable federal or state ambient air quality standard. Further, since the Project's emissions do not exceed SCAQMD thresholds, no exceedance of the ambient air quality standards would occur, and no regional health effects from Project criteria pollutants would occur.

Localized Construction Significance Analysis

The nearest sensitive receptors to the Project Site include low- and medium-density residences adjacent to the northern, southwestern, southern, and eastern boundaries of the site. Additionally, the Childtime Learning Center is located directly northeast adjacent to the site. In order to identify localized, air toxic-related impacts to sensitive receptors, the SCAQMD recommends addressing LSTs for construction. LSTs were developed in response to SCAQMD Governing Boards' Environmental Justice Enhancement Initiative (I-4). The SCAQMD provided the *Final Localized Significance Threshold Methodology* (dated June 2003 [revised 2008]) for guidance. The LST methodology assists lead agencies in analyzing localized impacts associated with Project-specific level proposed projects.

For this Project, the appropriate SRA for the localized significance thresholds is the Capistrano Valley, SRA 21. LSTs apply to CO, NO_2, PM_{10}, and $PM_{2.5}$. As previously described, the SCAQMD has produced lookup tables for projects that disturb one, two and five acres. The Proposed Project would disturb just under three acres during construction. Thus, the interpolated LST threshold value for a three-acre site, as derived from the SCAQMD mass rate LST look-up tables, was employed from the LST lookup tables. LST thresholds are provided for distances to sensitive receptors of 25, 50, 100, 200, and 500 meters. The nearest sensitive receptors to construction activity as a result of the Project are residences located directly adjacent to the Project Site (<25 meters). Notwithstanding, the SCAQMD Methodology explicitly states: "It is possible that a project may have receptors closer than 25 meters. Projects with boundaries located closer than 25 meters to the nearest receptor should use the LSTs for receptors located at 25 meters." Therefore, LSTs for receptors located at 25 meters were utilized in this analysis. The SCAQMD's methodology clearly states that "offsite mobile emissions from a project should not be included in the emissions compared to LSTs." Therefore, for purposes of the construction LST analysis, only emissions included in the CalEEMod "onsite" emissions outputs were considered. Table 2-8 presents the results of localized emissions. The LSTs reflect a maximum disturbance of the entire site.

Table 2-8. Construction-Related Emissions (Localized Significance Analysis)

Activity	Pollutant (pounds per day)			
	NO_X	CO	PM_{10}	$PM_{2.5}$
Construction Year One (Phase 1 Church Renovation)	2.62	24.65	0.08	0.08
Construction Year One (Phase 2 Demolition)	8.90	66.92	0.32	0.22
Construction Year Two (Phase 1 Church Renovation & Phase 3 Site Preparation)	11.83	96.15	7.36	3.14
Construction Year Two (Phase 1 Church Renovation & Phase 3 Grading)	11.51	91.46	7.35	3.13
Construction Year Two (Phase 1 Church Renovation & Phase 3 Construction)	5.24	49.30	0.16	0.16
Construction Year Three (Phase 1 Church Renovation & Phase 3 Construction)	2.62	24.65	0.08	0.08
Construction Year Three (Phase 1 Church Renovation & Phase 3 Construction)	2.62	24.65	0.08	0.08
SCAQMD Localized Significance Threshold (3.0 acre of disturbance)	*153.00*	*1,263.33*	*8.00*	*5.33*
Exceed SCAQMD Localized Threshold?	**No**	**No**	**No**	**No**

Source: CalEEMod version 2020.4.0. Refer to Attachment A for Model Data Outputs.

Notes: Emission reduction/credits for construction emissions are applied based on the required implementation of SCAQMD Rule 403. The specific Rule 403 measures applied in CalEEMod include the following: sweeping/cleaning adjacent roadway access areas daily; washing equipment tires before leaving the construction site; water exposed surfaces three times daily; and limit speeds on unpaved roads to 15 miles per hour. Reductions percentages from the SCAQMD CEQA Handbook (Tables XI-A through XI-E) were applied.

Emission estimates account for implementation of mitigation measure AQ-1.

Table 2-8 shows that the emissions of these pollutants on the peak day of construction would not result in significant concentrations of pollutants at nearby sensitive receptors. Therefore, significant impacts would not occur concerning LSTs during construction activities. LSTs were developed in response to SCAQMD Governing Boards' Environmental Justice Enhancement Initiative. The SCAQMD Environmental Justice Enhancement Initiative program seeks to ensure that everyone has the right to equal protection from air pollution. The Environmental Justice Program is divided into three categories, with the LST protocol promulgated under Category I: *Further-Reduced Health Risk*. Thus, the fact that onsite Project construction emissions would be generated at rates below the LSTs for NO_x, CO, PM_{10}, and $PM_{2.5}$ demonstrates that the Project would likely not adversely impact the neighboring receptors in the vicinity of the Project.

Project Operations Criteria Air Quality Emissions

Regional Operational Significance Analysis

Implementation of the Project would result in long-term operational emissions of criteria air pollutants such as PM_{10}, $PM_{2.5}$, CO, and SO_2 as well as O_3 precursors such as ROGs and NO_X. Project-generated increases in emissions would be predominantly associated with motor vehicle use. As previously described, operational air pollutant emissions were based on the Project site plans and traffic trip generation rates from RK Engineering Group, Inc. (2021). Long-terms operational emissions attributable to the Project are identified in Table 2-9 and compared to the operational significance thresholds promulgated by the SCAQMD.

Table 2-9. Operational-Related Emissions (Regional Significance Analysis)

Emission Source	Pollutant (pounds per day)					
	ROG	**NO_X**	**CO**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**
Summer Emissions						
Area	31.63	2.34	63.83	0.14	8.29	8.29
Energy	0.04	0.36	0.18	0.00	0.02	0.02
Mobile	0.76	0.75	7.64	0.02	2.09	0.56
Total:	**32.43**	**3.46**	**71.66**	**0.16**	**10.42**	**8.89**
SCAQMD Regional Significance Threshold	*55*	*55*	*550*	*150*	*150*	*55*
Exceed SCAQMD Regional Threshold?	**No**	**No**	**No**	**No**	**No**	**No**
Winter Emissions						
Area	31.63	2.34	63.83	0.14	8.29	8.29
Energy	0.04	0.36	0.18	0.00	0.02	0.02
Mobile	0.75	0.81	7.56	0.02	2.09	0.56
Total:	**32.42**	**3.52**	**71.57**	**0.16**	**10.42**	**8.89**
SCAQMD Regional Significance Threshold	*55*	*55*	*550*	*150*	*150*	*55*
Exceed SCAQMD Regional Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Source: CalEEMod version 2020.4.0. Refer to Attachment A for Model Data Outputs.
Notes: Emission projections predominately based on CalEEMod model defaults for Orange County. Average daily vehicle trips provided by RK Engineering Group, Inc. (2021).

As shown in Table 2-9, the Project's emissions would not exceed any SCAQMD thresholds for any criteria air pollutants during operation.

As identified in Table 2-3, the Orange County portion of the SoCAB is listed as a nonattainment area for federal O_3 and $PM_{2.5}$ standards and is also a nonattainment area for the state standards for O_3, $PM_{2.5}$ and PM_{10} (CARB 2019). O_3 is a health threat to persons who already suffer from respiratory diseases and can cause severe ear, nose and throat irritation and increases susceptibility to respiratory infections. PM can adversely affect the human respiratory system. As shown in Table 2-9, the Proposed Project would result in increased emissions of the O_3 precursor pollutants ROG and NO_x, PM_{10}, and $PM_{2.5}$, however, the correlation between a project's emissions and increases in nonattainment days, or frequency or severity of related illnesses, cannot be accurately quantified. The overall strategy for reducing air pollution and related health effects in the SCAQMD is contained in the SCAQMD 2016 AQMP. The AQMP provides control measures that reduce emissions to attain federal ambient air quality standards by their applicable deadlines such as the application of available cleaner technologies, best management practices, incentive programs, as well as development and implementation of zero and near-zero technologies and control methods. The CEQA thresholds of significance established by the SCAQMD are designed to meet the objectives of the AQMP and in doing so achieve attainment status with state and federal standards. As noted above, the Project would increase the emission of these pollutants, but would not exceed the thresholds of significance established by the SCAQMD for purposes of reducing air pollution and its deleterious health effects.

Localized Operational Significance Analysis

According to the SCAQMD localized significance threshold methodology, LSTs would apply to the operational phase of a proposed project only if the project includes stationary sources (e.g., smokestacks) or attracts heavy-duty trucks that may spend long periods queuing and idling at the site (e.g., warehouse or transfer facilities). The Proposed Project does not include such uses. Therefore, in the case of the Proposed Project, the operational LST protocol is not applied.

Conflict with the 2016 Air Quality Management Plan

As part of its enforcement responsibilities, the USEPA requires each state with nonattainment areas to prepare and submit a SIP that demonstrates the means to attain the federal standards. The SIP must integrate federal, state, and local plan components and regulations to identify specific measures to reduce pollution in nonattainment areas, using a combination of performance standards and market-based programs. Similarly, under state law, the CCAA requires an air quality attainment plan to be prepared for areas designated as nonattainment with regard to the NAAQS and CAAQS. Air quality attainment plans outline emissions limits and control measures to achieve and maintain these standards by the earliest practical date.

As previously mentioned, the Project Site is located within the SoCAB, which is under the jurisdiction of the SCAQMD. The SCAQMD is required, pursuant to the federal CAA, to reduce emissions of criteria pollutants for which the SoCAB is in nonattainment. In order to reduce such emissions, the SCAQMD drafted the 2016 AQMP. The 2016 AQMP establishes a program of rules and regulations directed at reducing air pollutant emissions and achieving state (California) and national air quality standards. The

2016 AQMP is a regional and multi-agency effort including the SCAQMD, CARB, SCAG, and the USEPA. The plan's pollutant control strategies are based on the latest scientific and technical information and planning assumptions, including SCAG's latest RTP/SCS, updated emission inventory methodologies for various source categories, and SCAG's latest growth forecasts. (SCAG's latest growth forecasts were defined in consultation with local governments and with reference to local general plans.) The Project is subject to the SCAQMD's AQMP.

According to the SCAQMD, in order to determine consistency with SCAQMD's air quality planning two main criteria must be addressed.

Criterion 1:

With respect to the first criterion, SCAQMD methodologies require that an air quality analysis for a project include forecasts of project emissions in relation to contributing to air quality violations and delay of attainment.

a) Would the project result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new air quality violations?

As shown in Table 2-7, 2-8, and 2-9 above, the Proposed Project would result in emissions that would be below the SCAQMD regional and localized thresholds during both construction and operations. Therefore, the Proposed Project would not result in an increase in the frequency or severity of existing air quality violations and would not have the potential to cause or affect a violation of the ambient air quality standards.

b) Would the project delay timely attainment of air quality standards or the interim emissions reductions specified in the AQMP?

As shown in Table 2-7 and 2-9 above, the Proposed Project would be below the SCAQMD regional thresholds for construction and operations. Because the Project would result in less than significant regional emission impacts, it would not delay the timely attainment of air quality standards or AQMP emissions reductions.

Criterion 2:

With respect to the second criterion for determining consistency with SCAQMD and SCAG air quality policies, it is important to recognize that air quality planning within the SoCAB focuses on attainment of ambient air quality standards at the earliest feasible date. Projections for achieving air quality goals are based on assumptions regarding population, housing, and growth trends. Thus, the SCAQMD's second criterion for determining Project consistency focuses on whether or not the Proposed Project exceeds the assumptions utilized in preparing the forecasts presented its air quality planning documents. Determining whether or not a project exceeds the assumptions reflected in the 2016 AQMP involves the evaluation of the three criteria outlined below. The following discussion provides an analysis of each of these criteria.

a) Would the project be consistent with the population, housing, and employment growth projections utilized in the preparation of the 2016 AQMP?

A project is consistent with regional air quality planning efforts in part if it is consistent with the population, housing, and employment assumptions that were used in the development of the SCAQMD air quality plans. Generally, three sources of data form the basis for the projections of air pollutant emissions in Laguna Niguel. Specifically, SCAG's Growth Management Chapter of the Regional Comprehensive Plan and Guide (RCPG) provides regional population forecasts for the region and SCAG's RTP/SCS provides socioeconomic forecast projections of regional population growth. The City of Laguna Niguel General Plan is referenced by SCAG in order to assist forecasting future growth in Laguna Niguel.

The Proposed Project Site has a General Plan land use designation of *Public/Institutional (PI)*. As previously described, the Public/Institutional designation includes a wide range of public, quasi-public and special purpose private facilities that are aimed at providing a variety of governmental or social services to the community (Laguna Niguel 2006). Land uses such as senior housing, congregate care facilities, and managed care facilities are permitted in all City General Plan land use designations, provided that the proposed land use does not generate more traffic than the projected traffic generation for the land use intensity identified in the General Plan Community Profile Area for the site (Laguna Niguel 2006). The Project is not proposing to amend the City General Plan, is consistent with all land use designations applied to the site and would not increase the number of people residing in the area beyond that anticipated. It is noted that the existing land use on the Project Site currently generates approximately 411 daily trips on average (RK Engineering Group 2021), and that the Proposed Project would actually result in the reduction of 122 daily trips for a total of 289 daily trips (RK Engineering Group 2021). Thus, the proposed Project would not generate more traffic than the projected traffic generation for the land use intensity identified in the General Plan Community Profile Area for the site. Additionally, the Project Site can be identified for its "location efficiency". Location efficiency describes the location of the Project Site relative to the type of urban landscape its proposed to fit within, such as an 'urban area', 'compact infill', or 'suburban center'. In general, compared to the statewide average, a project could realize vehicle miles traveled (VMT) reductions up to 65 percent in an urban area, up to 30 percent in a compact infill area, or up to 10 percent in a suburban center (CAPCOA 2020), and thus reductions in air pollutant emissions.

The Project is consistent with the City of Laguna Niguel General Plan and is therefore consistent with the types, intensity, and patterns of land use envisioned for the site vicinity in the RTP/SCS and RCPG. As a result, the Project would not conflict with the land use assumptions or exceed the population or job growth projections used by SCAQMD to develop the 2016 AQMP. The City's population, housing, and employment forecasts, which are adopted by SCAG's Regional Council, are based on the local plans and policies applicable to the City; and these are used by SCAG in all phases of implementation and review. Additionally, as the SCAQMD has incorporated these same projections into their air quality planning efforts, it can be concluded that the Proposed Project would be consistent with the projections. (SCAG's latest growth forecasts were defined in consultation with local governments and with reference to local general plans.) Therefore, the Proposed Project would be considered consistent with the population, housing, and employment growth projections utilized in the preparation of SCAQMD's air quality plans.

b) Would the project implement all feasible air quality mitigation measures?

In order to further reduce emissions, the Project would be required to comply with emission reduction measures promulgated by the SCAQMD, such as SCAQMD Rules 201, 402, 403, and 1113. SCAQMD Rule 402 prohibits the discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health, or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property. SCAQMD Rule 403 requires fugitive dust sources to implement Best Available Control Measures for all sources, and all forms of visible particulate matter are prohibited from crossing any property line. SCAQMD Rule 403 is intended to reduce PM_{10} emissions from any transportation, handling, construction, or storage activity that has the potential to generate fugitive dust. SCAQMD 1113 requires manufacturers, distributors, and end-users of architectural and industrial maintenance coatings to reduce ROG emissions from the use of these coatings, primarily by placing limits on the ROG content of various coating categories. As such, the Proposed Project meets this consistency criterion.

c) Would the project be consistent with the land use planning strategies set forth by SCAQMD air quality planning efforts?

The AQMP contains air pollutant reduction strategies based on SCAG's latest growth forecasts, and SCAG's growth forecasts were defined in consultation with local governments and with reference to local general plans. The Proposed Project is consistent with the land use designation and development density presented in the City's General Plan and therefore, would not exceed the population or job growth projections used by the SCAQMD to develop the AQMP.

In conclusion, the determination of AQMP consistency is primarily concerned with the long-term influence of a project on air quality. The Proposed Project would not result in a long-term impact on the region's ability to meet state and federal air quality standards. The Proposed Project's long-term influence would also be consistent with the goals and policies of the SCAQMD's 2016 AQMP.

The Project would be consistent with the emission-reduction goals of the 2016 AQMP.

Exposure of Sensitive Receptors to Toxic Air Contaminants

As previously described, sensitive receptors are defined as facilities or land uses that include members of the population that are particularly sensitive to the effects of air pollutants, such as children, the elderly, and people with illnesses. Examples of these sensitive receptors are residences, schools, hospitals, and daycare centers. CARB has identified the following groups of individuals as the most likely to be affected by air pollution: the elderly over age 65, children under age 14, athletes, and persons with cardiovascular and chronic respiratory diseases such as asthma, emphysema, and bronchitis. The nearest sensitive receptors to the Project Site include low- and medium-density residences adjacent to the northern, southwestern, southern, and eastern boundaries of the site. Additionally, the Childtime Learning Center is located directly northeast adjacent to the site.

Construction-Generated Air Contaminants

Construction-related activities would result in temporary, short-term Proposed Project-generated emissions of diesel particulate matter (DPM), ROG, NOx, CO, and PM_{10} from the exhaust of off-road, heavy-duty diesel equipment for site preparation (e.g., clearing, grading); soil hauling truck traffic; paving; and other miscellaneous activities. The portion of the SoCAB which encompasses the Project Area is designated as a nonattainment area for federal O_3 and $PM_{2.5}$ standards and is also a nonattainment area for the state standards for O_3, $PM_{2.5}$, and PM_{10} standards (CARB 2019). Thus, existing O_3, PM_{10}, and $PM_{2.5}$ levels in the SoCAB are at unhealthy levels during certain periods. However, as shown in Table 2-7 and Table 2-8, the Project would not exceed the SCAQMD regional or localized significance thresholds for emissions.

The health effects associated with O_3 are generally associated with reduced lung function. Because the Project would not involve construction activities that would result in O_3 precursor emissions (ROG or NOx) in excess of the SCAQMD thresholds, the Project is not anticipated to substantially contribute to regional O_3 concentrations and the associated health impacts.

CO tends to be a localized impact associated with congested intersections. In terms of adverse health effects, CO competes with oxygen, often replacing it in the blood, reducing the blood's ability to transport oxygen to vital organs. The results of excess CO exposure can include dizziness, fatigue, and impairment of central nervous system functions. The Project would not involve construction activities that would result in CO emissions in excess of the SCAQMD thresholds. Thus, the Project's CO emissions would not contribute to the health effects associated with this pollutant.

Particulate matter (PM_{10} and $PM_{2.5}$) contains microscopic solids or liquid droplets that are so small that they can get deep into the lungs and cause serious health problems. Particulate matter exposure has been linked to a variety of problems, including premature death in people with heart or lung disease, nonfatal heart attacks, irregular heartbeat, aggravated asthma, decreased lung function, and increased respiratory symptoms such as irritation of the airways, coughing, or difficulty breathing. For construction activity, DPM is the primary TAC of concern. PM_{10} exhaust is considered a surrogate for DPM as all diesel exhaust is considered to be DPM. As with O_3 and NOx, the Project would not generate emissions of PM_{10} or $PM_{2.5}$ that would exceed the SCAQMD's thresholds. Accordingly, the Project's PM_{10} and $PM_{2.5}$ emissions are not expected to cause any increase in related regional health effects for these pollutants.

In summary, Project construction would not result in a potentially significant contribution to regional concentrations of nonattainment pollutants and would not result in a significant contribution to the adverse health impacts associated with those pollutants.

Operational Air Contaminants

Operation of the Proposed Project would not result in the development of any substantial sources of air toxics. There are no stationary sources associated with the operations of the Project; nor would the Project attract additional mobile sources that spend long periods queuing and idling at the site. Onsite Project emissions would not result in significant concentrations of pollutants at nearby sensitive receptors. The Project would not have a high carcinogenic or non-carcinogenic risk during operation.

Carbon Monoxide Hot Spots

It has long been recognized that CO exceedances are caused by vehicular emissions, primarily when idling at intersections. Concentrations of CO are a direct function of the number of vehicles, length of delay, and traffic flow conditions. Under certain meteorological conditions, CO concentrations close to congested intersections that experience high levels of traffic and elevated background concentrations may reach unhealthy levels, affecting nearby sensitive receptors. Given the high traffic volume potential, areas of high CO concentrations, or "hot spots," are typically associated with intersections that are projected to operate at unacceptable levels of service during the peak commute hours. It has long been recognized that CO hotspots are caused by vehicular emissions, primarily when idling at congested intersections. However, transport of this criteria pollutant is extremely limited, and CO disperses rapidly with distance from the source under normal meteorological conditions. Furthermore, vehicle emissions standards have become increasingly more stringent in the last 20 years. Currently, the allowable CO emissions standard in California is a maximum of 3.4 grams/mile for passenger cars (there are requirements for certain vehicles that are more stringent). With the turnover of older vehicles, introduction of cleaner fuels, and implementation of increasingly sophisticated and efficient emissions control technologies, CO concentration in the SoCAB is designated as in attainment. Detailed modeling of Project-specific CO "hot spots" is not necessary and thus this potential impact is addressed qualitatively.

A CO "hot spot" would occur if an exceedance of the state one-hour standard of 20 parts per million (ppm) or the eight-hour standard of 9 ppm were to occur. The analysis prepared for CO attainment in the South Coast Air Quality Management District's (SCAQMD's) *1992 Federal Attainment Plan for Carbon Monoxide* in Los Angeles County and a Modeling and Attainment Demonstration prepared by the SCAQMD as part of the 2003 AQMP can be used to demonstrate the potential for CO exceedances of these standards. The SCAQMD is the air pollution control officer for much of southern California. The SCAQMD conducted a CO hot spot analysis as part of the 1992 CO Federal Attainment Plan at four busy intersections in Los Angeles County during the peak morning and afternoon time periods. The intersections evaluated included Long Beach Boulevard and Imperial Highway (Lynwood), Wilshire Boulevard and Veteran Avenue (Westwood), Sunset Boulevard and Highland Avenue (Hollywood), and La Cienega Boulevard and Century Boulevard (Inglewood). The busiest intersection evaluated was at Wilshire Boulevard and Veteran Avenue, which has a traffic volume of approximately 100,000 vehicles per day. Despite this level of traffic, the CO analysis concluded that there was no violation of CO standards (SCAQMD 1992). In order to establish a more accurate record of baseline CO concentrations affecting the Los Angeles, a CO "hot spot" analysis was conducted in 2003 at the same four busy intersections in Los Angeles at the peak morning and afternoon time periods. This "hot spot" analysis did not predict any violation of CO standards. The highest one-hour concentration was measured at 4.6 ppm at Wilshire

Boulevard and Veteran Avenue and the highest eight-hour concentration was measured at 8.4 ppm at Long Beach Boulevard and Imperial Highway. Thus, there was no violation of CO standards.

Similar considerations are also employed by other Air Districts when evaluating potential CO concentration impacts. More specifically, the Bay Area Air Quality Management District (BAAQMD), the air pollution control officer for the San Francisco Bay Area, concludes that under existing and future vehicle emission rates, a given project would have to increase traffic volumes at a single intersection by more than 44,000 vehicles per hour or 24,000 vehicles per hour where vertical and/or horizontal air does not mix—in order to generate a significant CO impact.

The Proposed Project is anticipated to result in 289 daily traffic trips (RK Engineering Group, Inc. 2021). Thus, the Proposed Project would not generate traffic volumes at any intersection of more than 100,000 vehicles per day (or 44,000 vehicles per day) and there is no likelihood of the Project traffic exceeding CO values.

Odors

Typically, odors are regarded as an annoyance rather than a health hazard. However, manifestations of a person's reaction to foul odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache).

With respect to odors, the human nose is the sole sensing device. The ability to detect odors varies considerably among the population and overall is quite subjective. Some individuals have the ability to smell minute quantities of specific substances; others may not have the same sensitivity but may have sensitivities to odors of other substances. In addition, people may have different reactions to the same odor; in fact, an odor that is offensive to one person (e.g., from a fast-food restaurant) may be perfectly acceptable to another. It is also important to note that an unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. This is because of the phenomenon known as odor fatigue, in which a person can become desensitized to almost any odor and recognition only occurs with an alteration in the intensity.

Quality and intensity are two properties present in any odor. The quality of an odor indicates the nature of the smell experience. For instance, if a person describes an odor as flowery or sweet, then the person is describing the quality of the odor. Intensity refers to the strength of the odor. For example, a person may use the word "strong" to describe the intensity of an odor. Odor intensity depends on the odorant concentration in the air. When an odorous sample is progressively diluted, the odorant concentration decreases. As this occurs, the odor intensity weakens and eventually becomes so low that the detection or recognition of the odor is quite difficult. At some point during dilution, the concentration of the odorant reaches a detection threshold. An odorant concentration below the detection threshold means that the concentration in the air is not detectable by the average human.

During construction, the Proposed Project presents the potential for generation of objectionable odors in the form of diesel exhaust in the immediate vicinity of the site. However, these emissions are short-term in nature and will rapidly dissipate and be diluted by the atmosphere downwind of the emission sources.

Additionally, odors would be localized and generally confined to the construction area. Therefore, construction odors would not adversely affect a substantial number of people to odor emissions.

According to the SCAQMD, land uses commonly considered to be potential sources of obnoxious odorous emissions include agriculture (farming and livestock), wastewater treatment plants, food processing plants, chemical plants, composting facilities, refineries, landfills, dairies, and fiberglass molding. The Proposed Project does not include any uses identified by the SCAQMD as being associated with odors.

3.0 GREENHOUSE GAS EMISSIONS

3.1 Greenhouse Gas Setting

Certain gases in the earth's atmosphere, classified as GHGs, play a critical role in determining the earth's surface temperature. Solar radiation enters the earth's atmosphere from space. A portion of the radiation is absorbed by the earth's surface and a smaller portion of this radiation is reflected back toward space. This absorbed radiation is then emitted from the earth as low-frequency infrared radiation. The frequencies at which bodies emit radiation are proportional to temperature. Because the earth has a much lower temperature than the sun, it emits lower-frequency radiation. Most solar radiation passes through GHGs; however, infrared radiation is absorbed by these gases. As a result, radiation that otherwise would have escaped back into space is instead trapped, resulting in a warming of the atmosphere. This phenomenon, known as the greenhouse effect, is responsible for maintaining a habitable climate on earth. Without the greenhouse effect, the earth would not be able to support life as we know it.

Prominent GHGs contributing to the greenhouse effect are CO_2, methane (CH_4), and N_2O. Fluorinated gases also make up a small fraction of the GHGs that contribute to climate change. Fluorinated gases include chlorofluorocarbons, hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, and nitrogen trifluoride; however, it is noted that these gases are not associated with typical land use development. Human-caused emissions of these GHGs in excess of natural ambient concentrations are believed to be responsible for intensifying the greenhouse effect and leading to a trend of unnatural warming of the earth's climate, known as global climate change or global warming. It is "extremely likely" that more than half of the observed increase in global average surface temperature from 1951 to 2010 was caused by the anthropogenic increase in GHG concentrations and other anthropogenic factors together (Intergovernmental Panel on Climate Change [IPCC] 2014).

Table 3-1 describes the primary GHGs attributed to global climate change, including their physical properties, primary sources, and contributions to the greenhouse effect.

Each GHG differs in its ability to absorb heat in the atmosphere based on the lifetime, or persistence, of the gas molecule in the atmosphere. CH_4 traps over 25 times more heat per molecule than CO_2, and N_2O absorbs 298 times more heat per molecule than CO_2 (IPCC 2014). Often, estimates of GHG emissions are presented in carbon dioxide equivalents (CO_2e), which weight each gas by its global warming potential. Expressing GHG emissions in CO_2e takes the contribution of all GHG emissions to the greenhouse effect and converts them to a single unit equivalent to the effect that would occur if only CO_2 were being emitted.

Climate change is a global problem. GHGs are global pollutants, unlike criteria air pollutants and TACs, which are pollutants of regional and local concern. Whereas pollutants with localized air quality effects have relatively short atmospheric lifetimes (about one day), GHGs have long atmospheric lifetimes (one to several thousand years). GHGs persist in the atmosphere for long enough time periods to be dispersed around the globe. Although the exact lifetime of any particular GHG molecule is dependent on multiple variables and cannot be pinpointed, it is understood that more CO_2 is emitted into the atmosphere than is sequestered by ocean uptake, vegetation, or other forms. Of the total annual human-caused CO_2

emissions, approximately 55 percent is sequestered through ocean and land uptakes every year, averaged over the last 50 years, whereas the remaining 45 percent of human-caused CO_2 emissions remains stored in the atmosphere (IPCC 2013).

Table 3-1. Greenhouse Gases

Greenhouse Gas	Description
CO_2	Carbon dioxide is a colorless, odorless gas. CO_2 is emitted in a number of ways, both naturally and through human activities. The largest source of CO_2 emissions globally is the combustion of fossil fuels such as coal, oil, and gas in power plants, automobiles, industrial facilities, and other sources. A number of specialized industrial production processes and product uses such as mineral production, metal production, and the use of petroleum-based products can also lead to CO_2 emissions. The atmospheric lifetime of CO_2 is variable because it is so readily exchanged in the atmosphere.[1]
CH_4	Methane is a colorless, odorless gas and is the major component of natural gas, about 87 percent by volume. It is also formed and released to the atmosphere by biological processes occurring in anaerobic environments. Methane is emitted from a variety of both human-related and natural sources. Human-related sources include fossil fuel production, animal husbandry (intestinal fermentation in livestock and manure management), rice cultivation, biomass burning, and waste management. These activities release significant quantities of CH_4 to the atmosphere. Natural sources of CH_4 include wetlands, gas hydrates, permafrost, termites, oceans, freshwater bodies, non-wetland soils, and other sources such as wildfires. The atmospheric lifetime of CH_4 is about12 years.[2]
N_2O	Nitrous oxide is a clear, colorless gas with a slightly sweet odor. Nitrous oxide is produced by both natural and human-related sources. Primary human-related sources of N_2O are agricultural soil management, animal manure management, sewage treatment, mobile and stationary combustion of fossil fuels, adipic acid production, and nitric acid production. N_2O is also produced naturally from a wide variety of biological sources in soil and water, particularly microbial action in wet tropical forests. The atmospheric lifetime of N_2O is approximately 120 years.[3]

Sources: [1]USEPA 2016a, [2] USEPA 2016b, [3] USEPA 2016c

The quantity of GHGs that it takes to ultimately result in climate change is not precisely known; it is sufficient to say the quantity is enormous, and no single project alone would measurably contribute to a noticeable incremental change in the global average temperature or to global, local, or microclimates. From the standpoint of CEQA, GHG impacts to global climate change are inherently cumulative.

3.1.1 Sources of Greenhouse Gas Emissions

In 2021, CARB released the 2021 edition of the California GHG inventory covering calendar year 2019 emissions. In 2019, California emitted 418.2 million gross metric tons of CO_2e including from imported electricity. Combustion of fossil fuel in the transportation sector was the single largest source of California's GHG emissions in 2019, accounting for approximately 40 percent of total GHG emissions in

the State. When emissions from extracting, refining and moving transportation fuels in California are included, transportation is responsible for over 50 percent of statewide emissions in 2019. Continuing the downward trend from 2018, transportation emissions decreased 3.5 million metric tons of CO_2e in 2019, only being outpaced by electricity, which reduced emissions by 4.3 million metric tons of CO_2e in 2019. Emissions from the electricity sector account for 14 percent of the inventory and have shown a substantial decrease in 2019 due to increases in renewables. California's industrial sector accounts for the second largest source of the State's GHG emissions in 2019, accounting for 21 percent (CARB 2021b).

3.2 Regulatory Framework

3.2.1 State

Executive Order S-3-05

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

Assembly Bill 32 Climate Change Scoping Plan and Updates

In 2006, the California legislature passed Assembly Bill (AB) 32 (Health and Safety Code § 38500 et seq., or AB 32), also known as the Global Warming Solutions Act. AB 32 required CARB to design and implement feasible and cost-effective emission limits, regulations, and other measures, such that statewide GHG emissions are reduced to 1990 levels by 2020 (representing a 25 percent reduction in emissions). Pursuant to AB 32, CARB adopted a Scoping Plan in December 2008, which outlined measures to meet the 2020 GHG reduction goals. California exceeded the target of reducing GHG emissions to 1990 levels by the year 2017.

The Scoping Plan is required by AB 32 to be updated at least every five years. The latest update, the 2017 Scoping Plan Update, addresses the 2030 target established by Senate Bill (SB) 32 as discussed below and establishes a proposed framework of action for California to meet a 40 percent reduction in GHG emissions by 2030 compared to 1990 levels. The key programs that the Scoping Plan Update builds on include increasing the use of renewable energy in the State, the Cap-and-Trade Regulation, the Low Carbon Fuel Standard, and reduction of methane emissions from agricultural and other wastes.

Senate Bill 32 and Assembly Bill 197 of 2016

In August 2016, Governor Brown signed SB 32 and AB 197, which serve to extend California's GHG reduction programs beyond 2020. SB 32 amended the Health and Safety Code to include § 38566, which contains language to authorize CARB to achieve a statewide GHG emission reduction of at least 40 percent below 1990 levels by no later than December 31, 2030.

Senate Bill X1-2 of 2011, Senate Bill 350 of 2015, and Senate Bill 100 of 2018

In 2018, SB 100 was signed codifying a goal of 60 percent renewable procurement by 2030 and 100 percent by 2045 Renewables Portfolio Standard.

2019 Building Energy Efficiency Standards for Residential and Nonresidential Buildings

The Building and Efficiency Standards (Energy Standards) were first adopted and put into effect in 1978 and have been updated periodically in the intervening years. These standards are a unique California asset that have placed the State on the forefront of energy efficiency, sustainability, energy independence and climate change issues. The 2019 Building Energy Efficiency Standards improve upon the 2016 Energy Standards for new construction of, and additions and alterations to, residential and nonresidential buildings. The 2019 update to the Building Energy Efficiency Standards focuses on several key areas to improve the energy efficiency of newly constructed buildings and additions and alterations to existing buildings. The 2019 standards are a major step toward meeting Zero Net Energy. The most significant efficiency improvement to the residential Standards includes the introduction of photovoltaic into the perspective package, improvements for attics, walls, water heating and lighting. Buildings permitted on or after January 1, 2020, must comply with the 2019 Standards.

In 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code (Part 11 of Title 24) is commonly referred to as CalGreen Building Standard (CalGreen) and establishes voluntary and mandatory standards pertaining to the planning and design of sustainable site development, energy efficiency, water conservation, material conservation, and interior air quality. Like Part 6 of Title 24, the CalGreen standards are periodically updated, with increasing energy savings and efficiencies associated with each code update. CalGreen contains voluntary "Tier 1" and "Tier 2" standards that are not mandatory statewide but could be required by a City or County. These are 'reach' standards that can be adopted by local jurisdictions and may be incorporated as mandatory standards in future code cycles.

3.2.2 Local

South Coast Air Quality Management District

To provide guidance to local lead agencies on determining significance for GHG emissions in CEQA documents, SCAQMD staff is convening an ongoing GHG CEQA Significance Threshold Working Group. Members of the working group include government agencies implementing CEQA and representatives from various stakeholder groups that provide input to SCAQMD staff on developing the significance thresholds. On October 8, 2008, the SCAQMD released the Draft AQMD Staff CEQA GHG Significance Thresholds. These thresholds have not been finalized and continue to be developed through the working group.

On September 28, 2010, SCAQMD Working Group Meeting #15 provided further guidance, including an interim screening level numeric "bright-line" threshold of 3,000 metric tons of CO_2e annually and an efficiency-based threshold of 4.8 metric tons of CO_2e per service population (defined as the people that work and/or congregate on the Project site) per year in 2020 and 3.0 metric tons of CO_2e per service

population per year in 2035. The SCAQMD has not announced when staff is expecting to present a finalized version of these thresholds to the governing board.

Southern California Association of Governments

On September 3, 2020, the SCAG Regional Council adopted the *2020-2045 Regional Transportation Plan/ Sustainable Communities Strategy* (2020 RTP/SCS). The 2020 RTP/SCS charts a course for closely integrating land use and transportation – so that the region can grow smartly and sustainably. The 2020 RTP/SCS identifies that land use strategies that focus on new housing and job growth in areas with a variety of destinations and mobility options would support and complement the proposed transportation network. The overarching strategy in 2020 RTP/SCS is to provide for a plan that allows the southern California region to grow in more compact communities in transit priority areas and priority growth areas; provide neighborhoods with efficient and plentiful public transit; establish abundant and safe opportunities to walk, bike, and pursue other forms of active transportation; and preserve more of the region's remaining natural lands and farmlands. The 2020 RTP/SCS contains transportation projects to help more efficiently distribute population, housing, and employment growth as well as projected development that promotes active transport and reduces GHG emissions.

The 2020 RTP/SCS was prepared through a collaborative, continuous, and comprehensive process with input from local governments, county transportation commissions, tribal governments, non-profit organizations, businesses and local stakeholders within the counties of Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura. The 2020 RTP/SCS is a long-range visioning plan that balances future mobility and housing needs with economic, environmental and public health goals. The SCAG region must achieve specific federal air quality standards and is required by state law to lower regional GHG emissions. Specifically, the region has been tasked by CARB to achieve a 19 percent per capita reduction by the end of 2035.

3.3 Greenhouse Gas Emissions Impact Assessment

3.3.1 Thresholds of Significance

The impact analysis provided below is based on the following CEQA Guidelines Appendix G thresholds of significance. The Project would result in a significant impact to greenhouse gas emissions if it would:

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

2) Conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases or

The Appendix G thresholds for GHG emissions do not prescribe specific methodologies for performing an assessment, do not establish specific thresholds of significance, and do not mandate specific mitigation measures. Rather, the CEQA Guidelines emphasize the lead agency's discretion to determine the appropriate methodologies and thresholds of significance consistent with the manner in which other impact areas are handled in CEQA. With respect to GHG emissions, the CEQA Guidelines Section

15064.4(a) states that lead agencies "shall make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate" GHG emissions resulting from a project. The CEQA Guidelines note that an agency has the discretion to either quantify a project's GHG emissions or rely on a "qualitative analysis or other performance-based standards." (14 CCR 15064.4(b)). A lead agency may use a "model or methodology" to estimate GHG emissions and has the discretion to select the model or methodology it considers "most appropriate to enable decision makers to intelligently take into account the project's incremental contribution to climate change." (14 CCR 15064.4(c)). Section 15064.4(b) provides that the lead agency should consider the following when determining the significance of impacts from GHG emissions on the environment:

1. The extent a project may increase or reduce GHG emissions as compared to the existing environmental setting.
2. Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project.
3. The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions (14 CCR 15064.4(b)).

In addition, Section 15064.7(c) of the CEQA Guidelines specifies that "[w]hen adopting or using thresholds of significance, a lead agency may consider thresholds of significance previously adopted or recommended by other public agencies, or recommended by experts, provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence" (14 CCR 15064.7(c)). The CEQA Guidelines also clarify that the effects of GHG emissions are cumulative and should be analyzed in the context of CEQA's requirements for cumulative impact analysis (see CEQA Guidelines Section 15130). As a note, the CEQA Guidelines were amended in response to Senate Bill 97. In particular, the CEQA Guidelines were amended to specify that compliance with a GHG emissions reduction plan renders a cumulative impact insignificant.

Per CEQA Guidelines Section 15064(h)(3), a project's incremental contribution to a cumulative impact can be found not cumulatively considerable if the project would comply with an approved plan or mitigation program that provides specific requirements that would avoid or substantially lessen the cumulative problem within the geographic area of the project. To qualify, such plans or programs must be specified in law or adopted by the public agency with jurisdiction over the affected resources through a public review process to implement, interpret, or make specific the law enforced or administered by the public agency. Examples of such programs include a "water quality control plan, air quality attainment or maintenance plan, integrated waste management plan, habitat conservation plan, natural community conservation plans [and] plans or regulations for the reduction of greenhouse gas emissions." Put another way, CEQA Guidelines Section 15064(h)(3) allows a lead agency to make a finding of less than significant for GHG emissions if a project complies with adopted programs, plans, policies and/or other regulatory strategies to reduce GHG emissions.

The local air quality agency regulating the SoCAB is the SCAQMD, the regional air pollution control officer for the basin. As previously stated, to provide guidance to local lead agencies on determining significance

for GHG emissions in CEQA documents, SCAQMD staff convened a GHG CEQA Significance Threshold Working Group. The Working Group was formed to assist the SCAQMD's efforts to develop a GHG significance threshold and is composed of a wide variety of stakeholders including the State Office of Planning and Research (OPR), CARB, the Attorney General's Office, a variety of city and county planning departments in the Basin, various utilities such as sanitation and power companies throughout the Basin, industry groups, and environmental and professional organizations. The numeric bright line and efficiency-based thresholds described above were developed to be consistent with CEQA requirements for developing significance thresholds, are supported by substantial evidence, and provide guidance to CEQA practitioners and lead agencies with regard to determining whether GHG emissions from a proposed project are significant.

In *Center for Biological Diversity v. Department of Fish and Wildlife* (2015) 62 Cal. 4th 2014, 213, 221, 227, following its review of various potential GHG thresholds proposed in an academic study [Crockett, *Addressing the Significance of Greenhouse Gas Emissions: California's Search for Regulatory Certainty in an Uncertain World* (July 2011), 4 Golden Gate U. Envtl. L. J. 203], the California Supreme Court identified the use of numeric bright-line thresholds as a potential pathway for compliance with CEQA GHG requirements. The study found numeric bright line thresholds designed to determine when small projects were so small as to not cause a cumulatively considerable impact on global climate change was consistent with CEQA. Specifically, Public Resources Code section 21003(f) provides it is a policy of the State that "[a]ll persons and public agencies involved in the environmental review process be responsible for carrying out the process in the most efficient, expeditious manner in order to conserve the available financial, governmental, physical and social resources with the objective that those resources may be better applied toward the mitigation of actual significant effects on the environment." The Supreme Court-reviewed study noted, "[s]ubjecting the smallest projects to the full panoply of CEQA requirements, even though the public benefit would be minimal, would not be consistent with implementing the statute in the most efficient, expeditious manner. Nor would it be consistent with applying lead agencies' scarce resources toward mitigating actual significant climate change impacts." (Crockett, *Addressing the Significance of Greenhouse Gas Emissions: California's Search for Regulatory Certainty in an Uncertain World* (July 2011), 4 Golden Gate U. Envtl. L. J. 203, 221, 227.)

The significance of the Project's GHG emissions is evaluated consistent with CEQA Guidelines Section 15064.4(b)(2) by considering whether the Project complies with applicable plans, policies, regulations and requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions. The City of Laguna Niguel may set a project-specific threshold based on the context of each particular project, including using the SCAQMD Working Group expert recommendation. This standard is appropriate for this Project because it is in the same air quality basin that the experts analyzed. For the Proposed Project, the SCAQMD's 3,000 metric tons of CO_2e per year threshold is used as the significance threshold in addition to the qualitative thresholds of significance set forth below from Section VII of CEQA Guidelines Appendix G. The 3,000 metric tons of CO_2e per year threshold represents a 90 percent capture rate (i.e., this threshold captures projects that represent approximately 90 percent of GHG emissions from new sources). The 3,000 metric tons of CO_2e per year value is typically used in defining small projects within this air basin that are considered less than significant because it represents less than one percent of future 2050 statewide GHG emissions target and the lead agency can provide more

efficient implementation of CEQA by focusing its scarce resources on the top 90 percent. This threshold is correlated to the 90 percent capture rate for industrial projects within the air basin. Land use projects above the 3,000 metric tons of CO_2e per year level would fall within the percentage of largest projects that are worth mitigating without wasting scarce financial, governmental, physical and social resources. (Crockett 2011). As noted in the academic study, the fact that small projects below a numeric bright line threshold are not subject to CEQA-based mitigation does not mean such small projects do not help the State achieve its climate change goals because even small projects participate in or comply with non-CEQA-based GHG reduction programs, such as constructing development in accordance with statewide GHG-reducing energy efficiency building standards, called Cal Green or Title 24 energy-efficiency building standards (Crockett 2011).

Additionally, the Project is assessed for consistency with the SCAG 2020 RTP/SCS, which establishes an overall GHG target for the Project region consistent with the 2030 target date of SB 32.

3.3.2 Methodology

GHG emissions-related impacts were assessed in accordance with methodologies recommended by the SCAQMD. Where GHG emission quantification was required, emissions were modeled using CalEEMod, version 2020.4.0. CalEEMod is a statewide land use emissions computer model designed to quantify potential GHG emissions associated with both construction and operations from a variety of land use projects. Project construction-generated air pollutant emissions were calculated using CalEEMod model defaults for Orange County coupled with details associated with construction timing, phasing, and duration provided by the Project Applicant. The specific construction equipment anticipated to be employed during construction has also been provided by the Project Applicant. Operational air pollutant emissions were based on the Project site plans, and traffic trip generation rates from RK Engineering Group, Inc. (2021).

3.3.3 Impact Analysis

Generation of GHG Emissions

Construction

Construction-related activities that would generate GHG emissions include worker commute trips, haul trucks carrying supplies and materials to and from the Project site, and off-road construction equipment (e.g., dozers, loaders, excavators). Table 3-2 illustrates the specific construction generated GHG emissions that would result from construction of the Project. Once construction is complete, the generation of these GHG emissions would cease.

Table 3-2. Construction-Related Greenhouse Gas Emissions

Emissions Source	CO_2e (Metric Tons/ Year)
Total Construction Emissions	**2,166**

Source: CalEEMod version 2020.4.0. Refer to Attachment B for Model Data Outputs.

As shown in Table 3-2, Project construction would result in the generation of approximately 2,166 metric tons of CO_2e over the course of construction. Once construction is complete, the generation of these GHG emissions would cease. Consistent with SCAQMD recommendations, Project construction GHG emissions have been amortized of the expected life of the Project, which is considered to be 30 years per the SCAQMD. The amortized construction emissions are added to the annual average operational emissions (see Table 3-3).

Operational Significance Analysis

Operation of the Project would result in an increase in GHG emissions primarily associated with motor vehicle trips and onsite energy sources. Long-term operational GHG emissions attributed to the Project are identified in Table 3-3.

Table 3-3. Operational-Related Greenhouse Gas Emissions

Emission Source	CO_2e (Metric Tons/ Year)
Construction Emissions (amortized over the 30-year life of the Project)	72
Area Source	37
Energy	191
Mobile	305
Waste	82
Water	37
Total	**724**
SCAQMD Significance Threshold	*3,000*
Exceed SCAQMD Threshold?	**No**

Source: CalEEMod version 2020.4.0. Refer to Attachment B for Model Data Outputs.
Notes: Emission projections predominately based on CalEEMod model defaults for Riverside County. Average daily vehicle trips provided by Urban Crossroads (2021).

As shown in Table 3-3, operational-generated emissions would not exceed the SCAQMD's numeric bright-line threshold of 3,000 metric tons of CO_2e annually. SCAQMD thresholds were developed based on

substantial evidence that such thresholds represent quantitative levels of GHG emissions, compliance with which means that the environmental impact of the GHG emissions will normally not be cumulatively considerable under CEQA. These thresholds were developed as part of the SCAQMD GHG CEQA Significance Threshold Working Group. The working group was formed to assist the SCAQMD's efforts to develop a GHG significance threshold and is composed of a wide variety of stakeholders including the State OPR, CARB, the Attorney General's Office, a variety of city and county planning departments in the SoCAB, various utilities such as sanitation and power companies throughout the basin, industry groups, and environmental and professional organizations. The 3,000 metric tons of CO_2e per year value represents less than one percent of future 2050 statewide GHG emissions target.

Conflict with any Applicable Plan, Policy, or Regulation of an Agency Adopted for the Purpose of Reducing the Emissions of Greenhouse Gases

The City of Laguna Niguel does not currently have an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions. However, Laguna Niguel is a member city of the SCAG. SCAG's 2020 RTP/SCS RTP/SCS, adopted September 3, 2020, is a long-range visioning plan that balances future mobility and housing needs with economic, environmental, and public health goals. The RTP/SCS embodies a collective vision for the region's future and is developed with input from local governments, county transportation commissions, tribal governments, nonprofit organizations, businesses, and local stakeholders in Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura counties. The SCAG region must achieve specific federal air quality standards and is required by state law to lower regional GHG emissions. The RTP/SCS establishes GHG emissions goals for automobiles and light-duty trucks for the year 2035 and establishes an overall GHG target for the region consistent with the statewide GHG-reduction targets for 2035. Specifically, the region has been tasked by CARB to achieve a 19 percent per capita reduction by the end of 2035.

The Proposed Project's consistency with the RTP/SCS goals is analyzed in detail in Table 3-4. As discussed in Table 3-4, the Project would not conflict with applicable RTP/SCS strategies.

Table 3-4. Consistency with SCAG's RTP/SCS Goals

SCAG Strategies	Compliance with Goal
Focus Growth Near Destinations and Mobility Options • Emphasize land use patterns that facilitate multimodal access to work, educational, and other destinations. • Focus on regional jobs/housing balance to reduce commute times and distances and expand job opportunities near transit and along center-focused main streets. • Plan for growth near transit investments and support implementation of first/last mile strategies. • Promote the redevelopment of underperforming retail developments and other outmoded nonresidential uses. • Prioritize infill and redevelopment of underutilized land to accommodate new growth, increase amenities and connectivity in existing neighborhoods. • Encourage design and transportation options that reduce the reliance on and number of solo car trips (this could include mixed uses or locating and orienting close to existing destinations). • Identify ways to "right size" parking requirements and promote alternative parking strategies (e.g., shared parking or smart parking).	**Consistent:** The Proposed Project is a residential, infill development that would result in the densification of the area, specifically through the construction of a senior living facility on currently underutilized nonresidential land (i.e., a vacant, unused portion of an existing church property). The Project is considered infill development as it proposes to develop a property surrounded by urban uses, thereby enhancing the physical design of the urban environment by instigating land use diversity. The increases in land use diversity and mix of uses in the Project area would reduce vehicle trips and VMT by encouraging non-automotive forms of transportation, which would result in corresponding reductions in transportation-related emissions. The Proposed Project would provide a convenient proximity to transit options for its residents, with two bus stops located directly adjacent to the site on Crown Valley Parkway. It is noted that the existing land use on the Project Site currently generates approximately 411 daily trips on average (RK Engineering Group 2021), and that the Proposed Project would actually result in the reduction of 122 daily trips for a total of 289 daily trips (RK Engineering Group 2021).
Promote Diverse Housing Options • Preserve and rehabilitate affordable housing and prevent displacement. • Identify funding opportunities for new workforce and affordable housing development. • Create incentives and reduce regulatory barriers for building context sensitive accessory dwelling units to increase housing supply. • Provide support to local jurisdictions to streamline and lessen barriers to housing development that supports reduction of greenhouse gas emissions.	**Consistent**: The Project would provide 108 affordable senior living dwellings units. The Project seeks to meet the needs of senior seeking assisted living housing, at various price levels, and provide housing in close proximity to a place of worship and public transit.

Table 3-4. Consistency with SCAG's RTP/SCS Goals

SCAG Strategies	Compliance with Goal
Leveraging Technology Innovations • Promote low emission technologies such as neighborhood electric vehicles, shared ride hailing, car sharing, bike sharing and scooters by providing supportive and safe infrastructure such as dedicated lanes, charging and parking/drop-off space. • Improve access to services through technology, such as telework and telemedicine as well as other incentives such as a mobility wallet. • Identify ways to incorporate micro-power grids in communities, for example solar energy, hydrogen fuel cell power storage and power generation.	**Consistent**: The Project Site is served by an existing bus route immediately adjacent to the Project Site, and the Project would also provide secure bicycle parking for Project employees. Nine electric vehicle (EV) spaces are also proposed. In regard to telecommuting, the Project is a senior assisted living facility which would require employees to physically be on-site for patient care. However, doctors may provide telemedicine options for their patients, thereby reducing the number of patient vehicle trips particularly for routine appointments and check-ups that do not require the patient to be physically present at the hospital.
Support Implementation of Sustainable Policies • Pursue funding opportunities to support local sustainable development implementation projects that reduce greenhouse gas emissions. • Support statewide legislation that reduces barriers to new construction and that incentivizes development near transit corridors and stations. • Support local jurisdictions in the establishment of EIFDs, CRIAS, or other tax increment or value capture tools to finance sustainable infrastructure and development projects including parks and open space. • Work with local jurisdictions/communities to identify opportunities and assess barriers for implementing sustainability strategies. • Enhance partnerships with other planning organizations to promote resources and best practices in the SCAG region. • Continue to support long range planning efforts by local jurisdictions. • Provide educational opportunities to local decisions makers and staff on new tools, best practices and policies related to implementing the Sustainable Communities Strategy.	**Not Applicable.** These strategies are not directly applicable to the Project. The Project would not interfere with SCAG's efforts to work with local jurisdictions, communities, and other planning organizations to implement sustainable policies.

Table 3-4. Consistency with SCAG's RTP/SCS Goals

SCAG Strategies	Compliance with Goal
Promote Green Region • Support development of local climate adaptation and hazard mitigation plans as well as project implementation that improves community resiliency to climate change and natural hazards. • Support local policies for renewable energy production, reduction of urban heat islands and carbon sequestration. • Integrate local food production into the regional landscape. • Promote more resource efficient development focused on conservation, recycling and reclamation. • Preserve, enhance and restore regional wildlife connectivity. • Reduce consumption of resource areas, including agricultural land. Identify ways to improve access to public park space.	**Not Applicable**: Strategies regarding climate adaptation, food production, wildlife connectivity, agricultural lands, and park space are not applicable to the Project. However, the Project would support energy conservation, a reduction in heat islands, and recycling efforts. The Project would be constructed in accordance with energy efficiency standards effective at the time building permits are issued. The current 2019 Energy Code is estimated to decrease energy consumption when compared to the 2016 Title 24 Energy Code. The Project would be served by Southern California Edison (SCE), which has achieved 38 percent renewables as of 2019, and is required to achieve 44 percent by 2024. The Project's energy-related GHG emissions would decrease as SCE increases its renewables.

Implementing SCAG's RTP/SCS will greatly reduce the regional GHG emissions from transportation, helping to achieve statewide emission reduction targets. As shown, the Proposed Project would in no way conflict with the stated goals of the RTP/SCS; therefore, the Proposed Project would not interfere with SCAG's ability to achieve the region's year 2035 mobile source GHG reduction targets outlined in the RTP/SCS, and it can be assumed that regional mobile emissions will decrease in line with the goals of the RTP/SCS. The Proposed Project is consistent with the land use designation and development intensity for the site in the City of Laguna Niguel General Plan, which is referenced by SCAG in order to assist planning for integrated land use and transportation planning in the region. The Proposed Project would not conflict with the SCAG RTP/SCS GHG-reduction targets. As such, the Project would not conflict with applicable plans, policies, or regulations adopted for the purpose of reducing GHG emissions.

4.0 REFERENCES

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LIST OF ATTACHMENTS

Attachment A – CalEEMod Output File for Air Quality Emissions

Attachment B – CalEEMod Output File for Greenhouse Gas Emissions

ATTACHMENT A

CalEEMod Output Files – Criteria Air Pollutants

Grace Church Remodel and Griffin Senior Living Facility - Orange County, Summer

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

Grace Church Remodel and Griffin Senior Living Facility

Orange County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Congregate Care (Assisted Living)	108.00	Dwelling Unit	3.34	130,046.00	309
Place of Worship	11.41	1000sqft	2.00	11,412.00	0
Enclosed Parking with Elevator	51.00	Space	0.00	24,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	30
Climate Zone	8			**Operational Year**	2025
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	390.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Project site = 5.34 acres. Building square footage per Project Description

Construction Phase - Project phasing and duration per Project Applicant

Off-road Equipment - Construction equipment per Project Applicant

Off-road Equipment - Ibid

Off-road Equipment - Ibid

Off-road Equipment - Ibid

Grading -

Off-road Equipment - Ibid

Demolition -

Grace Church Remodel and Griffin Senior Living Facility - Orange County, Summer

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

Construction Off-road Equipment Mitigation - SCAQMD Rule 403. Reduction values per SCAQMD, CEQA Handbook, Tables 11-4 and A11-9-A. Tier 4 Engine Mitigation.

Vehicle Trips - Trip Generation per Project Traffic Impact Study

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	40
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	8.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	12.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final

Grace Church Remodel and Griffin Senior Living Facility - Orange County, Summer

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

tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstructionPhase	NumDays	230.00	173.00
tblConstructionPhase	NumDays	20.00	11.00
tblConstructionPhase	NumDays	20.00	25.00
tblConstructionPhase	NumDays	10.00	5.00
tblConstructionPhase	NumDays	230.00	599.00
tblConstructionPhase	PhaseEndDate	4/4/2023	5/1/2023
tblConstructionPhase	PhaseEndDate	4/5/2022	12/15/2022
tblConstructionPhase	PhaseEndDate	5/17/2022	2/24/2023
tblConstructionPhase	PhaseEndDate	4/19/2022	1/20/2023
tblConstructionPhase	PhaseStartDate	5/18/2022	9/1/2022
tblConstructionPhase	PhaseStartDate	3/9/2022	12/1/2022
tblConstructionPhase	PhaseStartDate	4/20/2022	1/21/2023
tblConstructionPhase	PhaseStartDate	4/6/2022	1/15/2023
tblGrading	MaterialExported	0.00	53,333.00
tblGrading	MaterialExported	0.00	10,667.00
tblLandUse	LandUseSquareFeet	108,000.00	130,046.00
tblLandUse	LandUseSquareFeet	11,410.00	11,412.00
tblLandUse	LandUseSquareFeet	20,400.00	24,000.00
tblLandUse	LotAcreage	6.75	3.34
tblLandUse	LotAcreage	0.26	2.00
tblLandUse	LotAcreage	0.46	0.00
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.41	0.41
tblOffRoadEquipment	LoadFactor	0.42	0.42

Grace Church Remodel and Griffin Senior Living Facility - Orange County, Summer

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

tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.41	0.41
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.48	0.48
tblOffRoadEquipment	LoadFactor	0.36	0.36
tblOffRoadEquipment	LoadFactor	0.48	0.48
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	LoadFactor	0.42	0.42
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.36	0.36
tblOffRoadEquipment	LoadFactor	0.48	0.48
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	LoadFactor	0.40	0.40
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tblOffRoadEquipment	LoadFactor	0.36	0.36
tblOffRoadEquipment	LoadFactor	0.50	0.50
tblOffRoadEquipment	LoadFactor	0.42	0.42
tblOffRoadEquipment	LoadFactor	0.36	0.36
tblOffRoadEquipment	LoadFactor	0.40	0.40
tblOffRoadEquipment	LoadFactor	0.50	0.50
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Graders
tblOffRoadEquipment	OffRoadEquipmentType		Other Construction Equipment
tblOffRoadEquipment	OffRoadEquipmentType		Other Construction Equipment
tblOffRoadEquipment	OffRoadEquipmentType		Rubber Tired Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Rollers
tblOffRoadEquipment	OffRoadEquipmentType		Skid Steer Loaders

Grace Church Remodel and Griffin Senior Living Facility - Orange County, Summer

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

tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType		Graders
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Rollers
tblOffRoadEquipment	OffRoadEquipmentType		Scrapers
tblOffRoadEquipment	OffRoadEquipmentType		Rubber Tired Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Scrapers
tblOffRoadEquipment	OffRoadEquipmentType		Skid Steer Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType		Other Construction Equipment
tblOffRoadEquipment	OffRoadEquipmentType		Rollers
tblOffRoadEquipment	OffRoadEquipmentType		Rubber Tired Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Scrapers
tblOffRoadEquipment	OffRoadEquipmentType		Skid Steer Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Rough Terrain Forklifts
tblOffRoadEquipment	OffRoadEquipmentType		Pavers
tblOffRoadEquipment	OffRoadEquipmentType		Paving Equipment
tblOffRoadEquipment	OffRoadEquipmentType		Signal Boards
tblOffRoadEquipment	OffRoadEquipmentType		Trenchers
tblOffRoadEquipment	OffRoadEquipmentType		Pavers
tblOffRoadEquipment	OffRoadEquipmentType		Paving Equipment
tblOffRoadEquipment	OffRoadEquipmentType		Rough Terrain Forklifts
tblOffRoadEquipment	OffRoadEquipmentType		Signal Boards
tblOffRoadEquipment	OffRoadEquipmentType		Trenchers
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00

Grace Church Remodel and Griffin Senior Living Facility - Orange County, Summer

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

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblVehicleTrips	ST_TR	2.93	2.68
tblVehicleTrips	ST_TR	5.99	0.00
tblVehicleTrips	SU_TR	3.15	2.68
tblVehicleTrips	SU_TR	27.63	0.00
tblVehicleTrips	WD_TR	2.60	2.68
tblVehicleTrips	WD_TR	6.95	0.00

2.0 Emissions Summary

Grace Church Remodel and Griffin Senior Living Facility - Orange County, Summer

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

2.1 Overall Construction (Maximum Daily Emission)

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	lb/day										lb/day					
2022	10.4648	107.4060	84.4852	0.1823	1.9533	4.7969	6.7503	0.4865	4.4158	4.9022	0.0000	17,725.0197	17,725.0197	5.1945	0.0954	17,883.3054
2023	10.5381	131.3481	97.3349	0.3371	24.4524	4.6085	29.0609	9.0093	4.2497	13.2590	0.0000	35,263.7155	35,263.7155	7.0954	2.8123	36,279.1688
2024	2.5333	23.0339	24.4082	0.0488	1.1482	1.1847	2.3329	0.3070	1.0923	1.3993	0.0000	4,761.9367	4,761.9367	1.1718	0.0655	4,810.7590
2025	2.3694	21.2589	24.0801	0.0484	1.1482	1.0702	2.2184	0.3070	0.9869	1.2939	0.0000	4,726.7601	4,726.7601	1.1705	0.0638	4,775.0273
Maximum	**10.5381**	**131.3481**	**97.3349**	**0.3371**	**24.4524**	**4.7969**	**29.0609**	**9.0093**	**4.4158**	**13.2590**	**0.0000**	**35,263.7155**	**35,263.7155**	**7.0954**	**2.8123**	**36,279.1688**

Grace Church Remodel and Griffin Senior Living Facility - Orange County, Summer

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

2.1 Overall Construction (Maximum Daily Emission)

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	lb/day										lb/day					
2022	2.6182	12.7815	96.3826	0.1823	1.2031	0.3131	1.5162	0.3196	0.3121	0.6316	0.0000	17,725.0197	17,725.0197	5.1945	0.0954	17,883.3054
2023	3.2195	44.4673	111.6042	0.3371	11.4113	0.5215	11.9328	4.0761	0.5118	4.5880	0.0000	35,263.7155	35,263.7155	7.0954	2.8123	36,279.1688
2024	0.8180	3.3714	27.5413	0.0488	0.7557	0.0949	0.8506	0.2106	0.0943	0.3050	0.0000	4,761.9367	4,761.9367	1.1718	0.0655	4,810.7590
2025	0.8040	3.3543	27.3784	0.0484	0.7557	0.0947	0.8504	0.2106	0.0942	0.3048	0.0000	4,726.7601	4,726.7601	1.1705	0.0638	4,775.0273
Maximum	**3.2195**	**44.4673**	**111.6042**	**0.3371**	**11.4113**	**0.5215**	**11.9328**	**4.0761**	**0.5118**	**4.5880**	**0.0000**	**35,263.7155**	**35,263.7155**	**7.0954**	**2.8123**	**36,279.1688**

	ROG	NOx	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	**71.20**	**77.40**	**-14.15**	**0.00**	**50.78**	**91.22**	**62.47**	**52.35**	**90.58**	**72.05**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Grace Church Remodel and Griffin Senior Living Facility - Orange County, Summer

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

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	31.6309	2.3434	63.8317	0.1406		8.2994	8.2994		8.2994	8.2994	1,011.6272	1,960.0573	2,971.6845	3.0323	0.0687	3,067.9525
Energy	0.0426	0.3677	0.1828	2.3200e-003		0.0294	0.0294		0.0294	0.0294		464.4874	464.4874	8.9000e-003	8.5200e-003	467.2476
Mobile	0.7611	0.7571	7.6458	0.0184	2.0841	0.0123	2.0963	0.5555	0.0114	0.5669		1,877.2912	1,877.2912	0.1083	0.0731	1,901.7885
Total	**32.4345**	**3.4682**	**71.6602**	**0.1613**	**2.0841**	**8.3410**	**10.4251**	**0.5555**	**8.3402**	**8.8957**	**1,011.6272**	**4,301.8359**	**5,313.4631**	**3.1495**	**0.1503**	**5,436.9886**

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	lb/day										lb/day					
Area	31.6309	2.3434	63.8317	0.1406		8.2994	8.2994		8.2994	8.2994	1,011.6272	1,960.0573	2,971.6845	3.0323	0.0687	3,067.9525
Energy	0.0426	0.3677	0.1828	2.3200e-003		0.0294	0.0294		0.0294	0.0294		464.4874	464.4874	8.9000e-003	8.5200e-003	467.2476
Mobile	0.7611	0.7571	7.6458	0.0184	2.0841	0.0123	2.0963	0.5555	0.0114	0.5669		1,877.2912	1,877.2912	0.1083	0.0731	1,901.7885
Total	**32.4345**	**3.4682**	**71.6602**	**0.1613**	**2.0841**	**8.3410**	**10.4251**	**0.5555**	**8.3402**	**8.8957**	**1,011.6272**	**4,301.8359**	**5,313.4631**	**3.1495**	**0.1503**	**5,436.9886**

Grace Church Remodel and Griffin Senior Living Facility - Orange County, Summer

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

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Phase 2 - Demolition	Demolition	12/1/2022	12/15/2022	5	11	
2	Phase 3 - Site Preparation	Site Preparation	1/15/2023	1/20/2023	5	5	
3	Phase 3 - Grading	Grading	1/21/2023	2/24/2023	5	25	
4	Phase 1 - Church Remodel	Building Construction	9/1/2022	5/1/2023	5	173	
5	Phase 3 - Construction	Building Construction	2/25/2023	6/12/2025	5	599	

Acres of Grading (Site Preparation Phase): 27.5

Acres of Grading (Grading Phase): 137.5

Acres of Paving: 0

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Phase 3 - Construction	Cranes	2	7.00	231	0.29
Phase 2 - Demolition	Concrete/Industrial Saws	0	8.00	81	0.73
Phase 1 - Church Remodel	Cranes	2	7.00	231	0.29
Phase 3 - Site Preparation	Excavators	1	8.00	158	0.38
Phase 3 - Grading	Excavators	1	8.00	158	0.38
Phase 1 - Church Remodel	Forklifts	0	8.00	89	0.20

Grace Church Remodel and Griffin Senior Living Facility - Orange County, Summer

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

Phase 1 - Church Remodel	Generator Sets	0	8.00	84	0.74
Phase 3 - Grading	Graders	1	8.00	187	0.41
Phase 3 - Construction	Forklifts	0	8.00	89	0.20
Phase 3 - Construction	Generator Sets	0	8.00	84	0.74
Phase 3 - Construction	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Phase 2 - Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Phase 3 - Grading	Rubber Tired Dozers	2	8.00	247	0.40
Phase 3 - Site Preparation	Rubber Tired Dozers	2	8.00	247	0.40
Phase 1 - Church Remodel	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Phase 3 - Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Phase 3 - Site Preparation	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Phase 1 - Church Remodel	Welders	0	8.00	46	0.45
Phase 3 - Construction	Welders	0	8.00	46	0.45
Phase 3 - Site Preparation	Graders	1	8.00	187	0.41
Phase 2 - Demolition	Other Construction Equipment	2	8.00	172	0.42
Phase 3 - Site Preparation	Other Construction Equipment	2	8.00	172	0.42
Phase 2 - Demolition	Rubber Tired Loaders	2	8.00	203	0.36
Phase 3 - Site Preparation	Rollers	1	8.00	80	0.38
Phase 2 - Demolition	Skid Steer Loaders	2	8.00	65	0.37
Phase 2 - Demolition	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Phase 2 - Demolition	Graders	1	8.00	187	0.41
Phase 2 - Demolition	Excavators	1	8.00	158	0.38
Phase 2 - Demolition	Rollers	1	8.00	80	0.38
Phase 2 - Demolition	Scrapers	4	8.00	367	0.48
Phase 3 - Site Preparation	Rubber Tired Loaders	2	8.00	203	0.36
Phase 3 - Site Preparation	Scrapers	4	8.00	367	0.48
Phase 3 - Site Preparation	Skid Steer Loaders	2	8.00	65	0.37
Phase 3 - Site Preparation	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Phase 3 - Grading	Other Construction Equipment	2	8.00	172	0.42

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

Phase 3 - Grading	Rollers	1	8.00	80	0.38
Phase 3 - Grading	Rubber Tired Loaders	2	8.00	203	0.36
Phase 3 - Grading	Scrapers	4	8.00	367	0.48
Phase 3 - Grading	Skid Steer Loaders	2	8.00	65	0.37
Phase 1 - Church Remodel	Rough Terrain Forklifts	2	8.00	100	0.40
Phase 1 - Church Remodel	Pavers	1	8.00	130	0.42
Phase 1 - Church Remodel	Paving Equipment	1	8.00	132	0.36
Phase 1 - Church Remodel	Signal Boards	2	8.00	6	0.82
Phase 1 - Church Remodel	Trenchers	3	8.00	78	0.50
Phase 3 - Construction	Pavers	1	8.00	130	0.42
Phase 3 - Construction	Paving Equipment	1	8.00	132	0.36
Phase 3 - Construction	Rough Terrain Forklifts	2	8.00	100	0.40
Phase 3 - Construction	Signal Boards	2	8.00	6	0.82
Phase 3 - Construction	Trenchers	3	8.00	78	0.50

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
Phase 2 - Demolition	17	43.00	0.00	15.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 3 - Site Preparation	19	48.00	0.00	1,333.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 3 - Grading	17	43.00	0.00	6,667.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 1 - Church Remodel	11	93.00	17.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 3 - Construction	11	93.00	17.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Grace Church Remodel and Griffin Senior Living Facility - Orange County, Summer

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

Clean Paved Roads

3.2 Phase 2 - Demolition - 2022

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	lb/day										lb/day					
Fugitive Dust					0.3007	0.0000	0.3007	0.0455	0.0000	0.0455			0.0000			0.0000
Off-Road	7.5522	81.1597	57.9725	0.1277		3.4397	3.4397		3.1646	3.1646		12,368.5588	12,368.5588	4.0002		12,468.5648
Total	**7.5522**	**81.1597**	**57.9725**	**0.1277**	**0.3007**	**3.4397**	**3.7404**	**0.0455**	**3.1646**	**3.2101**		**12,368.5588**	**12,368.5588**	**4.0002**		**12,468.5648**

Grace Church Remodel and Griffin Senior Living Facility - Orange County, Summer

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

3.2 Phase 2 - Demolition - 2022

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	lb/day										lb/day					
Hauling	5.5200e-003	0.2123	0.0596	8.1000e-004	0.0238	1.6100e-003	0.0254	6.5100e-003	1.5400e-003	8.0500e-003		92.1950	92.1950	8.7900e-003	0.0148	96.8150
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
Worker	0.1293	0.0869	1.4131	4.1900e-003	0.4806	2.5900e-003	0.4832	0.1275	2.3800e-003	0.1299		423.4260	423.4260	9.9600e-003	9.5200e-003	426.5106
Total	**0.1349**	**0.2992**	**1.4728**	**5.0000e-003**	**0.5044**	**4.2000e-003**	**0.5086**	**0.1340**	**3.9200e-003**	**0.1379**		**515.6209**	**515.6209**	**0.0188**	**0.0243**	**523.3256**

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	lb/day										lb/day					
Fugitive Dust					0.1173	0.0000	0.1173	0.0178	0.0000	0.0178			0.0000			0.0000
Off-Road	1.6203	8.9047	66.9292	0.1277		0.2093	0.2093		0.2093	0.2093	0.0000	12,368.5588	12,368.5588	4.0002		12,468.5648
Total	**1.6203**	**8.9047**	**66.9292**	**0.1277**	**0.1173**	**0.2093**	**0.3265**	**0.0178**	**0.2093**	**0.2270**	**0.0000**	**12,368.5588**	**12,368.5588**	**4.0002**		**12,468.5648**

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

3.2 Phase 2 - Demolition - 2022

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	lb/day										lb/day					
Hauling	5.5200e-003	0.2123	0.0596	8.1000e-004	0.0166	1.6100e-003	0.0182	4.7400e-003	1.5400e-003	6.2800e-003		92.1950	92.1950	8.7900e-003	0.0148	96.8150
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
Worker	0.1293	0.0869	1.4131	4.1900e-003	0.3135	2.5900e-003	0.3161	0.0864	2.3800e-003	0.0888		423.4260	423.4260	9.9600e-003	9.5200e-003	426.5106
Total	**0.1349**	**0.2992**	**1.4728**	**5.0000e-003**	**0.3301**	**4.2000e-003**	**0.3343**	**0.0912**	**3.9200e-003**	**0.0951**		**515.6209**	**515.6209**	**0.0188**	**0.0243**	**523.3256**

3.3 Phase 3 - Site Preparation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.1182	0.0000	18.1182	7.2868	0.0000	7.2868			0.0000			0.0000
Off-Road	7.2226	75.3268	60.2926	0.1339		3.1550	3.1550		2.9026	2.9026		12,960.0505	12,960.0505	4.1915		13,064.8391
Total	**7.2226**	**75.3268**	**60.2926**	**0.1339**	**18.1182**	**3.1550**	**21.2732**	**7.2868**	**2.9026**	**10.1894**		**12,960.0505**	**12,960.0505**	**4.1915**		**13,064.8391**

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

3.3 Phase 3 - Site Preparation - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.5556	31.7715	10.8912	0.1496	4.6495	0.2045	4.8540	1.2732	0.1957	1.4689		17,050.4182	17,050.4182	1.7204	2.7351	17,908.4879
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
Worker	0.1352	0.0865	1.4658	4.5300e-003	0.5365	2.7400e-003	0.5393	0.1423	2.5200e-003	0.1448		457.6136	457.6136	0.0101	9.8900e-003	460.8111
Total	**0.6908**	**31.8579**	**12.3570**	**0.1541**	**5.1860**	**0.2073**	**5.3933**	**1.4155**	**0.1982**	**1.6137**		**17,508.0318**	**17,508.0318**	**1.7304**	**2.7450**	**18,369.2990**

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	lb/day										lb/day					
Fugitive Dust					7.0661	0.0000	7.0661	2.8419	0.0000	2.8419			0.0000			0.0000
Off-Road	1.6947	9.2191	71.5067	0.1339		0.2192	0.2192		0.2192	0.2192	0.0000	12,960.0505	12,960.0505	4.1915		13,064.8391
Total	**1.6947**	**9.2191**	**71.5067**	**0.1339**	**7.0661**	**0.2192**	**7.2853**	**2.8419**	**0.2192**	**3.0610**	**0.0000**	**12,960.0505**	**12,960.0505**	**4.1915**		**13,064.8391**

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

3.3 Phase 3 - Site Preparation - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.5556	31.7715	10.8912	0.1496	3.2396	0.2045	3.4441	0.9272	0.1957	1.1228		17,050.4182	17,050.4182	1.7204	2.7351	17,908.4879
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
Worker	0.1352	0.0865	1.4658	4.5300e-003	0.3500	2.7400e-003	0.3527	0.0965	2.5200e-003	0.0990		457.6136	457.6136	0.0101	9.8900e-003	460.8111
Total	**0.6908**	**31.8579**	**12.3570**	**0.1541**	**3.5895**	**0.2073**	**3.7968**	**1.0237**	**0.1982**	**1.2219**		**17,508.0318**	**17,508.0318**	**1.7304**	**2.7450**	**18,369.2990**

3.4 Phase 3 - Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.1182	0.0000	18.1182	7.2868	0.0000	7.2868			0.0000			0.0000
Off-Road	6.9213	72.2749	55.8371	0.1276		3.0041	3.0041		2.7638	2.7638		12,358.8742	12,358.8742	3.9971		12,458.8019
Total	**6.9213**	**72.2749**	**55.8371**	**0.1276**	**18.1182**	**3.0041**	**21.1223**	**7.2868**	**2.7638**	**10.0506**		**12,358.8742**	**12,358.8742**	**3.9971**		**12,458.8019**

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

3.4 Phase 3 - Grading - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.5558	31.7810	10.8944	0.1496	4.6509	0.2046	4.8554	1.2736	0.1957	1.4694		17,055.5346	17,055.5346	1.7209	2.7359	17,913.8618
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
Worker	0.1211	0.0775	1.3131	4.0600e-003	0.4806	2.4500e-003	0.4831	0.1275	2.2600e-003	0.1297		409.9455	409.9455	9.0100e-003	8.8600e-003	412.8099
Total	**0.6769**	**31.8585**	**12.2076**	**0.1537**	**5.1315**	**0.2070**	**5.3385**	**1.4011**	**0.1980**	**1.5991**		**17,465.4801**	**17,465.4801**	**1.7299**	**2.7448**	**18,326.6717**

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	lb/day										lb/day					
Fugitive Dust					7.0661	0.0000	7.0661	2.8419	0.0000	2.8419			0.0000			0.0000
Off-Road	1.6189	8.8911	66.8314	0.1276		0.2091	0.2091		0.2091	0.2091	0.0000	12,358.8742	12,358.8742	3.9971		12,458.8019
Total	**1.6189**	**8.8911**	**66.8314**	**0.1276**	**7.0661**	**0.2091**	**7.2752**	**2.8419**	**0.2091**	**3.0510**	**0.0000**	**12,358.8742**	**12,358.8742**	**3.9971**		**12,458.8019**

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

3.4 Phase 3 - Grading - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.5558	31.7810	10.8944	0.1496	3.2405	0.2046	3.4451	0.9274	0.1957	1.1232		17,055.5346	17,055.5346	1.7209	2.7359	17,913.8618
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
Worker	0.1211	0.0775	1.3131	4.0600e-003	0.3135	2.4500e-003	0.3160	0.0864	2.2600e-003	0.0887		409.9455	409.9455	9.0100e-003	8.8600e-003	412.8099
Total	**0.6769**	**31.8585**	**12.2076**	**0.1537**	**3.5540**	**0.2070**	**3.7611**	**1.0139**	**0.1980**	**1.2119**		**17,465.4801**	**17,465.4801**	**1.7299**	**2.7448**	**18,326.6717**

3.5 Phase 1 - Church Remodel - 2022

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	lb/day										lb/day					
Off-Road	2.4697	24.9964	21.7128	0.0373		1.3400	1.3400		1.2350	1.2350		3,572.5504	3,572.5504	1.1338		3,600.8949
Total	**2.4697**	**24.9964**	**21.7128**	**0.0373**		**1.3400**	**1.3400**		**1.2350**	**1.2350**		**3,572.5504**	**3,572.5504**	**1.1338**		**3,600.8949**

Grace Church Remodel and Griffin Senior Living Facility - Orange County, Summer

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

3.5 Phase 1 - Church Remodel - 2022

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	lb/day										lb/day					
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
Vendor	0.0283	0.7628	0.2708	3.2200e-003	0.1087	7.4200e-003	0.1161	0.0313	7.1000e-003	0.0384		352.5079	352.5079	0.0202	0.0505	368.0671
Worker	0.2797	0.1879	3.0563	9.0600e-003	1.0395	5.6000e-003	1.0451	0.2757	5.1500e-003	0.2808		915.7817	915.7817	0.0215	0.0206	922.4531
Total	**0.3080**	**0.9507**	**3.3271**	**0.0123**	**1.1482**	**0.0130**	**1.1612**	**0.3070**	**0.0123**	**0.3192**		**1,268.2896**	**1,268.2896**	**0.0417**	**0.0711**	**1,290.5201**

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	lb/day										lb/day					
Off-Road	0.5550	2.6269	24.6535	0.0373		0.0867	0.0867		0.0867	0.0867	0.0000	3,572.5504	3,572.5504	1.1338		3,600.8949
Total	**0.5550**	**2.6269**	**24.6535**	**0.0373**		**0.0867**	**0.0867**		**0.0867**	**0.0867**	**0.0000**	**3,572.5504**	**3,572.5504**	**1.1338**		**3,600.8949**

Grace Church Remodel and Griffin Senior Living Facility - Orange County, Summer

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

3.5 Phase 1 - Church Remodel - 2022

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	lb/day										lb/day					
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
Vendor	0.0283	0.7628	0.2708	3.2200e-003	0.0777	7.4200e-003	0.0851	0.0237	7.1000e-003	0.0308		352.5079	352.5079	0.0202	0.0505	368.0671
Worker	0.2797	0.1879	3.0563	9.0600e-003	0.6780	5.6000e-003	0.6836	0.1870	5.1500e-003	0.1921		915.7817	915.7817	0.0215	0.0206	922.4531
Total	**0.3080**	**0.9507**	**3.3271**	**0.0123**	**0.7557**	**0.0130**	**0.7687**	**0.2106**	**0.0123**	**0.2229**		**1,268.2896**	**1,268.2896**	**0.0417**	**0.0711**	**1,290.5201**

3.5 Phase 1 - Church Remodel - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.3458	23.4000	21.5983	0.0373		1.2379	1.2379		1.1411	1.1411		3,573.3429	3,573.3429	1.1340		3,601.6937
Total	**2.3458**	**23.4000**	**21.5983**	**0.0373**		**1.2379**	**1.2379**		**1.1411**	**1.1411**		**3,573.3429**	**3,573.3429**	**1.1340**		**3,601.6937**

Grace Church Remodel and Griffin Senior Living Facility - Orange County, Summer

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

3.5 Phase 1 - Church Remodel - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
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
Vendor	0.0172	0.5958	0.2470	3.0600e-003	0.1087	3.0600e-003	0.1118	0.0313	2.9200e-003	0.0342		335.6640	335.6640	0.0200	0.0482	350.5156
Worker	0.2619	0.1675	2.8400	8.7700e-003	1.0395	5.3000e-003	1.0448	0.2757	4.8800e-003	0.2806		886.6264	886.6264	0.0195	0.0192	892.8214
Total	**0.2791**	**0.7633**	**3.0871**	**0.0118**	**1.1482**	**8.3600e-003**	**1.1566**	**0.3070**	**7.8000e-003**	**0.3148**		**1,222.2903**	**1,222.2903**	**0.0395**	**0.0673**	**1,243.3371**

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	lb/day										lb/day					
Off-Road	0.5550	2.6269	24.6535	0.0373		0.0867	0.0867		0.0867	0.0867	0.0000	3,573.3429	3,573.3429	1.1340		3,601.6937
Total	**0.5550**	**2.6269**	**24.6535**	**0.0373**		**0.0867**	**0.0867**		**0.0867**	**0.0867**	**0.0000**	**3,573.3429**	**3,573.3429**	**1.1340**		**3,601.6937**

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

3.5 Phase 1 - Church Remodel - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
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
Vendor	0.0172	0.5958	0.2470	3.0600e-003	0.0777	3.0600e-003	0.0807	0.0237	2.9200e-003	0.0266		335.6640	335.6640	0.0200	0.0482	350.5156
Worker	0.2619	0.1675	2.8400	8.7700e-003	0.6780	5.3000e-003	0.6833	0.1870	4.8800e-003	0.1918		886.6264	886.6264	0.0195	0.0192	892.8214
Total	**0.2791**	**0.7633**	**3.0871**	**0.0118**	**0.7557**	**8.3600e-003**	**0.7641**	**0.2106**	**7.8000e-003**	**0.2184**		**1,222.2903**	**1,222.2903**	**0.0395**	**0.0673**	**1,243.3371**

3.6 Phase 3 - Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.3458	23.4000	21.5983	0.0373		1.2379	1.2379		1.1411	1.1411		3,573.3429	3,573.3429	1.1340		3,601.6937
Total	**2.3458**	**23.4000**	**21.5983**	**0.0373**		**1.2379**	**1.2379**		**1.1411**	**1.1411**		**3,573.3429**	**3,573.3429**	**1.1340**		**3,601.6937**

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

3.6 Phase 3 - Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
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
Vendor	0.0172	0.5958	0.2470	3.0600e-003	0.1087	3.0600e-003	0.1118	0.0313	2.9200e-003	0.0342		335.6640	335.6640	0.0200	0.0482	350.5156
Worker	0.2619	0.1675	2.8400	8.7700e-003	1.0395	5.3000e-003	1.0448	0.2757	4.8800e-003	0.2806		886.6264	886.6264	0.0195	0.0192	892.8214
Total	**0.2791**	**0.7633**	**3.0871**	**0.0118**	**1.1482**	**8.3600e-003**	**1.1566**	**0.3070**	**7.8000e-003**	**0.3148**		**1,222.2903**	**1,222.2903**	**0.0395**	**0.0673**	**1,243.3371**

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	lb/day										lb/day					
Off-Road	0.5550	2.6269	24.6535	0.0373		0.0867	0.0867		0.0867	0.0867	0.0000	3,573.3429	3,573.3429	1.1340		3,601.6937
Total	**0.5550**	**2.6269**	**24.6535**	**0.0373**		**0.0867**	**0.0867**		**0.0867**	**0.0867**	**0.0000**	**3,573.3429**	**3,573.3429**	**1.1340**		**3,601.6937**

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

3.6 Phase 3 - Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
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
Vendor	0.0172	0.5958	0.2470	3.0600e-003	0.0777	3.0600e-003	0.0807	0.0237	2.9200e-003	0.0266		335.6640	335.6640	0.0200	0.0482	350.5156
Worker	0.2619	0.1675	2.8400	8.7700e-003	0.6780	5.3000e-003	0.6833	0.1870	4.8800e-003	0.1918		886.6264	886.6264	0.0195	0.0192	892.8214
Total	**0.2791**	**0.7633**	**3.0871**	**0.0118**	**0.7557**	**8.3600e-003**	**0.7641**	**0.2106**	**7.8000e-003**	**0.2184**		**1,222.2903**	**1,222.2903**	**0.0395**	**0.0673**	**1,243.3371**

3.6 Phase 3 - Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.2703	22.2894	21.5203	0.0373		1.1765	1.1765		1.0846	1.0846		3,573.0109	3,573.0109	1.1339		3,601.3591
Total	**2.2703**	**22.2894**	**21.5203**	**0.0373**		**1.1765**	**1.1765**		**1.0846**	**1.0846**		**3,573.0109**	**3,573.0109**	**1.1339**		**3,601.3591**

Grace Church Remodel and Griffin Senior Living Facility - Orange County, Summer

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

3.6 Phase 3 - Construction - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
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
Vendor	0.0169	0.5940	0.2452	3.0000e-003	0.1087	3.2000e-003	0.1119	0.0313	3.0600e-003	0.0343		330.4568	330.4568	0.0202	0.0476	345.1510
Worker	0.2461	0.1505	2.6427	8.4900e-003	1.0395	5.0300e-003	1.0446	0.2757	4.6300e-003	0.2803		858.4690	858.4690	0.0177	0.0179	864.2489
Total	**0.2630**	**0.7445**	**2.8879**	**0.0115**	**1.1482**	**8.2300e-003**	**1.1565**	**0.3070**	**7.6900e-003**	**0.3147**		**1,188.9258**	**1,188.9258**	**0.0378**	**0.0655**	**1,209.3999**

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	lb/day										lb/day					
Off-Road	0.5550	2.6269	24.6535	0.0373		0.0867	0.0867		0.0867	0.0867	0.0000	3,573.0109	3,573.0109	1.1339		3,601.3591
Total	**0.5550**	**2.6269**	**24.6535**	**0.0373**		**0.0867**	**0.0867**		**0.0867**	**0.0867**	**0.0000**	**3,573.0109**	**3,573.0109**	**1.1339**		**3,601.3591**

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

3.6 Phase 3 - Construction - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
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
Vendor	0.0169	0.5940	0.2452	3.0000e-003	0.0777	3.2000e-003	0.0809	0.0237	3.0600e-003	0.0267		330.4568	330.4568	0.0202	0.0476	345.1510
Worker	0.2461	0.1505	2.6427	8.4900e-003	0.6780	5.0300e-003	0.6831	0.1870	4.6300e-003	0.1916		858.4690	858.4690	0.0177	0.0179	864.2489
Total	**0.2630**	**0.7445**	**2.8879**	**0.0115**	**0.7557**	**8.2300e-003**	**0.7639**	**0.2106**	**7.6900e-003**	**0.2183**		**1,188.9258**	**1,188.9258**	**0.0378**	**0.0655**	**1,209.3999**

3.6 Phase 3 - Construction - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1205	20.5315	21.3552	0.0373		1.0622	1.0622		0.9794	0.9794		3,573.2510	3,573.2510	1.1340		3,601.6011
Total	**2.1205**	**20.5315**	**21.3552**	**0.0373**		**1.0622**	**1.0622**		**0.9794**	**0.9794**		**3,573.2510**	**3,573.2510**	**1.1340**		**3,601.6011**

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

3.6 Phase 3 - Construction - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
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
Vendor	0.0167	0.5911	0.2442	2.9400e-003	0.1087	3.2200e-003	0.1119	0.0313	3.0800e-003	0.0344		324.2703	324.2703	0.0204	0.0469	338.7642
Worker	0.2323	0.1363	2.4807	8.2000e-003	1.0395	4.8100e-003	1.0443	0.2757	4.4300e-003	0.2801		829.2388	829.2388	0.0161	0.0169	834.6620
Total	**0.2489**	**0.7274**	**2.7249**	**0.0111**	**1.1482**	**8.0300e-003**	**1.1562**	**0.3070**	**7.5100e-003**	**0.3145**		**1,153.5091**	**1,153.5091**	**0.0365**	**0.0638**	**1,173.4261**

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	lb/day										lb/day					
Off-Road	0.5550	2.6269	24.6535	0.0373		0.0867	0.0867		0.0867	0.0867	0.0000	3,573.2510	3,573.2510	1.1340		3,601.6011
Total	**0.5550**	**2.6269**	**24.6535**	**0.0373**		**0.0867**	**0.0867**		**0.0867**	**0.0867**	**0.0000**	**3,573.2510**	**3,573.2510**	**1.1340**		**3,601.6011**

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

3.6 Phase 3 - Construction - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
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
Vendor	0.0167	0.5911	0.2442	2.9400e-003	0.0777	3.2200e-003	0.0809	0.0237	3.0800e-003	0.0268		324.2703	324.2703	0.0204	0.0469	338.7642
Worker	0.2323	0.1363	2.4807	8.2000e-003	0.6780	4.8100e-003	0.6828	0.1870	4.4300e-003	0.1914		829.2388	829.2388	0.0161	0.0169	834.6620
Total	**0.2489**	**0.7274**	**2.7249**	**0.0111**	**0.7557**	**8.0300e-003**	**0.7637**	**0.2106**	**7.5100e-003**	**0.2181**		**1,153.5091**	**1,153.5091**	**0.0365**	**0.0638**	**1,173.4261**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Grace Church Remodel and Griffin Senior Living Facility - Orange County, Summer

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.7611	0.7571	7.6458	0.0184	2.0841	0.0123	2.0963	0.5555	0.0114	0.5669		1,877.2912	1,877.2912	0.1083	0.0731	1,901.7885
Unmitigated	0.7611	0.7571	7.6458	0.0184	2.0841	0.0123	2.0963	0.5555	0.0114	0.5669		1,877.2912	1,877.2912	0.1083	0.0731	1,901.7885

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Congregate Care (Assisted Living)	289.44	289.44	289.44	989,060	989,060
Enclosed Parking with Elevator	0.00	0.00	0.00		
Place of Worship	0.00	0.00	0.00		
Total	289.44	289.44	289.44	989,060	989,060

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
Congregate Care (Assisted	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Enclosed Parking with Elevator	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Place of Worship	16.60	8.40	6.90	0.00	95.00	5.00	64	25	11

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Congregate Care (Assisted Living)	0.547453	0.060181	0.185039	0.126487	0.024236	0.006679	0.014707	0.004926	0.000662	0.000378	0.024745	0.000705	0.003801
Enclosed Parking with Elevator	0.547453	0.060181	0.185039	0.126487	0.024236	0.006679	0.014707	0.004926	0.000662	0.000378	0.024745	0.000705	0.003801

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

Place of Worship	0.547453	0.060181	0.185039	0.126487	0.024236	0.006679	0.014707	0.004926	0.000662	0.000378	0.024745	0.000705	0.003801

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0426	0.3677	0.1828	2.3200e-003		0.0294	0.0294		0.0294	0.0294		464.4874	464.4874	8.9000e-003	8.5200e-003	467.2476
NaturalGas Unmitigated	0.0426	0.3677	0.1828	2.3200e-003		0.0294	0.0294		0.0294	0.0294		464.4874	464.4874	8.9000e-003	8.5200e-003	467.2476

Grace Church Remodel and Griffin Senior Living Facility - Orange County, Summer

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

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	lb/day										lb/day					
Congregate Care (Assisted Living)	3299.07	0.0356	0.3040	0.1294	1.9400e-003		0.0246	0.0246		0.0246	0.0246		388.1254	388.1254	7.4400e-003	7.1200e-003	390.4318
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Place of Worship	649.077	7.0000e-003	0.0636	0.0535	3.8000e-004		4.8400e-003	4.8400e-003		4.8400e-003	4.8400e-003		76.3620	76.3620	1.4600e-003	1.4000e-003	76.8158
Total		**0.0426**	**0.3677**	**0.1828**	**2.3200e-003**		**0.0294**	**0.0294**		**0.0294**	**0.0294**		**464.4874**	**464.4874**	**8.9000e-003**	**8.5200e-003**	**467.2476**

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

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Congregate Care (Assisted Living)	3.29907	0.0356	0.3040	0.1294	1.9400e-003		0.0246	0.0246		0.0246	0.0246		388.1254	388.1254	7.4400e-003	7.1200e-003	390.4318
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Place of Worship	0.649077	7.0000e-003	0.0636	0.0535	3.8000e-004		4.8400e-003	4.8400e-003		4.8400e-003	4.8400e-003		76.3620	76.3620	1.4600e-003	1.4000e-003	76.8158
Total		**0.0426**	**0.3677**	**0.1828**	**2.3200e-003**		**0.0294**	**0.0294**		**0.0294**	**0.0294**		**464.4874**	**464.4874**	**8.9000e-003**	**8.5200e-003**	**467.2476**

6.0 Area Detail

6.1 Mitigation Measures Area

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	31.6309	2.3434	63.8317	0.1406		8.2994	8.2994		8.2994	8.2994	1,011.6272	1,960.0573	2,971.6845	3.0323	0.0687	3,067.9525
Unmitigated	31.6309	2.3434	63.8317	0.1406		8.2994	8.2994		8.2994	8.2994	1,011.6272	1,960.0573	2,971.6845	3.0323	0.0687	3,067.9525

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	lb/day										lb/day					
Architectural Coating	0.2538					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.8094					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	28.2999	2.2408	54.9236	0.1401		8.2499	8.2499		8.2499	8.2499	1,011.6272	1,944.0000	2,955.6272	3.0169	0.0687	3,051.5102
Landscaping	0.2679	0.1026	8.9081	4.7000e-004		0.0494	0.0494		0.0494	0.0494		16.0573	16.0573	0.0154		16.4423
Total	**31.6309**	**2.3434**	**63.8317**	**0.1406**		**8.2994**	**8.2994**		**8.2994**	**8.2994**	**1,011.6272**	**1,960.0573**	**2,971.6845**	**3.0323**	**0.0687**	**3,067.9525**

Grace Church Remodel and Griffin Senior Living Facility - Orange County, Summer

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

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.2538					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.8094					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	28.2999	2.2408	54.9236	0.1401		8.2499	8.2499		8.2499	8.2499	1,011.6272	1,944.0000	2,955.6272	3.0169	0.0687	3,051.5102
Landscaping	0.2679	0.1026	8.9081	4.7000e-004		0.0494	0.0494		0.0494	0.0494		16.0573	16.0573	0.0154		16.4423
Total	**31.6309**	**2.3434**	**63.8317**	**0.1406**		**8.2994**	**8.2994**		**8.2994**	**8.2994**	**1,011.6272**	**1,960.0573**	**2,971.6845**	**3.0323**	**0.0687**	**3,067.9525**

7.0 Water Detail

7.1 Mitigation Measures Water

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

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Grace Church Remodel and Griffin Senior Living Facility - Orange County, Winter

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

Grace Church Remodel and Griffin Senior Living Facility

Orange County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Congregate Care (Assisted Living)	108.00	Dwelling Unit	3.34	130,046.00	309
Place of Worship	11.41	1000sqft	2.00	11,412.00	0
Enclosed Parking with Elevator	51.00	Space	0.00	24,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	30
Climate Zone	8			**Operational Year**	2025
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	390.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Project site = 5.34 acres. Building square footage per Project Description

Construction Phase - Project phasing and duration per Project Applicant

Off-road Equipment - Construction equipment per Project Applicant

Off-road Equipment - Ibid

Off-road Equipment - Ibid

Off-road Equipment - Ibid

Grading -

Off-road Equipment - Ibid

Demolition -

Grace Church Remodel and Griffin Senior Living Facility - Orange County, Winter

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

Construction Off-road Equipment Mitigation - SCAQMD Rule 403. Reduction values per SCAQMD, CEQA Handbook, Tables 11-4 and A11-9-A. Tier 4 Engine Mitigation.

Vehicle Trips - Trip Generation per Project Traffic Impact Study

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	40
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	8.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	12.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final

Grace Church Remodel and Griffin Senior Living Facility - Orange County, Winter

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

tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstructionPhase	NumDays	230.00	173.00
tblConstructionPhase	NumDays	20.00	11.00
tblConstructionPhase	NumDays	20.00	25.00
tblConstructionPhase	NumDays	10.00	5.00
tblConstructionPhase	NumDays	230.00	599.00
tblConstructionPhase	PhaseEndDate	4/4/2023	5/1/2023
tblConstructionPhase	PhaseEndDate	4/5/2022	12/15/2022
tblConstructionPhase	PhaseEndDate	5/17/2022	2/24/2023
tblConstructionPhase	PhaseEndDate	4/19/2022	1/20/2023
tblConstructionPhase	PhaseStartDate	5/18/2022	9/1/2022
tblConstructionPhase	PhaseStartDate	3/9/2022	12/1/2022
tblConstructionPhase	PhaseStartDate	4/20/2022	1/21/2023
tblConstructionPhase	PhaseStartDate	4/6/2022	1/15/2023
tblGrading	MaterialExported	0.00	53,333.00
tblGrading	MaterialExported	0.00	10,667.00
tblLandUse	LandUseSquareFeet	108,000.00	130,046.00
tblLandUse	LandUseSquareFeet	11,410.00	11,412.00
tblLandUse	LandUseSquareFeet	20,400.00	24,000.00
tblLandUse	LotAcreage	6.75	3.34
tblLandUse	LotAcreage	0.26	2.00
tblLandUse	LotAcreage	0.46	0.00
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.41	0.41
tblOffRoadEquipment	LoadFactor	0.42	0.42

Grace Church Remodel and Griffin Senior Living Facility - Orange County, Winter

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

tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.41	0.41
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.48	0.48
tblOffRoadEquipment	LoadFactor	0.36	0.36
tblOffRoadEquipment	LoadFactor	0.48	0.48
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	LoadFactor	0.42	0.42
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.36	0.36
tblOffRoadEquipment	LoadFactor	0.48	0.48
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	LoadFactor	0.40	0.40
tblOffRoadEquipment	LoadFactor	0.42	0.42
tblOffRoadEquipment	LoadFactor	0.36	0.36
tblOffRoadEquipment	LoadFactor	0.50	0.50
tblOffRoadEquipment	LoadFactor	0.42	0.42
tblOffRoadEquipment	LoadFactor	0.36	0.36
tblOffRoadEquipment	LoadFactor	0.40	0.40
tblOffRoadEquipment	LoadFactor	0.50	0.50
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Graders
tblOffRoadEquipment	OffRoadEquipmentType		Other Construction Equipment
tblOffRoadEquipment	OffRoadEquipmentType		Other Construction Equipment
tblOffRoadEquipment	OffRoadEquipmentType		Rubber Tired Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Rollers
tblOffRoadEquipment	OffRoadEquipmentType		Skid Steer Loaders

Grace Church Remodel and Griffin Senior Living Facility - Orange County, Winter

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

tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType		Graders
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Rollers
tblOffRoadEquipment	OffRoadEquipmentType		Scrapers
tblOffRoadEquipment	OffRoadEquipmentType		Rubber Tired Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Scrapers
tblOffRoadEquipment	OffRoadEquipmentType		Skid Steer Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType		Other Construction Equipment
tblOffRoadEquipment	OffRoadEquipmentType		Rollers
tblOffRoadEquipment	OffRoadEquipmentType		Rubber Tired Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Scrapers
tblOffRoadEquipment	OffRoadEquipmentType		Skid Steer Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Rough Terrain Forklifts
tblOffRoadEquipment	OffRoadEquipmentType		Pavers
tblOffRoadEquipment	OffRoadEquipmentType		Paving Equipment
tblOffRoadEquipment	OffRoadEquipmentType		Signal Boards
tblOffRoadEquipment	OffRoadEquipmentType		Trenchers
tblOffRoadEquipment	OffRoadEquipmentType		Pavers
tblOffRoadEquipment	OffRoadEquipmentType		Paving Equipment
tblOffRoadEquipment	OffRoadEquipmentType		Rough Terrain Forklifts
tblOffRoadEquipment	OffRoadEquipmentType		Signal Boards
tblOffRoadEquipment	OffRoadEquipmentType		Trenchers
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00

Grace Church Remodel and Griffin Senior Living Facility - Orange County, Winter

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

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblVehicleTrips	ST_TR	2.93	2.68
tblVehicleTrips	ST_TR	5.99	0.00
tblVehicleTrips	SU_TR	3.15	2.68
tblVehicleTrips	SU_TR	27.63	0.00
tblVehicleTrips	WD_TR	2.60	2.68
tblVehicleTrips	WD_TR	6.95	0.00

2.0 Emissions Summary

Grace Church Remodel and Griffin Senior Living Facility - Orange County, Winter

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

2.1 Overall Construction (Maximum Daily Emission)

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	lb/day										lb/day					
2022	10.5007	107.4713	84.1855	0.1816	1.9533	4.7970	6.7503	0.4865	4.4158	4.9022	0.0000	17,660.9459	17,660.9459	5.1952	0.0974	17,819.8409
2023	10.5418	132.7512	97.1676	0.3366	24.4524	4.6091	29.0615	9.0093	4.2503	13.2595	0.0000	35,215.3536	35,215.3536	7.0941	2.8168	36,232.1103
2024	2.5565	23.0752	24.2378	0.0484	1.1482	1.1847	2.3330	0.3070	1.0923	1.3993	0.0000	4,721.4584	4,721.4584	1.1722	0.0668	4,770.6622
2025	2.3920	21.2987	23.9220	0.0480	1.1482	1.0702	2.2184	0.3070	0.9869	1.2939	0.0000	4,687.7614	4,687.7614	1.1709	0.0650	4,736.3876
Maximum	**10.5418**	**132.7512**	**97.1676**	**0.3366**	**24.4524**	**4.7970**	**29.0615**	**9.0093**	**4.4158**	**13.2595**	**0.0000**	**35,215.3536**	**35,215.3536**	**7.0941**	**2.8168**	**36,232.1103**

Grace Church Remodel and Griffin Senior Living Facility - Orange County, Winter

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

2.1 Overall Construction (Maximum Daily Emission)

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	lb/day										lb/day					
2022	2.6542	12.8467	96.0828	0.1816	1.2031	0.3132	1.5162	0.3196	0.3121	0.6317	0.0000	17,660.9459	17,660.9459	5.1952	0.0974	17,819.8409
2023	3.2232	45.8704	111.4369	0.3366	11.4113	0.5221	11.9334	4.0761	0.5124	4.5885	0.0000	35,215.3536	35,215.3536	7.0941	2.8168	36,232.1103
2024	0.8412	3.4126	27.3709	0.0484	0.7557	0.0949	0.8506	0.2106	0.0944	0.3050	0.0000	4,721.4584	4,721.4584	1.1722	0.0668	4,770.6622
2025	0.8266	3.3940	27.2203	0.0480	0.7557	0.0947	0.8504	0.2106	0.0942	0.3048	0.0000	4,687.7614	4,687.7614	1.1709	0.0650	4,736.3876
Maximum	**3.2232**	**45.8704**	**111.4369**	**0.3366**	**11.4113**	**0.5221**	**11.9334**	**4.0761**	**0.5124**	**4.5885**	**0.0000**	**35,215.3536**	**35,215.3536**	**7.0941**	**2.8168**	**36,232.1103**

	ROG	NOx	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	**70.97**	**76.98**	**-14.20**	**0.00**	**50.78**	**91.21**	**62.46**	**52.35**	**90.57**	**72.05**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Grace Church Remodel and Griffin Senior Living Facility - Orange County, Winter

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

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	31.6309	2.3434	63.8317	0.1406		8.2994	8.2994		8.2994	8.2994	1,011.6272	1,960.0573	2,971.6845	3.0323	0.0687	3,067.9525
Energy	0.0426	0.3677	0.1828	2.3200e-003		0.0294	0.0294		0.0294	0.0294		464.4874	464.4874	8.9000e-003	8.5200e-003	467.2476
Mobile	0.7557	0.8128	7.5645	0.0177	2.0841	0.0123	2.0964	0.5555	0.0114	0.5669		1,806.2457	1,806.2457	0.1116	0.0761	1,831.7130
Total	**32.4292**	**3.5239**	**71.5790**	**0.1606**	**2.0841**	**8.3410**	**10.4251**	**0.5555**	**8.3402**	**8.8957**	**1,011.6272**	**4,230.7904**	**5,242.4175**	**3.1528**	**0.1533**	**5,366.9130**

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	lb/day										lb/day					
Area	31.6309	2.3434	63.8317	0.1406		8.2994	8.2994		8.2994	8.2994	1,011.6272	1,960.0573	2,971.6845	3.0323	0.0687	3,067.9525
Energy	0.0426	0.3677	0.1828	2.3200e-003		0.0294	0.0294		0.0294	0.0294		464.4874	464.4874	8.9000e-003	8.5200e-003	467.2476
Mobile	0.7557	0.8128	7.5645	0.0177	2.0841	0.0123	2.0964	0.5555	0.0114	0.5669		1,806.2457	1,806.2457	0.1116	0.0761	1,831.7130
Total	**32.4292**	**3.5239**	**71.5790**	**0.1606**	**2.0841**	**8.3410**	**10.4251**	**0.5555**	**8.3402**	**8.8957**	**1,011.6272**	**4,230.7904**	**5,242.4175**	**3.1528**	**0.1533**	**5,366.9130**

Grace Church Remodel and Griffin Senior Living Facility - Orange County, Winter

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

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Phase 2 - Demolition	Demolition	12/1/2022	12/15/2022	5	11	
2	Phase 3 - Site Preparation	Site Preparation	1/15/2023	1/20/2023	5	5	
3	Phase 3 - Grading	Grading	1/21/2023	2/24/2023	5	25	
4	Phase 1 - Church Remodel	Building Construction	9/1/2022	5/1/2023	5	173	
5	Phase 3 - Construction	Building Construction	2/25/2023	6/12/2025	5	599	

Acres of Grading (Site Preparation Phase): 27.5

Acres of Grading (Grading Phase): 137.5

Acres of Paving: 0

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Phase 3 - Construction	Cranes	2	7.00	231	0.29
Phase 2 - Demolition	Concrete/Industrial Saws	0	8.00	81	0.73
Phase 1 - Church Remodel	Cranes	2	7.00	231	0.29
Phase 3 - Site Preparation	Excavators	1	8.00	158	0.38
Phase 3 - Grading	Excavators	1	8.00	158	0.38
Phase 1 - Church Remodel	Forklifts	0	8.00	89	0.20

Grace Church Remodel and Griffin Senior Living Facility - Orange County, Winter

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

Phase 1 - Church Remodel	Generator Sets	0	8.00	84	0.74
Phase 3 - Grading	Graders	1	8.00	187	0.41
Phase 3 - Construction	Forklifts	0	8.00	89	0.20
Phase 3 - Construction	Generator Sets	0	8.00	84	0.74
Phase 3 - Construction	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Phase 2 - Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Phase 3 - Grading	Rubber Tired Dozers	2	8.00	247	0.40
Phase 3 - Site Preparation	Rubber Tired Dozers	2	8.00	247	0.40
Phase 1 - Church Remodel	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Phase 3 - Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Phase 3 - Site Preparation	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Phase 1 - Church Remodel	Welders	0	8.00	46	0.45
Phase 3 - Construction	Welders	0	8.00	46	0.45
Phase 3 - Site Preparation	Graders	1	8.00	187	0.41
Phase 2 - Demolition	Other Construction Equipment	2	8.00	172	0.42
Phase 3 - Site Preparation	Other Construction Equipment	2	8.00	172	0.42
Phase 2 - Demolition	Rubber Tired Loaders	2	8.00	203	0.36
Phase 3 - Site Preparation	Rollers	1	8.00	80	0.38
Phase 2 - Demolition	Skid Steer Loaders	2	8.00	65	0.37
Phase 2 - Demolition	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Phase 2 - Demolition	Graders	1	8.00	187	0.41
Phase 2 - Demolition	Excavators	1	8.00	158	0.38
Phase 2 - Demolition	Rollers	1	8.00	80	0.38
Phase 2 - Demolition	Scrapers	4	8.00	367	0.48
Phase 3 - Site Preparation	Rubber Tired Loaders	2	8.00	203	0.36
Phase 3 - Site Preparation	Scrapers	4	8.00	367	0.48
Phase 3 - Site Preparation	Skid Steer Loaders	2	8.00	65	0.37
Phase 3 - Site Preparation	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Phase 3 - Grading	Other Construction Equipment	2	8.00	172	0.42

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

Phase 3 - Grading	Rollers	1	8.00	80	0.38
Phase 3 - Grading	Rubber Tired Loaders	2	8.00	203	0.36
Phase 3 - Grading	Scrapers	4	8.00	367	0.48
Phase 3 - Grading	Skid Steer Loaders	2	8.00	65	0.37
Phase 1 - Church Remodel	Rough Terrain Forklifts	2	8.00	100	0.40
Phase 1 - Church Remodel	Pavers	1	8.00	130	0.42
Phase 1 - Church Remodel	Paving Equipment	1	8.00	132	0.36
Phase 1 - Church Remodel	Signal Boards	2	8.00	6	0.82
Phase 1 - Church Remodel	Trenchers	3	8.00	78	0.50
Phase 3 - Construction	Pavers	1	8.00	130	0.42
Phase 3 - Construction	Paving Equipment	1	8.00	132	0.36
Phase 3 - Construction	Rough Terrain Forklifts	2	8.00	100	0.40
Phase 3 - Construction	Signal Boards	2	8.00	6	0.82
Phase 3 - Construction	Trenchers	3	8.00	78	0.50

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
Phase 2 - Demolition	17	43.00	0.00	15.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 3 - Site Preparation	19	48.00	0.00	1,333.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 3 - Grading	17	43.00	0.00	6,667.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 1 - Church Remodel	11	93.00	17.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 3 - Construction	11	93.00	17.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Grace Church Remodel and Griffin Senior Living Facility - Orange County, Winter

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

Clean Paved Roads

3.2 Phase 2 - Demolition - 2022

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	lb/day										lb/day					
Fugitive Dust					0.3007	0.0000	0.3007	0.0455	0.0000	0.0455			0.0000			0.0000
Off-Road	7.5522	81.1597	57.9725	0.1277		3.4397	3.4397		3.1646	3.1646		12,368.5588	12,368.5588	4.0002		12,468.5648
Total	**7.5522**	**81.1597**	**57.9725**	**0.1277**	**0.3007**	**3.4397**	**3.7404**	**0.0455**	**3.1646**	**3.2101**		**12,368.5588**	**12,368.5588**	**4.0002**		**12,468.5648**

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

3.2 Phase 2 - Demolition - 2022

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	lb/day										lb/day					
Hauling	5.3900e-003	0.2207	0.0605	8.1000e-004	0.0238	1.6100e-003	0.0254	6.5100e-003	1.5400e-003	8.0500e-003		92.2169	92.2169	8.7800e-003	0.0148	96.8379
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
Worker	0.1409	0.0954	1.3150	3.9900e-003	0.4806	2.5900e-003	0.4832	0.1275	2.3800e-003	0.1299		403.1254	403.1254	0.0102	0.0101	406.3978
Total	**0.1463**	**0.3161**	**1.3755**	**4.8000e-003**	**0.5044**	**4.2000e-003**	**0.5086**	**0.1340**	**3.9200e-003**	**0.1379**		**495.3423**	**495.3423**	**0.0190**	**0.0249**	**503.2357**

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	lb/day										lb/day					
Fugitive Dust					0.1173	0.0000	0.1173	0.0178	0.0000	0.0178			0.0000			0.0000
Off-Road	1.6203	8.9047	66.9292	0.1277		0.2093	0.2093		0.2093	0.2093	0.0000	12,368.5588	12,368.5588	4.0002		12,468.5648
Total	**1.6203**	**8.9047**	**66.9292**	**0.1277**	**0.1173**	**0.2093**	**0.3265**	**0.0178**	**0.2093**	**0.2270**	**0.0000**	**12,368.5588**	**12,368.5588**	**4.0002**		**12,468.5648**

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

3.2 Phase 2 - Demolition - 2022

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	lb/day										lb/day					
Hauling	5.3900e-003	0.2207	0.0605	8.1000e-004	0.0166	1.6100e-003	0.0182	4.7400e-003	1.5400e-003	6.2800e-003		92.2169	92.2169	8.7800e-003	0.0148	96.8379
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
Worker	0.1409	0.0954	1.3150	3.9900e-003	0.3135	2.5900e-003	0.3161	0.0864	2.3800e-003	0.0888		403.1254	403.1254	0.0102	0.0101	406.3978
Total	**0.1463**	**0.3161**	**1.3755**	**4.8000e-003**	**0.3301**	**4.2000e-003**	**0.3343**	**0.0912**	**3.9200e-003**	**0.0951**		**495.3423**	**495.3423**	**0.0190**	**0.0249**	**503.2357**

3.3 Phase 3 - Site Preparation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.1182	0.0000	18.1182	7.2868	0.0000	7.2868			0.0000			0.0000
Off-Road	7.2226	75.3268	60.2926	0.1339		3.1550	3.1550		2.9026	2.9026		12,960.0505	12,960.0505	4.1915		13,064.8391
Total	**7.2226**	**75.3268**	**60.2926**	**0.1339**	**18.1182**	**3.1550**	**21.2732**	**7.2868**	**2.9026**	**10.1894**		**12,960.0505**	**12,960.0505**	**4.1915**		**13,064.8391**

Grace Church Remodel and Griffin Senior Living Facility - Orange County, Winter

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

3.3 Phase 3 - Site Preparation - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.5230	33.1232	11.0106	0.1497	4.6495	0.2051	4.8546	1.2732	0.1962	1.4695		17,065.8301	17,065.8301	1.7183	2.7376	17,924.6010
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
Worker	0.1477	0.0950	1.3655	4.3100e-003	0.5365	2.7400e-003	0.5393	0.1423	2.5200e-003	0.1448		435.7353	435.7353	0.0103	0.0105	439.1272
Total	**0.6707**	**33.2181**	**12.3762**	**0.1541**	**5.1860**	**0.2078**	**5.3938**	**1.4155**	**0.1988**	**1.6143**		**17,501.5655**	**17,501.5655**	**1.7286**	**2.7482**	**18,363.7281**

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	lb/day										lb/day					
Fugitive Dust					7.0661	0.0000	7.0661	2.8419	0.0000	2.8419			0.0000			0.0000
Off-Road	1.6947	9.2191	71.5067	0.1339		0.2192	0.2192		0.2192	0.2192	0.0000	12,960.0505	12,960.0505	4.1915		13,064.8391
Total	**1.6947**	**9.2191**	**71.5067**	**0.1339**	**7.0661**	**0.2192**	**7.2853**	**2.8419**	**0.2192**	**3.0610**	**0.0000**	**12,960.0505**	**12,960.0505**	**4.1915**		**13,064.8391**

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

3.3 Phase 3 - Site Preparation - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.5230	33.1232	11.0106	0.1497	3.2396	0.2051	3.4447	0.9272	0.1962	1.1234		17,065.8301	17,065.8301	1.7183	2.7376	17,924.6010
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
Worker	0.1477	0.0950	1.3655	4.3100e-003	0.3500	2.7400e-003	0.3527	0.0965	2.5200e-003	0.0990		435.7353	435.7353	0.0103	0.0105	439.1272
Total	**0.6707**	**33.2181**	**12.3762**	**0.1541**	**3.5895**	**0.2078**	**3.7973**	**1.0237**	**0.1988**	**1.2224**		**17,501.5655**	**17,501.5655**	**1.7286**	**2.7482**	**18,363.7281**

3.4 Phase 3 - Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.1182	0.0000	18.1182	7.2868	0.0000	7.2868			0.0000			0.0000
Off-Road	6.9213	72.2749	55.8371	0.1276		3.0041	3.0041		2.7638	2.7638		12,358.8742	12,358.8742	3.9971		12,458.8019
Total	**6.9213**	**72.2749**	**55.8371**	**0.1276**	**18.1182**	**3.0041**	**21.1223**	**7.2868**	**2.7638**	**10.0506**		**12,358.8742**	**12,358.8742**	**3.9971**		**12,458.8019**

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

3.4 Phase 3 - Grading - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.5231	33.1331	11.0140	0.1498	4.6509	0.2052	4.8560	1.2736	0.1963	1.4699		17,070.9512	17,070.9512	1.7188	2.7385	17,929.9797
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
Worker	0.1323	0.0851	1.2233	3.8600e-003	0.4806	2.4500e-003	0.4831	0.1275	2.2600e-003	0.1297		390.3462	390.3462	9.2300e-003	9.4200e-003	393.3848
Total	**0.6555**	**33.2182**	**12.2372**	**0.1536**	**5.1315**	**0.2076**	**5.3391**	**1.4011**	**0.1985**	**1.5996**		**17,461.2974**	**17,461.2974**	**1.7281**	**2.7479**	**18,323.3644**

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	lb/day										lb/day					
Fugitive Dust					7.0661	0.0000	7.0661	2.8419	0.0000	2.8419			0.0000			0.0000
Off-Road	1.6189	8.8911	66.8314	0.1276		0.2091	0.2091		0.2091	0.2091	0.0000	12,358.8742	12,358.8742	3.9971		12,458.8019
Total	**1.6189**	**8.8911**	**66.8314**	**0.1276**	**7.0661**	**0.2091**	**7.2752**	**2.8419**	**0.2091**	**3.0510**	**0.0000**	**12,358.8742**	**12,358.8742**	**3.9971**		**12,458.8019**

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

3.4 Phase 3 - Grading - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.5231	33.1331	11.0140	0.1498	3.2405	0.2052	3.4457	0.9274	0.1963	1.1237		17,070.9512	17,070.9512	1.7188	2.7385	17,929.9797
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
Worker	0.1323	0.0851	1.2233	3.8600e-003	0.3135	2.4500e-003	0.3160	0.0864	2.2600e-003	0.0887		390.3462	390.3462	9.2300e-003	9.4200e-003	393.3848
Total	**0.6555**	**33.2182**	**12.2372**	**0.1536**	**3.5540**	**0.2076**	**3.7616**	**1.0139**	**0.1985**	**1.2124**		**17,461.2974**	**17,461.2974**	**1.7281**	**2.7479**	**18,323.3644**

3.5 Phase 1 - Church Remodel - 2022

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	lb/day										lb/day					
Off-Road	2.4697	24.9964	21.7128	0.0373		1.3400	1.3400		1.2350	1.2350		3,572.5504	3,572.5504	1.1338		3,600.8949
Total	**2.4697**	**24.9964**	**21.7128**	**0.0373**		**1.3400**	**1.3400**		**1.2350**	**1.2350**		**3,572.5504**	**3,572.5504**	**1.1338**		**3,600.8949**

Grace Church Remodel and Griffin Senior Living Facility - Orange County, Winter

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

3.5 Phase 1 - Church Remodel - 2022

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	lb/day										lb/day					
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
Vendor	0.0279	0.7927	0.2805	3.2200e-003	0.1087	7.4500e-003	0.1162	0.0313	7.1200e-003	0.0384		352.6185	352.6185	0.0202	0.0506	368.1921
Worker	0.3047	0.2064	2.8441	8.6300e-003	1.0395	5.6000e-003	1.0451	0.2757	5.1500e-003	0.2808		871.8759	871.8759	0.0220	0.0219	878.9534
Total	**0.3326**	**0.9991**	**3.1246**	**0.0119**	**1.1482**	**0.0131**	**1.1613**	**0.3070**	**0.0123**	**0.3193**		**1,224.4944**	**1,224.4944**	**0.0422**	**0.0725**	**1,247.1455**

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	lb/day										lb/day					
Off-Road	0.5550	2.6269	24.6535	0.0373		0.0867	0.0867		0.0867	0.0867	0.0000	3,572.5504	3,572.5504	1.1338		3,600.8949
Total	**0.5550**	**2.6269**	**24.6535**	**0.0373**		**0.0867**	**0.0867**		**0.0867**	**0.0867**	**0.0000**	**3,572.5504**	**3,572.5504**	**1.1338**		**3,600.8949**

Grace Church Remodel and Griffin Senior Living Facility - Orange County, Winter

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

3.5 Phase 1 - Church Remodel - 2022

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	lb/day										lb/day					
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
Vendor	0.0279	0.7927	0.2805	3.2200e-003	0.0777	7.4500e-003	0.0851	0.0237	7.1200e-003	0.0308		352.6185	352.6185	0.0202	0.0506	368.1921
Worker	0.3047	0.2064	2.8441	8.6300e-003	0.6780	5.6000e-003	0.6836	0.1870	5.1500e-003	0.1921		871.8759	871.8759	0.0220	0.0219	878.9534
Total	**0.3326**	**0.9991**	**3.1246**	**0.0119**	**0.7557**	**0.0131**	**0.7688**	**0.2106**	**0.0123**	**0.2229**		**1,224.4944**	**1,224.4944**	**0.0422**	**0.0725**	**1,247.1455**

3.5 Phase 1 - Church Remodel - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.3458	23.4000	21.5983	0.0373		1.2379	1.2379		1.1411	1.1411		3,573.3429	3,573.3429	1.1340		3,601.6937
Total	**2.3458**	**23.4000**	**21.5983**	**0.0373**		**1.2379**	**1.2379**		**1.1411**	**1.1411**		**3,573.3429**	**3,573.3429**	**1.1340**		**3,601.6937**

Grace Church Remodel and Griffin Senior Living Facility - Orange County, Winter

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

3.5 Phase 1 - Church Remodel - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
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
Vendor	0.0166	0.6224	0.2549	3.0600e-003	0.1087	3.0800e-003	0.1118	0.0313	2.9400e-003	0.0342		336.1576	336.1576	0.0199	0.0483	351.0406
Worker	0.2862	0.1840	2.6457	8.3500e-003	1.0395	5.3000e-003	1.0448	0.2757	4.8800e-003	0.2806		844.2372	844.2372	0.0200	0.0204	850.8089
Total	**0.3028**	**0.8063**	**2.9006**	**0.0114**	**1.1482**	**8.3800e-003**	**1.1566**	**0.3070**	**7.8200e-003**	**0.3148**		**1,180.3948**	**1,180.3948**	**0.0399**	**0.0687**	**1,201.8495**

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	lb/day										lb/day					
Off-Road	0.5550	2.6269	24.6535	0.0373		0.0867	0.0867		0.0867	0.0867	0.0000	3,573.3429	3,573.3429	1.1340		3,601.6937
Total	**0.5550**	**2.6269**	**24.6535**	**0.0373**		**0.0867**	**0.0867**		**0.0867**	**0.0867**	**0.0000**	**3,573.3429**	**3,573.3429**	**1.1340**		**3,601.6937**

Grace Church Remodel and Griffin Senior Living Facility - Orange County, Winter

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

3.5 Phase 1 - Church Remodel - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
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
Vendor	0.0166	0.6224	0.2549	3.0600e-003	0.0777	3.0800e-003	0.0808	0.0237	2.9400e-003	0.0266		336.1576	336.1576	0.0199	0.0483	351.0406
Worker	0.2862	0.1840	2.6457	8.3500e-003	0.6780	5.3000e-003	0.6833	0.1870	4.8800e-003	0.1918		844.2372	844.2372	0.0200	0.0204	850.8089
Total	**0.3028**	**0.8063**	**2.9006**	**0.0114**	**0.7557**	**8.3800e-003**	**0.7641**	**0.2106**	**7.8200e-003**	**0.2184**		**1,180.3948**	**1,180.3948**	**0.0399**	**0.0687**	**1,201.8495**

3.6 Phase 3 - Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.3458	23.4000	21.5983	0.0373		1.2379	1.2379		1.1411	1.1411		3,573.3429	3,573.3429	1.1340		3,601.6937
Total	**2.3458**	**23.4000**	**21.5983**	**0.0373**		**1.2379**	**1.2379**		**1.1411**	**1.1411**		**3,573.3429**	**3,573.3429**	**1.1340**		**3,601.6937**

Grace Church Remodel and Griffin Senior Living Facility - Orange County, Winter

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

3.6 Phase 3 - Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
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
Vendor	0.0166	0.6224	0.2549	3.0600e-003	0.1087	3.0800e-003	0.1118	0.0313	2.9400e-003	0.0342		336.1576	336.1576	0.0199	0.0483	351.0406
Worker	0.2862	0.1840	2.6457	8.3500e-003	1.0395	5.3000e-003	1.0448	0.2757	4.8800e-003	0.2806		844.2372	844.2372	0.0200	0.0204	850.8089
Total	**0.3028**	**0.8063**	**2.9006**	**0.0114**	**1.1482**	**8.3800e-003**	**1.1566**	**0.3070**	**7.8200e-003**	**0.3148**		**1,180.3948**	**1,180.3948**	**0.0399**	**0.0687**	**1,201.8495**

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	lb/day										lb/day					
Off-Road	0.5550	2.6269	24.6535	0.0373		0.0867	0.0867		0.0867	0.0867	0.0000	3,573.3429	3,573.3429	1.1340		3,601.6937
Total	**0.5550**	**2.6269**	**24.6535**	**0.0373**		**0.0867**	**0.0867**		**0.0867**	**0.0867**	**0.0000**	**3,573.3429**	**3,573.3429**	**1.1340**		**3,601.6937**

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

3.6 Phase 3 - Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
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
Vendor	0.0166	0.6224	0.2549	3.0600e-003	0.0777	3.0800e-003	0.0808	0.0237	2.9400e-003	0.0266		336.1576	336.1576	0.0199	0.0483	351.0406
Worker	0.2862	0.1840	2.6457	8.3500e-003	0.6780	5.3000e-003	0.6833	0.1870	4.8800e-003	0.1918		844.2372	844.2372	0.0200	0.0204	850.8089
Total	**0.3028**	**0.8063**	**2.9006**	**0.0114**	**0.7557**	**8.3800e-003**	**0.7641**	**0.2106**	**7.8200e-003**	**0.2184**		**1,180.3948**	**1,180.3948**	**0.0399**	**0.0687**	**1,201.8495**

3.6 Phase 3 - Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.2703	22.2894	21.5203	0.0373		1.1765	1.1765		1.0846	1.0846		3,573.0109	3,573.0109	1.1339		3,601.3591
Total	**2.2703**	**22.2894**	**21.5203**	**0.0373**		**1.1765**	**1.1765**		**1.0846**	**1.0846**		**3,573.0109**	**3,573.0109**	**1.1339**		**3,601.3591**

Grace Church Remodel and Griffin Senior Living Facility - Orange County, Winter

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

3.6 Phase 3 - Construction - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
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
Vendor	0.0163	0.6206	0.2529	3.0100e-003	0.1087	3.2200e-003	0.1119	0.0313	3.0800e-003	0.0344		330.9549	330.9549	0.0201	0.0477	345.6796
Worker	0.2699	0.1652	2.4646	8.0900e-003	1.0395	5.0300e-003	1.0446	0.2757	4.6300e-003	0.2803		817.4926	817.4926	0.0181	0.0191	823.6235
Total	**0.2862**	**0.7857**	**2.7175**	**0.0111**	**1.1482**	**8.2500e-003**	**1.1565**	**0.3070**	**7.7100e-003**	**0.3147**		**1,148.4475**	**1,148.4475**	**0.0382**	**0.0668**	**1,169.3031**

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	lb/day										lb/day					
Off-Road	0.5550	2.6269	24.6535	0.0373		0.0867	0.0867		0.0867	0.0867	0.0000	3,573.0109	3,573.0109	1.1339		3,601.3591
Total	**0.5550**	**2.6269**	**24.6535**	**0.0373**		**0.0867**	**0.0867**		**0.0867**	**0.0867**	**0.0000**	**3,573.0109**	**3,573.0109**	**1.1339**		**3,601.3591**

Grace Church Remodel and Griffin Senior Living Facility - Orange County, Winter

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

3.6 Phase 3 - Construction - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
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
Vendor	0.0163	0.6206	0.2529	3.0100e-003	0.0777	3.2200e-003	0.0809	0.0237	3.0800e-003	0.0268		330.9549	330.9549	0.0201	0.0477	345.6796
Worker	0.2699	0.1652	2.4646	8.0900e-003	0.6780	5.0300e-003	0.6831	0.1870	4.6300e-003	0.1916		817.4926	817.4926	0.0181	0.0191	823.6235
Total	**0.2862**	**0.7857**	**2.7175**	**0.0111**	**0.7557**	**8.2500e-003**	**0.7640**	**0.2106**	**7.7100e-003**	**0.2183**		**1,148.4475**	**1,148.4475**	**0.0382**	**0.0668**	**1,169.3031**

3.6 Phase 3 - Construction - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1205	20.5315	21.3552	0.0373		1.0622	1.0622		0.9794	0.9794		3,573.2510	3,573.2510	1.1340		3,601.6011
Total	**2.1205**	**20.5315**	**21.3552**	**0.0373**		**1.0622**	**1.0622**		**0.9794**	**0.9794**		**3,573.2510**	**3,573.2510**	**1.1340**		**3,601.6011**

Grace Church Remodel and Griffin Senior Living Facility - Orange County, Winter

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

3.6 Phase 3 - Construction - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
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
Vendor	0.0161	0.6176	0.2518	2.9500e-003	0.1087	3.2300e-003	0.1119	0.0313	3.0900e-003	0.0344		324.7696	324.7696	0.0204	0.0470	339.2934
Worker	0.2555	0.1496	2.3150	7.8100e-003	1.0395	4.8100e-003	1.0443	0.2757	4.4300e-003	0.2801		789.7408	789.7408	0.0165	0.0179	795.4931
Total	**0.2715**	**0.7672**	**2.5668**	**0.0108**	**1.1482**	**8.0400e-003**	**1.1563**	**0.3070**	**7.5200e-003**	**0.3145**		**1,114.5104**	**1,114.5104**	**0.0369**	**0.0650**	**1,134.7865**

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	lb/day										lb/day					
Off-Road	0.5550	2.6269	24.6535	0.0373		0.0867	0.0867		0.0867	0.0867	0.0000	3,573.2510	3,573.2510	1.1340		3,601.6011
Total	**0.5550**	**2.6269**	**24.6535**	**0.0373**		**0.0867**	**0.0867**		**0.0867**	**0.0867**	**0.0000**	**3,573.2510**	**3,573.2510**	**1.1340**		**3,601.6011**

Grace Church Remodel and Griffin Senior Living Facility - Orange County, Winter

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

3.6 Phase 3 - Construction - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
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
Vendor	0.0161	0.6176	0.2518	2.9500e-003	0.0777	3.2300e-003	0.0809	0.0237	3.0900e-003	0.0268		324.7696	324.7696	0.0204	0.0470	339.2934
Worker	0.2555	0.1496	2.3150	7.8100e-003	0.6780	4.8100e-003	0.6828	0.1870	4.4300e-003	0.1914		789.7408	789.7408	0.0165	0.0179	795.4931
Total	**0.2715**	**0.7672**	**2.5668**	**0.0108**	**0.7557**	**8.0400e-003**	**0.7638**	**0.2106**	**7.5200e-003**	**0.2181**		**1,114.5104**	**1,114.5104**	**0.0369**	**0.0650**	**1,134.7865**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Grace Church Remodel and Griffin Senior Living Facility - Orange County, Winter

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.7557	0.8128	7.5645	0.0177	2.0841	0.0123	2.0964	0.5555	0.0114	0.5669		1,806.2457	1,806.2457	0.1116	0.0761	1,831.7130
Unmitigated	0.7557	0.8128	7.5645	0.0177	2.0841	0.0123	2.0964	0.5555	0.0114	0.5669		1,806.2457	1,806.2457	0.1116	0.0761	1,831.7130

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Congregate Care (Assisted Living)	289.44	289.44	289.44	989,060	989,060
Enclosed Parking with Elevator	0.00	0.00	0.00		
Place of Worship	0.00	0.00	0.00		
Total	289.44	289.44	289.44	989,060	989,060

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
Congregate Care (Assisted	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Enclosed Parking with Elevator	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Place of Worship	16.60	8.40	6.90	0.00	95.00	5.00	64	25	11

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Congregate Care (Assisted Living)	0.547453	0.060181	0.185039	0.126487	0.024236	0.006679	0.014707	0.004926	0.000662	0.000378	0.024745	0.000705	0.003801
Enclosed Parking with Elevator	0.547453	0.060181	0.185039	0.126487	0.024236	0.006679	0.014707	0.004926	0.000662	0.000378	0.024745	0.000705	0.003801

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

Place of Worship	0.547453	0.060181	0.185039	0.126487	0.024236	0.006679	0.014707	0.004926	0.000662	0.000378	0.024745	0.000705	0.003801

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0426	0.3677	0.1828	2.3200e-003		0.0294	0.0294		0.0294	0.0294		464.4874	464.4874	8.9000e-003	8.5200e-003	467.2476
NaturalGas Unmitigated	0.0426	0.3677	0.1828	2.3200e-003		0.0294	0.0294		0.0294	0.0294		464.4874	464.4874	8.9000e-003	8.5200e-003	467.2476

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

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	lb/day										lb/day					
Congregate Care (Assisted Living)	3299.07	0.0356	0.3040	0.1294	1.9400e-003		0.0246	0.0246		0.0246	0.0246		388.1254	388.1254	7.4400e-003	7.1200e-003	390.4318
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Place of Worship	649.077	7.0000e-003	0.0636	0.0535	3.8000e-004		4.8400e-003	4.8400e-003		4.8400e-003	4.8400e-003		76.3620	76.3620	1.4600e-003	1.4000e-003	76.8158
Total		**0.0426**	**0.3677**	**0.1828**	**2.3200e-003**		**0.0294**	**0.0294**		**0.0294**	**0.0294**		**464.4874**	**464.4874**	**8.9000e-003**	**8.5200e-003**	**467.2476**

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

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Congregate Care (Assisted Living)	3.29907	0.0356	0.3040	0.1294	1.9400e-003		0.0246	0.0246		0.0246	0.0246		388.1254	388.1254	7.4400e-003	7.1200e-003	390.4318
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Place of Worship	0.649077	7.0000e-003	0.0636	0.0535	3.8000e-004		4.8400e-003	4.8400e-003		4.8400e-003	4.8400e-003		76.3620	76.3620	1.4600e-003	1.4000e-003	76.8158
Total		**0.0426**	**0.3677**	**0.1828**	**2.3200e-003**		**0.0294**	**0.0294**		**0.0294**	**0.0294**		**464.4874**	**464.4874**	**8.9000e-003**	**8.5200e-003**	**467.2476**

6.0 Area Detail

6.1 Mitigation Measures Area

Grace Church Remodel and Griffin Senior Living Facility - Orange County, Winter

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	31.6309	2.3434	63.8317	0.1406		8.2994	8.2994		8.2994	8.2994	1,011.6272	1,960.0573	2,971.6845	3.0323	0.0687	3,067.9525
Unmitigated	31.6309	2.3434	63.8317	0.1406		8.2994	8.2994		8.2994	8.2994	1,011.6272	1,960.0573	2,971.6845	3.0323	0.0687	3,067.9525

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	lb/day										lb/day					
Architectural Coating	0.2538					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.8094					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	28.2999	2.2408	54.9236	0.1401		8.2499	8.2499		8.2499	8.2499	1,011.6272	1,944.0000	2,955.6272	3.0169	0.0687	3,051.5102
Landscaping	0.2679	0.1026	8.9081	4.7000e-004		0.0494	0.0494		0.0494	0.0494		16.0573	16.0573	0.0154		16.4423
Total	**31.6309**	**2.3434**	**63.8317**	**0.1406**		**8.2994**	**8.2994**		**8.2994**	**8.2994**	**1,011.6272**	**1,960.0573**	**2,971.6845**	**3.0323**	**0.0687**	**3,067.9525**

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

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.2538					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.8094					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	28.2999	2.2408	54.9236	0.1401		8.2499	8.2499		8.2499	8.2499	1,011.6272	1,944.0000	2,955.6272	3.0169	0.0687	3,051.5102
Landscaping	0.2679	0.1026	8.9081	4.7000e-004		0.0494	0.0494		0.0494	0.0494		16.0573	16.0573	0.0154		16.4423
Total	**31.6309**	**2.3434**	**63.8317**	**0.1406**		**8.2994**	**8.2994**		**8.2994**	**8.2994**	**1,011.6272**	**1,960.0573**	**2,971.6845**	**3.0323**	**0.0687**	**3,067.9525**

7.0 Water Detail

7.1 Mitigation Measures Water

Grace Church Remodel and Griffin Senior Living Facility - Orange County, Winter

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

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

ATTACHMENT B

CalEEMod Output Files – Greenhouse Gas Emissions

Grace Church Remodel and Griffin Senior Living Facility - Orange County, Annual

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

Grace Church Remodel and Griffin Senior Living Facility

Orange County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Congregate Care (Assisted Living)	108.00	Dwelling Unit	3.34	130,046.00	309
Place of Worship	11.41	1000sqft	2.00	11,412.00	0
Enclosed Parking with Elevator	51.00	Space	0.00	24,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	30
Climate Zone	8			**Operational Year**	2025
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	390.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Project site = 5.34 acres. Building square footage per Project Description

Construction Phase - Project phasing and duration per Project Applicant

Off-road Equipment - Construction equipment per Project Applicant

Off-road Equipment - Ibid

Off-road Equipment - Ibid

Off-road Equipment - Ibid

Grading -

Off-road Equipment - Ibid

Demolition -

Grace Church Remodel and Griffin Senior Living Facility - Orange County, Annual

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

Construction Off-road Equipment Mitigation - SCAQMD Rule 403. Reduction values per SCAQMD, CEQA Handbook, Tables 11-4 and A11-9-A. Tier 4 Engine Mitigation.

Vehicle Trips - Trip Generation per Project Traffic Impact Study

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	40
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	8.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	12.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final

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

tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstructionPhase	NumDays	230.00	173.00
tblConstructionPhase	NumDays	20.00	11.00
tblConstructionPhase	NumDays	20.00	25.00
tblConstructionPhase	NumDays	10.00	5.00
tblConstructionPhase	NumDays	230.00	599.00
tblConstructionPhase	PhaseEndDate	4/4/2023	5/1/2023
tblConstructionPhase	PhaseEndDate	4/5/2022	12/15/2022
tblConstructionPhase	PhaseEndDate	5/17/2022	2/24/2023
tblConstructionPhase	PhaseEndDate	4/19/2022	1/20/2023
tblConstructionPhase	PhaseStartDate	5/18/2022	9/1/2022
tblConstructionPhase	PhaseStartDate	3/9/2022	12/1/2022
tblConstructionPhase	PhaseStartDate	4/20/2022	1/21/2023
tblConstructionPhase	PhaseStartDate	4/6/2022	1/15/2023
tblGrading	MaterialExported	0.00	53,333.00
tblGrading	MaterialExported	0.00	10,667.00
tblLandUse	LandUseSquareFeet	108,000.00	130,046.00
tblLandUse	LandUseSquareFeet	11,410.00	11,412.00
tblLandUse	LandUseSquareFeet	20,400.00	24,000.00
tblLandUse	LotAcreage	6.75	3.34
tblLandUse	LotAcreage	0.26	2.00
tblLandUse	LotAcreage	0.46	0.00
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.41	0.41
tblOffRoadEquipment	LoadFactor	0.42	0.42

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

tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.41	0.41
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.48	0.48
tblOffRoadEquipment	LoadFactor	0.36	0.36
tblOffRoadEquipment	LoadFactor	0.48	0.48
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	LoadFactor	0.42	0.42
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.36	0.36
tblOffRoadEquipment	LoadFactor	0.48	0.48
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	LoadFactor	0.40	0.40
tblOffRoadEquipment	LoadFactor	0.42	0.42
tblOffRoadEquipment	LoadFactor	0.36	0.36
tblOffRoadEquipment	LoadFactor	0.50	0.50
tblOffRoadEquipment	LoadFactor	0.42	0.42
tblOffRoadEquipment	LoadFactor	0.36	0.36
tblOffRoadEquipment	LoadFactor	0.40	0.40
tblOffRoadEquipment	LoadFactor	0.50	0.50
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Graders
tblOffRoadEquipment	OffRoadEquipmentType		Other Construction Equipment
tblOffRoadEquipment	OffRoadEquipmentType		Other Construction Equipment
tblOffRoadEquipment	OffRoadEquipmentType		Rubber Tired Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Rollers
tblOffRoadEquipment	OffRoadEquipmentType		Skid Steer Loaders

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

tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType		Graders
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Rollers
tblOffRoadEquipment	OffRoadEquipmentType		Scrapers
tblOffRoadEquipment	OffRoadEquipmentType		Rubber Tired Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Scrapers
tblOffRoadEquipment	OffRoadEquipmentType		Skid Steer Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType		Other Construction Equipment
tblOffRoadEquipment	OffRoadEquipmentType		Rollers
tblOffRoadEquipment	OffRoadEquipmentType		Rubber Tired Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Scrapers
tblOffRoadEquipment	OffRoadEquipmentType		Skid Steer Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Rough Terrain Forklifts
tblOffRoadEquipment	OffRoadEquipmentType		Pavers
tblOffRoadEquipment	OffRoadEquipmentType		Paving Equipment
tblOffRoadEquipment	OffRoadEquipmentType		Signal Boards
tblOffRoadEquipment	OffRoadEquipmentType		Trenchers
tblOffRoadEquipment	OffRoadEquipmentType		Pavers
tblOffRoadEquipment	OffRoadEquipmentType		Paving Equipment
tblOffRoadEquipment	OffRoadEquipmentType		Rough Terrain Forklifts
tblOffRoadEquipment	OffRoadEquipmentType		Signal Boards
tblOffRoadEquipment	OffRoadEquipmentType		Trenchers
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00

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

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblVehicleTrips	ST_TR	2.93	2.68
tblVehicleTrips	ST_TR	5.99	0.00
tblVehicleTrips	SU_TR	3.15	2.68
tblVehicleTrips	SU_TR	27.63	0.00
tblVehicleTrips	WD_TR	2.60	2.68
tblVehicleTrips	WD_TR	6.95	0.00

2.0 Emissions Summary

Grace Church Remodel and Griffin Senior Living Facility - Orange County, Annual

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

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.1631	1.5794	1.4096	2.8700e-003	0.0535	0.0778	0.1313	0.0141	0.0717	0.0858	0.0000	253.9805	253.9805	0.0665	3.0000e-003	256.5351
2023	0.5162	5.2990	4.7888	0.0117	0.5203	0.2392	0.7595	0.1763	0.2206	0.3968	0.0000	1,068.5557	1,068.5557	0.2413	0.0469	1,088.5760
2024	0.3320	3.0235	3.1818	6.3500e-003	0.1478	0.1552	0.3030	0.0396	0.1431	0.1827	0.0000	562.3835	562.3835	0.1393	7.9600e-003	568.2388
2025	0.1387	1.2462	1.4022	2.8200e-003	0.0660	0.0626	0.1286	0.0177	0.0577	0.0754	0.0000	249.3312	249.3312	0.0621	3.4600e-003	251.9150
Maximum	**0.5162**	**5.2990**	**4.7888**	**0.0117**	**0.5203**	**0.2392**	**0.7595**	**0.1763**	**0.2206**	**0.3968**	**0.0000**	**1,068.5557**	**1,068.5557**	**0.2413**	**0.0469**	**1,088.5760**

Grace Church Remodel and Griffin Senior Living Facility - Orange County, Annual

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

2.1 Overall Construction

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.0472	0.2089	1.5868	2.8700e-003	0.0348	5.5100e-003	0.0403	9.6300e-003	5.4800e-003	0.0151	0.0000	253.9802	253.9802	0.0665	3.0000e-003	256.5349
2023	0.1621	1.1632	5.4217	0.0117	0.2724	0.0208	0.2932	0.0895	0.0206	0.1100	0.0000	1,068.5549	1,068.5549	0.2413	0.0469	1,088.5752
2024	0.1073	0.4477	3.5923	6.3500e-003	0.0974	0.0124	0.1098	0.0272	0.0124	0.0396	0.0000	562.3829	562.3829	0.1393	7.9600e-003	568.2383
2025	0.0471	0.1988	1.5952	2.8200e-003	0.0435	5.5400e-003	0.0490	0.0122	5.5100e-003	0.0177	0.0000	249.3310	249.3310	0.0621	3.4600e-003	251.9148
Maximum	**0.1621**	**1.1632**	**5.4217**	**0.0117**	**0.2724**	**0.0208**	**0.2932**	**0.0895**	**0.0206**	**0.1100**	**0.0000**	**1,068.5549**	**1,068.5549**	**0.2413**	**0.0469**	**1,088.5752**

	ROG	NOx	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	**68.38**	**81.89**	**-13.11**	**0.00**	**43.09**	**91.72**	**62.76**	**44.09**	**91.09**	**75.38**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
2	**6-9-2022**	**9-8-2022**	0.0821	0.0127
3	**9-9-2022**	**12-8-2022**	1.1901	0.1775
4	**12-9-2022**	**3-8-2023**	2.8801	0.8364
5	**3-9-2023**	**6-8-2023**	1.3979	0.2214
6	**6-9-2023**	**9-8-2023**	0.8802	0.1388
7	**9-9-2023**	**12-8-2023**	0.8723	0.1389
8	**12-9-2023**	**3-8-2024**	0.8431	0.1386
9	**3-9-2024**	**6-8-2024**	0.8406	0.1382

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

10	**6-9-2024**	**9-8-2024**	0.8401	0.1377
11	**9-9-2024**	**12-8-2024**	0.8325	0.1377
12	**12-9-2024**	**3-8-2025**	0.7774	0.1359
13	**3-9-2025**	**6-8-2025**	0.7769	0.1371
14	**6-9-2025**	**9-8-2025**	0.0338	0.0059
		Highest	2.8801	0.8364

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	0.9463	0.0408	1.8001	1.8100e-003		0.1093	0.1093		0.1093	0.1093	11.4717	23.8655	35.3371	0.0360	7.8000e-004	36.4681
Energy	7.7700e-003	0.0671	0.0334	4.2000e-004		5.3700e-003	5.3700e-003		5.3700e-003	5.3700e-003	0.0000	190.2233	190.2233	0.0110	2.5700e-003	191.2649
Mobile	0.1346	0.1500	1.3856	3.2600e-003	0.3726	2.2300e-003	0.3748	0.0995	2.0700e-003	0.1015	0.0000	301.0347	301.0347	0.0183	0.0126	305.2577
Waste						0.0000	0.0000		0.0000	0.0000	33.2073	0.0000	33.2073	1.9625	0.0000	82.2697
Water						0.0000	0.0000		0.0000	0.0000	2.3457	26.9143	29.2600	0.2432	5.9600e-003	37.1171
Total	**1.0886**	**0.2580**	**3.2190**	**5.4900e-003**	**0.3726**	**0.1169**	**0.4895**	**0.0995**	**0.1167**	**0.2162**	**47.0246**	**542.0377**	**589.0623**	**2.2710**	**0.0219**	**652.3774**

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

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.9463	0.0408	1.8001	1.8100e-003		0.1093	0.1093		0.1093	0.1093	11.4717	23.8655	35.3371	0.0360	7.8000e-004	36.4681
Energy	7.7700e-003	0.0671	0.0334	4.2000e-004		5.3700e-003	5.3700e-003		5.3700e-003	5.3700e-003	0.0000	190.2233	190.2233	0.0110	2.5700e-003	191.2649
Mobile	0.1346	0.1500	1.3856	3.2600e-003	0.3726	2.2300e-003	0.3748	0.0995	2.0700e-003	0.1015	0.0000	301.0347	301.0347	0.0183	0.0126	305.2577
Waste						0.0000	0.0000		0.0000	0.0000	33.2073	0.0000	33.2073	1.9625	0.0000	82.2697
Water						0.0000	0.0000		0.0000	0.0000	2.3457	26.9143	29.2600	0.2432	5.9600e-003	37.1171
Total	**1.0886**	**0.2580**	**3.2190**	**5.4900e-003**	**0.3726**	**0.1169**	**0.4895**	**0.0995**	**0.1167**	**0.2162**	**47.0246**	**542.0377**	**589.0623**	**2.2710**	**0.0219**	**652.3774**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Phase 2 - Demolition	Demolition	12/1/2022	12/15/2022	5	11	
2	Phase 3 - Site Preparation	Site Preparation	1/15/2023	1/20/2023	5	5	
3	Phase 3 - Grading	Grading	1/21/2023	2/24/2023	5	25	

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4	Phase 1 - Church Remodel	Building Construction	9/1/2022	5/1/2023	5	173	
5	Phase 3 - Construction	Building Construction	2/25/2023	6/12/2025	5	599	

Acres of Grading (Site Preparation Phase): 27.5

Acres of Grading (Grading Phase): 137.5

Acres of Paving: 0

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Phase 3 - Construction	Cranes	2	7.00	231	0.29
Phase 2 - Demolition	Concrete/Industrial Saws	0	8.00	81	0.73
Phase 1 - Church Remodel	Cranes	2	7.00	231	0.29
Phase 3 - Site Preparation	Excavators	1	8.00	158	0.38
Phase 3 - Grading	Excavators	1	8.00	158	0.38
Phase 1 - Church Remodel	Forklifts	0	8.00	89	0.20
Phase 1 - Church Remodel	Generator Sets	0	8.00	84	0.74
Phase 3 - Grading	Graders	1	8.00	187	0.41
Phase 3 - Construction	Forklifts	0	8.00	89	0.20
Phase 3 - Construction	Generator Sets	0	8.00	84	0.74
Phase 3 - Construction	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Phase 2 - Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Phase 3 - Grading	Rubber Tired Dozers	2	8.00	247	0.40
Phase 3 - Site Preparation	Rubber Tired Dozers	2	8.00	247	0.40
Phase 1 - Church Remodel	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Phase 3 - Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Phase 3 - Site Preparation	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Phase 1 - Church Remodel	Welders	0	8.00	46	0.45

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

Phase 3 - Construction	Welders	0	8.00	46	0.45
Phase 3 - Site Preparation	Graders	1	8.00	187	0.41
Phase 2 - Demolition	Other Construction Equipment	2	8.00	172	0.42
Phase 3 - Site Preparation	Other Construction Equipment	2	8.00	172	0.42
Phase 2 - Demolition	Rubber Tired Loaders	2	8.00	203	0.36
Phase 3 - Site Preparation	Rollers	1	8.00	80	0.38
Phase 2 - Demolition	Skid Steer Loaders	2	8.00	65	0.37
Phase 2 - Demolition	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Phase 2 - Demolition	Graders	1	8.00	187	0.41
Phase 2 - Demolition	Excavators	1	8.00	158	0.38
Phase 2 - Demolition	Rollers	1	8.00	80	0.38
Phase 2 - Demolition	Scrapers	4	8.00	367	0.48
Phase 3 - Site Preparation	Rubber Tired Loaders	2	8.00	203	0.36
Phase 3 - Site Preparation	Scrapers	4	8.00	367	0.48
Phase 3 - Site Preparation	Skid Steer Loaders	2	8.00	65	0.37
Phase 3 - Site Preparation	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Phase 3 - Grading	Other Construction Equipment	2	8.00	172	0.42
Phase 3 - Grading	Rollers	1	8.00	80	0.38
Phase 3 - Grading	Rubber Tired Loaders	2	8.00	203	0.36
Phase 3 - Grading	Scrapers	4	8.00	367	0.48
Phase 3 - Grading	Skid Steer Loaders	2	8.00	65	0.37
Phase 1 - Church Remodel	Rough Terrain Forklifts	2	8.00	100	0.40
Phase 1 - Church Remodel	Pavers	1	8.00	130	0.42
Phase 1 - Church Remodel	Paving Equipment	1	8.00	132	0.36
Phase 1 - Church Remodel	Signal Boards	2	8.00	6	0.82
Phase 1 - Church Remodel	Trenchers	3	8.00	78	0.50
Phase 3 - Construction	Pavers	1	8.00	130	0.42
Phase 3 - Construction	Paving Equipment	1	8.00	132	0.36
Phase 3 - Construction	Rough Terrain Forklifts	2	8.00	100	0.40

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

Phase 3 - Construction	Signal Boards	2	8.00	6	0.82
Phase 3 - Construction	Trenchers	3	8.00	78	0.50

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
Phase 2 - Demolition	17	43.00	0.00	15.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 3 - Site Preparation	19	48.00	0.00	1,333.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 3 - Grading	17	43.00	0.00	6,667.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 1 - Church Remodel	11	93.00	17.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 3 - Construction	11	93.00	17.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

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

3.2 Phase 2 - Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.6500e-003	0.0000	1.6500e-003	2.5000e-004	0.0000	2.5000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0415	0.4464	0.3189	7.0000e-004		0.0189	0.0189		0.0174	0.0174	0.0000	61.7131	61.7131	0.0200	0.0000	62.2121
Total	**0.0415**	**0.4464**	**0.3189**	**7.0000e-004**	**1.6500e-003**	**0.0189**	**0.0206**	**2.5000e-004**	**0.0174**	**0.0177**	**0.0000**	**61.7131**	**61.7131**	**0.0200**	**0.0000**	**62.2121**

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	3.0000e-005	1.2300e-003	3.3000e-004	0.0000	1.3000e-004	1.0000e-005	1.4000e-004	4.0000e-005	1.0000e-005	4.0000e-005	0.0000	0.4601	0.4601	4.0000e-005	7.0000e-005	0.4831
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.1000e-004	5.4000e-004	7.4000e-003	2.0000e-005	2.6000e-003	1.0000e-005	2.6100e-003	6.9000e-004	1.0000e-005	7.0000e-004	0.0000	2.0387	2.0387	5.0000e-005	5.0000e-005	2.0553
Total	**7.4000e-004**	**1.7700e-003**	**7.7300e-003**	**2.0000e-005**	**2.7300e-003**	**2.0000e-005**	**2.7500e-003**	**7.3000e-004**	**2.0000e-005**	**7.4000e-004**	**0.0000**	**2.4988**	**2.4988**	**9.0000e-005**	**1.2000e-004**	**2.5384**

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

3.2 Phase 2 - Demolition - 2022

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					6.4000e-004	0.0000	6.4000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.9100e-003	0.0490	0.3681	7.0000e-004		1.1500e-003	1.1500e-003		1.1500e-003	1.1500e-003	0.0000	61.7131	61.7131	0.0200	0.0000	62.2120
Total	**8.9100e-003**	**0.0490**	**0.3681**	**7.0000e-004**	**6.4000e-004**	**1.1500e-003**	**1.7900e-003**	**1.0000e-004**	**1.1500e-003**	**1.2500e-003**	**0.0000**	**61.7131**	**61.7131**	**0.0200**	**0.0000**	**62.2120**

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	3.0000e-005	1.2300e-003	3.3000e-004	0.0000	9.0000e-005	1.0000e-005	1.0000e-004	3.0000e-005	1.0000e-005	3.0000e-005	0.0000	0.4601	0.4601	4.0000e-005	7.0000e-005	0.4831
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.1000e-004	5.4000e-004	7.4000e-003	2.0000e-005	1.7000e-003	1.0000e-005	1.7100e-003	4.7000e-004	1.0000e-005	4.8000e-004	0.0000	2.0387	2.0387	5.0000e-005	5.0000e-005	2.0553
Total	**7.4000e-004**	**1.7700e-003**	**7.7300e-003**	**2.0000e-005**	**1.7900e-003**	**2.0000e-005**	**1.8100e-003**	**5.0000e-004**	**2.0000e-005**	**5.1000e-004**	**0.0000**	**2.4988**	**2.4988**	**9.0000e-005**	**1.2000e-004**	**2.5384**

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

3.3 Phase 3 - Site Preparation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0453	0.0000	0.0453	0.0182	0.0000	0.0182	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0181	0.1883	0.1507	3.3000e-004		7.8900e-003	7.8900e-003		7.2600e-003	7.2600e-003	0.0000	29.3929	29.3929	9.5100e-003	0.0000	29.6306
Total	**0.0181**	**0.1883**	**0.1507**	**3.3000e-004**	**0.0453**	**7.8900e-003**	**0.0532**	**0.0182**	**7.2600e-003**	**0.0255**	**0.0000**	**29.3929**	**29.3929**	**9.5100e-003**	**0.0000**	**29.6306**

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	1.3500e-003	0.0836	0.0274	3.7000e-004	0.0114	5.1000e-004	0.0120	3.1400e-003	4.9000e-004	3.6300e-003	0.0000	38.6844	38.6844	3.9000e-003	6.2100e-003	40.6312
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	3.4000e-004	2.4000e-004	3.4900e-003	1.0000e-005	1.3200e-003	1.0000e-005	1.3200e-003	3.5000e-004	1.0000e-005	3.6000e-004	0.0000	1.0016	1.0016	2.0000e-005	2.0000e-005	1.0094
Total	**1.6900e-003**	**0.0838**	**0.0308**	**3.8000e-004**	**0.0128**	**5.2000e-004**	**0.0133**	**3.4900e-003**	**5.0000e-004**	**3.9900e-003**	**0.0000**	**39.6860**	**39.6860**	**3.9200e-003**	**6.2300e-003**	**41.6406**

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

3.3 Phase 3 - Site Preparation - 2023

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					0.0177	0.0000	0.0177	7.1000e-003	0.0000	7.1000e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.2400e-003	0.0231	0.1788	3.3000e-004		5.5000e-004	5.5000e-004		5.5000e-004	5.5000e-004	0.0000	29.3929	29.3929	9.5100e-003	0.0000	29.6305
Total	**4.2400e-003**	**0.0231**	**0.1788**	**3.3000e-004**	**0.0177**	**5.5000e-004**	**0.0182**	**7.1000e-003**	**5.5000e-004**	**7.6500e-003**	**0.0000**	**29.3929**	**29.3929**	**9.5100e-003**	**0.0000**	**29.6305**

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	1.3500e-003	0.0836	0.0274	3.7000e-004	7.9900e-003	5.1000e-004	8.5000e-003	2.2900e-003	4.9000e-004	2.7800e-003	0.0000	38.6844	38.6844	3.9000e-003	6.2100e-003	40.6312
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	3.4000e-004	2.4000e-004	3.4900e-003	1.0000e-005	8.6000e-004	1.0000e-005	8.7000e-004	2.4000e-004	1.0000e-005	2.4000e-004	0.0000	1.0016	1.0016	2.0000e-005	2.0000e-005	1.0094
Total	**1.6900e-003**	**0.0838**	**0.0308**	**3.8000e-004**	**8.8500e-003**	**5.2000e-004**	**9.3700e-003**	**2.5300e-003**	**5.0000e-004**	**3.0200e-003**	**0.0000**	**39.6860**	**39.6860**	**3.9200e-003**	**6.2300e-003**	**41.6406**

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

3.4 Phase 3 - Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.2265	0.0000	0.2265	0.0911	0.0000	0.0911	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0865	0.9034	0.6980	1.6000e-003		0.0376	0.0376		0.0346	0.0346	0.0000	140.1473	140.1473	0.0453	0.0000	141.2804
Total	**0.0865**	**0.9034**	**0.6980**	**1.6000e-003**	**0.2265**	**0.0376**	**0.2640**	**0.0911**	**0.0346**	**0.1256**	**0.0000**	**140.1473**	**140.1473**	**0.0453**	**0.0000**	**141.2804**

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	6.7800e-003	0.4180	0.1368	1.8700e-003	0.0572	2.5600e-003	0.0598	0.0157	2.4500e-003	0.0182	0.0000	193.4799	193.4799	0.0195	0.0310	203.2168
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	1.5200e-003	1.0800e-003	0.0156	5.0000e-005	5.9000e-003	3.0000e-005	5.9300e-003	1.5700e-003	3.0000e-005	1.6000e-003	0.0000	4.4864	4.4864	1.0000e-004	1.1000e-004	4.5213
Total	**8.3000e-003**	**0.4191**	**0.1524**	**1.9200e-003**	**0.0631**	**2.5900e-003**	**0.0657**	**0.0173**	**2.4800e-003**	**0.0198**	**0.0000**	**197.9663**	**197.9663**	**0.0196**	**0.0312**	**207.7381**

Grace Church Remodel and Griffin Senior Living Facility - Orange County, Annual

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

3.4 Phase 3 - Grading - 2023

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					0.0883	0.0000	0.0883	0.0355	0.0000	0.0355	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0202	0.1111	0.8354	1.6000e-003		2.6100e-003	2.6100e-003		2.6100e-003	2.6100e-003	0.0000	140.1471	140.1471	0.0453	0.0000	141.2803
Total	**0.0202**	**0.1111**	**0.8354**	**1.6000e-003**	**0.0883**	**2.6100e-003**	**0.0909**	**0.0355**	**2.6100e-003**	**0.0381**	**0.0000**	**140.1471**	**140.1471**	**0.0453**	**0.0000**	**141.2803**

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	6.7800e-003	0.4180	0.1368	1.8700e-003	0.0400	2.5600e-003	0.0425	0.0115	2.4500e-003	0.0139	0.0000	193.4799	193.4799	0.0195	0.0310	203.2168
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	1.5200e-003	1.0800e-003	0.0156	5.0000e-005	3.8500e-003	3.0000e-005	3.8800e-003	1.0600e-003	3.0000e-005	1.0900e-003	0.0000	4.4864	4.4864	1.0000e-004	1.1000e-004	4.5213
Total	**8.3000e-003**	**0.4191**	**0.1524**	**1.9200e-003**	**0.0438**	**2.5900e-003**	**0.0464**	**0.0125**	**2.4800e-003**	**0.0150**	**0.0000**	**197.9663**	**197.9663**	**0.0196**	**0.0312**	**207.7381**

Grace Church Remodel and Griffin Senior Living Facility - Orange County, Annual

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

3.5 Phase 1 - Church Remodel - 2022

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	0.1074	1.0873	0.9445	1.6200e-003		0.0583	0.0583		0.0537	0.0537	0.0000	140.9819	140.9819	0.0447	0.0000	142.1004
Total	**0.1074**	**1.0873**	**0.9445**	**1.6200e-003**		**0.0583**	**0.0583**		**0.0537**	**0.0537**	**0.0000**	**140.9819**	**140.9819**	**0.0447**	**0.0000**	**142.1004**

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	1.2200e-003	0.0348	0.0120	1.4000e-004	4.6600e-003	3.2000e-004	4.9800e-003	1.3400e-003	3.1000e-004	1.6500e-003	0.0000	13.9127	13.9127	8.0000e-004	2.0000e-003	14.5272
Worker	0.0122	9.1700e-003	0.1266	3.8000e-004	0.0444	2.4000e-004	0.0447	0.0118	2.2000e-004	0.0120	0.0000	34.8740	34.8740	8.7000e-004	8.8000e-004	35.1569
Total	**0.0134**	**0.0439**	**0.1385**	**5.2000e-004**	**0.0491**	**5.6000e-004**	**0.0496**	**0.0131**	**5.3000e-004**	**0.0137**	**0.0000**	**48.7867**	**48.7867**	**1.6700e-003**	**2.8800e-003**	**49.6842**

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

3.5 Phase 1 - Church Remodel - 2022

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	0.0241	0.1143	1.0724	1.6200e-003		3.7700e-003	3.7700e-003		3.7700e-003	3.7700e-003	0.0000	140.9817	140.9817	0.0447	0.0000	142.1003
Total	**0.0241**	**0.1143**	**1.0724**	**1.6200e-003**		**3.7700e-003**	**3.7700e-003**		**3.7700e-003**	**3.7700e-003**	**0.0000**	**140.9817**	**140.9817**	**0.0447**	**0.0000**	**142.1003**

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	1.2200e-003	0.0348	0.0120	1.4000e-004	3.3400e-003	3.2000e-004	3.6600e-003	1.0200e-003	3.1000e-004	1.3300e-003	0.0000	13.9127	13.9127	8.0000e-004	2.0000e-003	14.5272
Worker	0.0122	9.1700e-003	0.1266	3.8000e-004	0.0290	2.4000e-004	0.0293	8.0100e-003	2.2000e-004	8.2400e-003	0.0000	34.8740	34.8740	8.7000e-004	8.8000e-004	35.1569
Total	**0.0134**	**0.0439**	**0.1385**	**5.2000e-004**	**0.0324**	**5.6000e-004**	**0.0329**	**9.0300e-003**	**5.3000e-004**	**9.5700e-003**	**0.0000**	**48.7867**	**48.7867**	**1.6700e-003**	**2.8800e-003**	**49.6842**

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

3.5 Phase 1 - Church Remodel - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1009	1.0062	0.9287	1.6000e-003		0.0532	0.0532		0.0491	0.0491	0.0000	139.3923	139.3923	0.0442	0.0000	140.4983
Total	**0.1009**	**1.0062**	**0.9287**	**1.6000e-003**		**0.0532**	**0.0532**		**0.0491**	**0.0491**	**0.0000**	**139.3923**	**139.3923**	**0.0442**	**0.0000**	**140.4983**

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	7.2000e-004	0.0268	0.0108	1.3000e-004	4.6100e-003	1.3000e-004	4.7400e-003	1.3300e-003	1.3000e-004	1.4500e-003	0.0000	13.1020	13.1020	7.8000e-004	1.8800e-003	13.6821
Worker	0.0113	8.0700e-003	0.1163	3.6000e-004	0.0439	2.3000e-004	0.0441	0.0117	2.1000e-004	0.0119	0.0000	33.3790	33.3790	7.8000e-004	8.1000e-004	33.6387
Total	**0.0120**	**0.0349**	**0.1271**	**4.9000e-004**	**0.0485**	**3.6000e-004**	**0.0489**	**0.0130**	**3.4000e-004**	**0.0133**	**0.0000**	**46.4810**	**46.4810**	**1.5600e-003**	**2.6900e-003**	**47.3208**

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

3.5 Phase 1 - Church Remodel - 2023

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	0.0239	0.1130	1.0601	1.6000e-003		3.7300e-003	3.7300e-003		3.7300e-003	3.7300e-003	0.0000	139.3922	139.3922	0.0442	0.0000	140.4981
Total	**0.0239**	**0.1130**	**1.0601**	**1.6000e-003**		**3.7300e-003**	**3.7300e-003**		**3.7300e-003**	**3.7300e-003**	**0.0000**	**139.3922**	**139.3922**	**0.0442**	**0.0000**	**140.4981**

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	7.2000e-004	0.0268	0.0108	1.3000e-004	3.3000e-003	1.3000e-004	3.4300e-003	1.0100e-003	1.3000e-004	1.1300e-003	0.0000	13.1020	13.1020	7.8000e-004	1.8800e-003	13.6821
Worker	0.0113	8.0700e-003	0.1163	3.6000e-004	0.0287	2.3000e-004	0.0289	7.9200e-003	2.1000e-004	8.1300e-003	0.0000	33.3790	33.3790	7.8000e-004	8.1000e-004	33.6387
Total	**0.0120**	**0.0349**	**0.1271**	**4.9000e-004**	**0.0320**	**3.6000e-004**	**0.0323**	**8.9300e-003**	**3.4000e-004**	**9.2600e-003**	**0.0000**	**46.4810**	**46.4810**	**1.5600e-003**	**2.6900e-003**	**47.3208**

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

3.6 Phase 3 - Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2580	2.5740	2.3758	4.1000e-003		0.1362	0.1362		0.1255	0.1255	0.0000	356.5850	356.5850	0.1132	0.0000	359.4142
Total	**0.2580**	**2.5740**	**2.3758**	**4.1000e-003**		**0.1362**	**0.1362**		**0.1255**	**0.1255**	**0.0000**	**356.5850**	**356.5850**	**0.1132**	**0.0000**	**359.4142**

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	1.8500e-003	0.0687	0.0276	3.4000e-004	0.0118	3.4000e-004	0.0121	3.4000e-003	3.2000e-004	3.7200e-003	0.0000	33.5168	33.5168	1.9900e-003	4.8100e-003	35.0008
Worker	0.0289	0.0207	0.2976	9.3000e-004	0.1123	5.8000e-004	0.1129	0.0298	5.4000e-004	0.0304	0.0000	85.3881	85.3881	1.9900e-003	2.0600e-003	86.0524
Total	**0.0307**	**0.0893**	**0.3252**	**1.2700e-003**	**0.1241**	**9.2000e-004**	**0.1250**	**0.0332**	**8.6000e-004**	**0.0341**	**0.0000**	**118.9048**	**118.9048**	**3.9800e-003**	**6.8700e-003**	**121.0531**

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

3.6 Phase 3 - Construction - 2023

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	0.0611	0.2890	2.7119	4.1000e-003		9.5300e-003	9.5300e-003		9.5300e-003	9.5300e-003	0.0000	356.5846	356.5846	0.1132	0.0000	359.4137
Total	**0.0611**	**0.2890**	**2.7119**	**4.1000e-003**		**9.5300e-003**	**9.5300e-003**		**9.5300e-003**	**9.5300e-003**	**0.0000**	**356.5846**	**356.5846**	**0.1132**	**0.0000**	**359.4137**

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	1.8500e-003	0.0687	0.0276	3.4000e-004	8.4400e-003	3.4000e-004	8.7800e-003	2.5800e-003	3.2000e-004	2.9000e-003	0.0000	33.5168	33.5168	1.9900e-003	4.8100e-003	35.0008
Worker	0.0289	0.0207	0.2976	9.3000e-004	0.0734	5.8000e-004	0.0739	0.0203	5.4000e-004	0.0208	0.0000	85.3881	85.3881	1.9900e-003	2.0600e-003	86.0524
Total	**0.0307**	**0.0893**	**0.3252**	**1.2700e-003**	**0.0818**	**9.2000e-004**	**0.0827**	**0.0228**	**8.6000e-004**	**0.0237**	**0.0000**	**118.9048**	**118.9048**	**3.9800e-003**	**6.8700e-003**	**121.0531**

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

3.6 Phase 3 - Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2974	2.9199	2.8192	4.8800e-003		0.1541	0.1541		0.1421	0.1421	0.0000	424.6209	424.6209	0.1348	0.0000	427.9898
Total	**0.2974**	**2.9199**	**2.8192**	**4.8800e-003**		**0.1541**	**0.1541**		**0.1421**	**0.1421**	**0.0000**	**424.6209**	**424.6209**	**0.1348**	**0.0000**	**427.9898**

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	2.1800e-003	0.0815	0.0326	3.9000e-004	0.0140	4.2000e-004	0.0145	4.0500e-003	4.0000e-004	4.4500e-003	0.0000	39.2968	39.2968	2.3900e-003	5.6700e-003	41.0453
Worker	0.0324	0.0221	0.3301	1.0700e-003	0.1337	6.6000e-004	0.1344	0.0355	6.1000e-004	0.0361	0.0000	98.4657	98.4657	2.1500e-003	2.3000e-003	99.2037
Total	**0.0346**	**0.1036**	**0.3627**	**1.4600e-003**	**0.1478**	**1.0800e-003**	**0.1489**	**0.0396**	**1.0100e-003**	**0.0406**	**0.0000**	**137.7625**	**137.7625**	**4.5400e-003**	**7.9700e-003**	**140.2490**

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

3.6 Phase 3 - Construction - 2024

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	0.0727	0.3441	3.2296	4.8800e-003		0.0114	0.0114		0.0114	0.0114	0.0000	424.6204	424.6204	0.1348	0.0000	427.9893
Total	**0.0727**	**0.3441**	**3.2296**	**4.8800e-003**		**0.0114**	**0.0114**		**0.0114**	**0.0114**	**0.0000**	**424.6204**	**424.6204**	**0.1348**	**0.0000**	**427.9893**

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	2.1800e-003	0.0815	0.0326	3.9000e-004	0.0101	4.2000e-004	0.0105	3.0700e-003	4.0000e-004	3.4700e-003	0.0000	39.2968	39.2968	2.3900e-003	5.6700e-003	41.0453
Worker	0.0324	0.0221	0.3301	1.0700e-003	0.0874	6.6000e-004	0.0880	0.0241	6.1000e-004	0.0247	0.0000	98.4657	98.4657	2.1500e-003	2.3000e-003	99.2037
Total	**0.0346**	**0.1036**	**0.3627**	**1.4600e-003**	**0.0974**	**1.0800e-003**	**0.0985**	**0.0272**	**1.0100e-003**	**0.0282**	**0.0000**	**137.7625**	**137.7625**	**4.5400e-003**	**7.9700e-003**	**140.2490**

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

3.6 Phase 3 - Construction - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1241	1.2011	1.2493	2.1800e-003		0.0621	0.0621		0.0573	0.0573	0.0000	189.6335	189.6335	0.0602	0.0000	191.1381
Total	**0.1241**	**1.2011**	**1.2493**	**2.1800e-003**		**0.0621**	**0.0621**		**0.0573**	**0.0573**	**0.0000**	**189.6335**	**189.6335**	**0.0602**	**0.0000**	**191.1381**

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	9.6000e-004	0.0362	0.0145	1.7000e-004	6.2700e-003	1.9000e-004	6.4500e-003	1.8100e-003	1.8000e-004	1.9900e-003	0.0000	17.2203	17.2203	1.0800e-003	2.4900e-003	17.9904
Worker	0.0137	8.9200e-003	0.1384	4.6000e-004	0.0597	2.8000e-004	0.0600	0.0159	2.6000e-004	0.0161	0.0000	42.4774	42.4774	8.7000e-004	9.6000e-004	42.7865
Total	**0.0146**	**0.0451**	**0.1529**	**6.3000e-004**	**0.0660**	**4.7000e-004**	**0.0665**	**0.0177**	**4.4000e-004**	**0.0181**	**0.0000**	**59.6977**	**59.6977**	**1.9500e-003**	**3.4500e-003**	**60.7770**

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

3.6 Phase 3 - Construction - 2025

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	0.0325	0.1537	1.4422	2.1800e-003		5.0700e-003	5.0700e-003		5.0700e-003	5.0700e-003	0.0000	189.6333	189.6333	0.0602	0.0000	191.1379
Total	**0.0325**	**0.1537**	**1.4422**	**2.1800e-003**		**5.0700e-003**	**5.0700e-003**		**5.0700e-003**	**5.0700e-003**	**0.0000**	**189.6333**	**189.6333**	**0.0602**	**0.0000**	**191.1379**

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	9.6000e-004	0.0362	0.0145	1.7000e-004	4.4900e-003	1.9000e-004	4.6800e-003	1.3700e-003	1.8000e-004	1.5500e-003	0.0000	17.2203	17.2203	1.0800e-003	2.4900e-003	17.9904
Worker	0.0137	8.9200e-003	0.1384	4.6000e-004	0.0390	2.8000e-004	0.0393	0.0108	2.6000e-004	0.0110	0.0000	42.4774	42.4774	8.7000e-004	9.6000e-004	42.7865
Total	**0.0146**	**0.0451**	**0.1529**	**6.3000e-004**	**0.0435**	**4.7000e-004**	**0.0440**	**0.0122**	**4.4000e-004**	**0.0126**	**0.0000**	**59.6977**	**59.6977**	**1.9500e-003**	**3.4500e-003**	**60.7770**

4.0 Operational Detail - Mobile

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

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	0.1346	0.1500	1.3856	3.2600e-003	0.3726	2.2300e-003	0.3748	0.0995	2.0700e-003	0.1015	0.0000	301.0347	301.0347	0.0183	0.0126	305.2577
Unmitigated	0.1346	0.1500	1.3856	3.2600e-003	0.3726	2.2300e-003	0.3748	0.0995	2.0700e-003	0.1015	0.0000	301.0347	301.0347	0.0183	0.0126	305.2577

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Congregate Care (Assisted Living)	289.44	289.44	289.44	989,060	989,060
Enclosed Parking with Elevator	0.00	0.00	0.00		
Place of Worship	0.00	0.00	0.00		
Total	289.44	289.44	289.44	989,060	989,060

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
Congregate Care (Assisted	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Enclosed Parking with Elevator	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Place of Worship	16.60	8.40	6.90	0.00	95.00	5.00	64	25	11

4.4 Fleet Mix

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

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Congregate Care (Assisted Living)	0.547453	0.060181	0.185039	0.126487	0.024236	0.006679	0.014707	0.004926	0.000662	0.000378	0.024745	0.000705	0.003801
Enclosed Parking with Elevator	0.547453	0.060181	0.185039	0.126487	0.024236	0.006679	0.014707	0.004926	0.000662	0.000378	0.024745	0.000705	0.003801
Place of Worship	0.547453	0.060181	0.185039	0.126487	0.024236	0.006679	0.014707	0.004926	0.000662	0.000378	0.024745	0.000705	0.003801

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	113.3222	113.3222	9.5600e-003	1.1600e-003	113.9068
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	113.3222	113.3222	9.5600e-003	1.1600e-003	113.9068
NaturalGas Mitigated	7.7700e-003	0.0671	0.0334	4.2000e-004		5.3700e-003	5.3700e-003		5.3700e-003	5.3700e-003	0.0000	76.9011	76.9011	1.4700e-003	1.4100e-003	77.3581
NaturalGas Unmitigated	7.7700e-003	0.0671	0.0334	4.2000e-004		5.3700e-003	5.3700e-003		5.3700e-003	5.3700e-003	0.0000	76.9011	76.9011	1.4700e-003	1.4100e-003	77.3581

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

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					
Congregate Care (Assisted Living)	1.20416e+006	6.4900e-003	0.0555	0.0236	3.5000e-004		4.4900e-003	4.4900e-003		4.4900e-003	4.4900e-003	0.0000	64.2585	64.2585	1.2300e-003	1.1800e-003	64.6404
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Place of Worship	236913	1.2800e-003	0.0116	9.7600e-003	7.0000e-005		8.8000e-004	8.8000e-004		8.8000e-004	8.8000e-004	0.0000	12.6426	12.6426	2.4000e-004	2.3000e-004	12.7177
Total		**7.7700e-003**	**0.0671**	**0.0334**	**4.2000e-004**		**5.3700e-003**	**5.3700e-003**		**5.3700e-003**	**5.3700e-003**	**0.0000**	**76.9011**	**76.9011**	**1.4700e-003**	**1.4100e-003**	**77.3581**

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

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Congregate Care (Assisted Living)	1.20416e+006	6.4900e-003	0.0555	0.0236	3.5000e-004		4.4900e-003	4.4900e-003		4.4900e-003	4.4900e-003	0.0000	64.2585	64.2585	1.2300e-003	1.1800e-003	64.6404
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Place of Worship	236913	1.2800e-003	0.0116	9.7600e-003	7.0000e-005		8.8000e-004	8.8000e-004		8.8000e-004	8.8000e-004	0.0000	12.6426	12.6426	2.4000e-004	2.3000e-004	12.7177
Total		**7.7700e-003**	**0.0671**	**0.0334**	**4.2000e-004**		**5.3700e-003**	**5.3700e-003**		**5.3700e-003**	**5.3700e-003**	**0.0000**	**76.9011**	**76.9011**	**1.4700e-003**	**1.4100e-003**	**77.3581**

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

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Congregate Care (Assisted Living)	414054	73.4306	6.2000e-003	7.5000e-004	73.8094
Enclosed Parking with Elevator	130560	23.1542	1.9500e-003	2.4000e-004	23.2737
Place of Worship	94377.2	16.7374	1.4100e-003	1.7000e-004	16.8237
Total		**113.3222**	**9.5600e-003**	**1.1600e-003**	**113.9068**

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

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Congregate Care (Assisted Living)	414054	73.4306	6.2000e-003	7.5000e-004	73.8094
Enclosed Parking with Elevator	130560	23.1542	1.9500e-003	2.4000e-004	23.2737
Place of Worship	94377.2	16.7374	1.4100e-003	1.7000e-004	16.8237
Total		**113.3222**	**9.5600e-003**	**1.1600e-003**	**113.9068**

6.0 Area Detail

6.1 Mitigation Measures Area

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.9463	0.0408	1.8001	1.8100e-003		0.1093	0.1093		0.1093	0.1093	11.4717	23.8655	35.3371	0.0360	7.8000e-004	36.4681
Unmitigated	0.9463	0.0408	1.8001	1.8100e-003		0.1093	0.1093		0.1093	0.1093	11.4717	23.8655	35.3371	0.0360	7.8000e-004	36.4681

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	0.0463					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.5127					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.3538	0.0280	0.6865	1.7500e-003		0.1031	0.1031		0.1031	0.1031	11.4717	22.0446	33.5163	0.0342	7.8000e-004	34.6035
Landscaping	0.0335	0.0128	1.1135	6.0000e-005		6.1800e-003	6.1800e-003		6.1800e-003	6.1800e-003	0.0000	1.8209	1.8209	1.7500e-003	0.0000	1.8645
Total	**0.9463**	**0.0408**	**1.8001**	**1.8100e-003**		**0.1093**	**0.1093**		**0.1093**	**0.1093**	**11.4717**	**23.8655**	**35.3371**	**0.0360**	**7.8000e-004**	**36.4681**

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

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0463					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.5127					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.3538	0.0280	0.6865	1.7500e-003		0.1031	0.1031		0.1031	0.1031	11.4717	22.0446	33.5163	0.0342	7.8000e-004	34.6035
Landscaping	0.0335	0.0128	1.1135	6.0000e-005		6.1800e-003	6.1800e-003		6.1800e-003	6.1800e-003	0.0000	1.8209	1.8209	1.7500e-003	0.0000	1.8645
Total	**0.9463**	**0.0408**	**1.8001**	**1.8100e-003**		**0.1093**	**0.1093**		**0.1093**	**0.1093**	**11.4717**	**23.8655**	**35.3371**	**0.0360**	**7.8000e-004**	**36.4681**

7.0 Water Detail

7.1 Mitigation Measures Water

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

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	29.2600	0.2432	5.9600e-003	37.1171
Unmitigated	29.2600	0.2432	5.9600e-003	37.1171

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Congregate Care (Assisted Living)	7.03663 / 4.43614	27.2221	0.2314	5.6700e-003	34.6966
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Place of Worship	0.357006 / 0.558395	2.0379	0.0118	2.9000e-004	2.4205
Total		**29.2600**	**0.2432**	**5.9600e-003**	**37.1171**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Congregate Care (Assisted Living)	7.03663 / 4.43614	27.2221	0.2314	5.6700e-003	34.6966
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Place of Worship	0.357006 / 0.558395	2.0379	0.0118	2.9000e-004	2.4205
Total		**29.2600**	**0.2432**	**5.9600e-003**	**37.1171**

8.0 Waste Detail

8.1 Mitigation Measures Waste

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

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	33.2073	1.9625	0.0000	82.2697
Unmitigated	33.2073	1.9625	0.0000	82.2697

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Congregate Care (Assisted Living)	98.55	20.0048	1.1823	0.0000	49.5609
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Place of Worship	65.04	13.2025	0.7803	0.0000	32.7087
Total		**33.2073**	**1.9625**	**0.0000**	**82.2697**

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

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Congregate Care (Assisted Living)	98.55	20.0048	1.1823	0.0000	49.5609
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Place of Worship	65.04	13.2025	0.7803	0.0000	32.7087
Total		**33.2073**	**1.9625**	**0.0000**	**82.2697**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

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

11.0 Vegetation