Twin Oaks Fuel, Convenience Store, and Car Wash Project

Air Quality and Greenhouse Gas Emissions Study

prepared for

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Table of Contents

Tables

Figures

Appendices

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1 Project Description and Impact Summary

1.1 Introduction

This report details the analysis of potential air quality and greenhouse gas (GHG) impacts associated with the construction and operation of the proposed Twin Oaks Fuel, Convenience Store, and Car Wash Project (project) located at southeast corner of Twin Oaks Valley Road and Borden Road, in the city of San Marcos, California. Rincon Consultants, Inc. (Rincon) prepared this study under contract to The Namou Group for use by the City of San Marcos in support of environmental documentation being prepared for the project pursuant to the California Environmental Quality Act (CEQA).

1.2 Project Summary

Project Location

The project site is in the City of San Marcos in northern San Diego County. The regional location of the project site is shown in Figure 1. The 2.5-acre project site (Assessor's Parcel Number 220-050-0900) is located at the southeast corner of Twin Oaks Valley Road and Borden Road, in the central portion of San Marcos, approximately 0.9-miles north of State Route 78. The project location is depicted in Figure 2. Surrounding land uses include a mix of industrial and commercial land uses to the north, south, and west, and the Royal Oaks Senior Apartments senior care facility to the east across San Marcos Creek.

Project Description

The project requires approval of a Conditional Use Permit to construct an automotive fueling station consisting of a 5,462 square foot fuel pump canopy with 16 fuel pumps, a 4,083 square foot convenience store with 712 square feet of storage space, and a 2,134 square foot automated car wash (see Figure 3 for the project site plan).

The project site would be accessed via Twin Oaks Valley Road. Site improvements would include 25 parking spaces, vacuum stations serving the nine parking spaces on the south side of the car wash, a trash enclosure, a bicycle rack area, and a 2,303 square foot biofiltration basin along the southern (downslope) project site boundary.

Figure 1 Regional Location

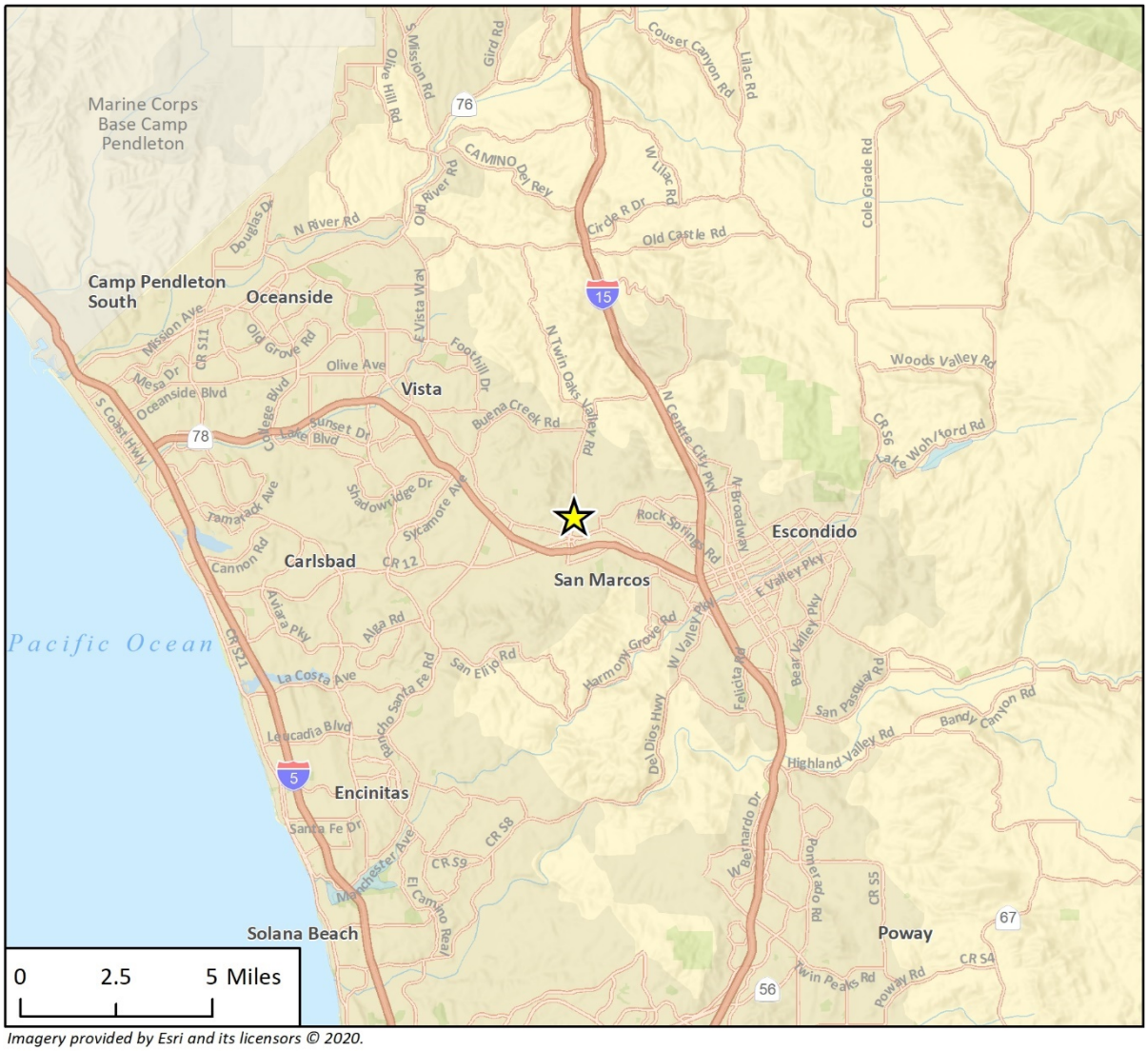

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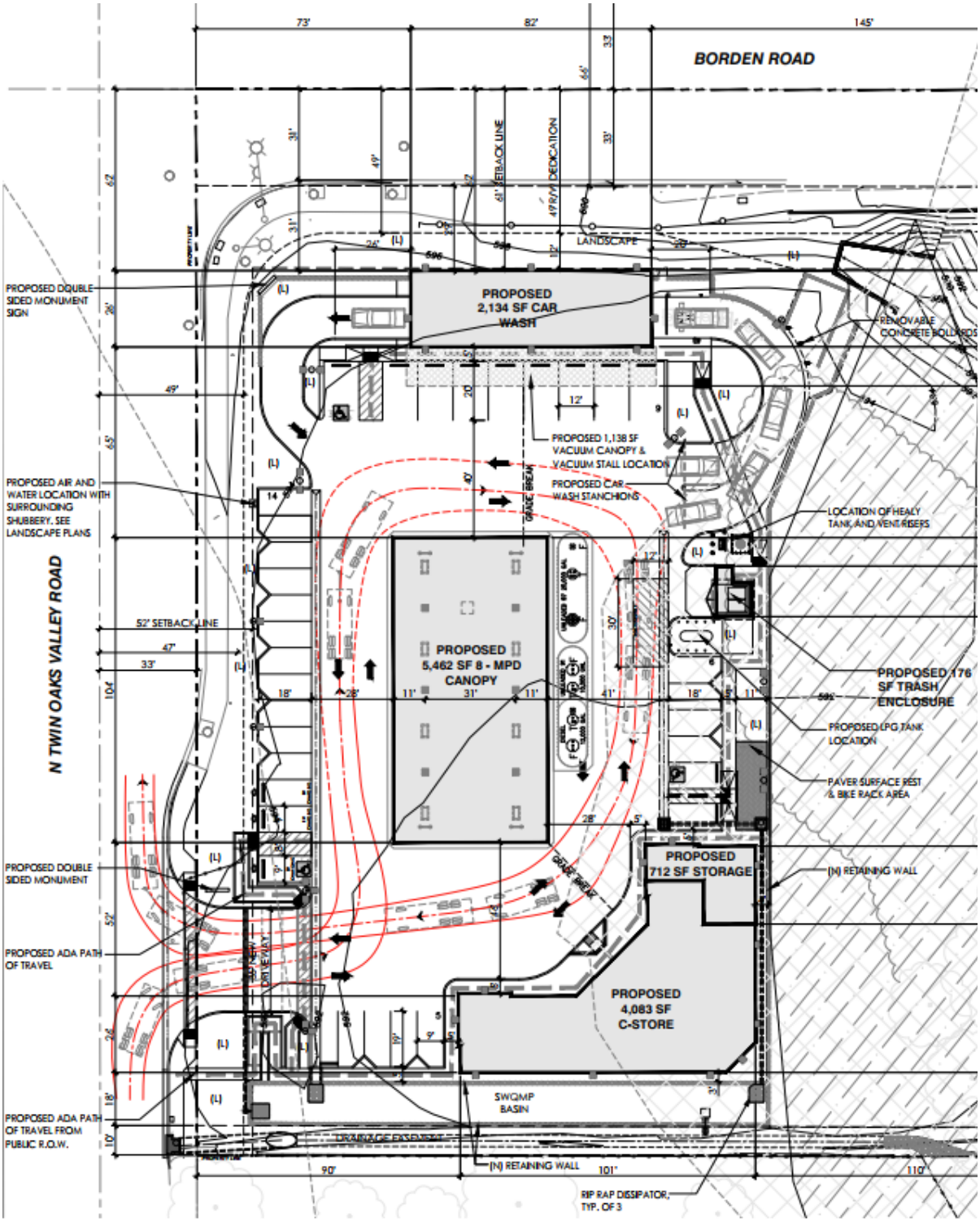
Figure 2 Project Location

Figure 3 Site Plan



Source: Empire Design Group

2 Background

2.1 Air Quality

Local Climate and Meteorology

The project area is located in the San Diego Air Basin (SDAB), which is bordered by the South Coast Air Basin to the north, the Salton Sea Air Basin to the east, the United States/Mexico border to the south, and the Pacific Ocean to the west. Regional wind patterns are dominated by onshore sea breezes during the day, and winds generally slow or reverse direction toward the sea at night. Temperature and precipitation can vary widely in the SDAB, where average annual precipitation ranges from approximately 10 inches in the coastal and inland areas to over 30 inches in the mountains. In general, milder annual temperatures are experienced in the maritime and coastal areas, whereas the interior and desert areas experience warmer summers and cooler winters. The project site is located approximately 10 miles inland from the coast in an interior valley.

High air pollution levels in coastal communities of San Diego can often occur when polluted air from the South Coast Air Basin, particularly from Los Angeles, travels southwest over the ocean at night and is brought on shore into San Diego by the sea breeze during the day (SDAPCD 2015). Air Pollutants are also transported to San Diego during relatively mild Santa Ana weather conditions, however, during strong Santa Ana weather conditions, pollutants are pushed away from San Diego far out to sea.

Air Quality Regulations

Federal Air Quality Regulations

Ambient Air Quality Standards represent the maximum levels of background pollution considered safe, with an adequate margin of safety, to protect the public health and welfare. The federal Clean Air Act (CAA) was enacted in 1970 and amended in 1977 and 1990 [42 United States Code (USC) 7401] for the purposes of protecting and enhancing the quality of the nation's air resources to benefit public health, welfare, and productivity.

In 1971, in order to achieve the purposes of Section 109 of the CAA [42 USC 7409] the U.S. EPA has set primary and secondary National Ambient Air Quality Standards (NAAQS) for ozone (O_3), carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), particulate matter with a diameter of up to ten microns (PM_{10}) and up to 2.5 microns ($PM_{2.5}$), and lead (Pb). Primary standards are those levels of air quality deemed necessary, with an adequate margin of safety, to protect public health. Table 1 lists the current federal and state standards for regulated pollutants.

Table 1 Federal and State Ambient Air Quality Standards

Pollutant	Averaging Time	Federal Primary Standards	California Standard
Ozone	1-Hour	–	0.09 ppm
	8-Hour	0.070 ppm	0.070 ppm
Carbon Monoxide	8-Hour	9.00 ppm	9.00 ppm
	1-Hour	35.00 ppm	20.00 ppm
Nitrogen Dioxide	Annual	0.053 ppm	0.030 ppm
	1-Hour	0.100 ppm	0.180 ppm
Sulfur Dioxide	Annual	0.030 ppm	–
	24-Hour	0.14 ppm	0.04 ppm
	1-Hour	0.075 ppm	0.25 ppm
PM_{10}	Annual	–	20 µg/m^3
	24-Hour	150 µg/m^3	50 µg/m^3
PM_{25}	Annual	12 µg/m^3	12 µg/m^3
	24-Hour	35 µg/m^3	–
Lead	30-Day Average	–	1.5 µg/m^3
	3-Month Average	0.15 µg/m^3	–

ppm = parts per million;
µg/m^3 = micrograms per cubic meter
Source: CARB, May 2016, Ambient Air Quality Standards
http://www.arb.ca.gov/research/aaqs/aaqs2.pdf

State Air Quality Regulations

CALIFORNIA AMBIENT AIR QUALITY STANDARDS

The California Clean Air Act (CCAA) was enacted in 1988 (California Health & Safety Code (H&SC) §39000 et seq.). While U.S. EPA is the federal agency designated to administer air quality regulation, the California Air Resources Board (CARB) is the state equivalent in the California EPA (CalEPA). Under the CCAA, the State has developed the California Ambient Air Quality Standards (CAAQS), which are generally more stringent than the NAAQS. Table 1 lists the current state standards for regulated pollutants. In addition to the federal criteria pollutants, the CAAQS also specify standards for visibility-reducing particles, sulfates, hydrogen sulfide, and vinyl chloride. Like the federal CAA, the CCAA classifies specific geographic areas as either “attainment” or “nonattainment” areas for each pollutant, based on the comparison of measured data within the CAAQS.

California is divided geographically into 15 air basins for managing the air resources of the state on a regional basis. Areas within each air basin are considered to share the same air masses and, therefore, are expected to have similar ambient air quality. If an air basin is not in either federal or state attainment for a criteria pollutant, the basin is classified as a nonattainment area for that pollutant. Under the CAA, once a nonattainment area has achieved the air quality standards for a criteria pollutant, it may be re-designated to an attainment area for that pollutant. To be re-designated, the area must meet air quality standards and have a 10-year plan for continuing to meet and maintain air quality standards, as well as satisfy other requirements of the federal CAA. Areas that have been re-designated to attainment are called maintenance areas.

The SDAB is designated a nonattainment area for the federal and State eight-hour ozone standards, State one-hour ozone standards, and for State PM_{10} and $PM_{2.5}$. The SDAB is designated unclassifiable or in attainment for all other federal and State standards (SDAPCD 2017).

TOXIC AIR CONTAMINANTS

A toxic air contaminant (TAC) is an air pollutant that may cause or contribute to an increase in mortality or serious illness or which may pose a present or potential hazard to human health. TACs may result in long-term health effects such as cancer, birth defects, neurological damage, asthma, or genetic damage, or short-term acute effects such as eye watering, respiratory irritation, runny nose, throat pain, and headaches. TACs are considered either carcinogenic or non-carcinogenic based on the nature of the health effects associated with exposure. For carcinogenic TACs, potential health impacts are evaluated in terms of overall relative risk expressed as excess cancer cases per one million exposed individuals. Non-carcinogenic 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.

TACs include both organic and inorganic chemical substances. One of the main sources of TACs in California is diesel engines that emit exhaust containing solid material known as diesel particulate matter (DPM); however, TACs may be emitted from a variety of common sources, including gasoline stations, motor vehicles, dry cleaners, industrial operations, painting operations, and research and teaching facilities. TACs commonly associated with gasoline dispensing stations include the organic compounds of benzene, toluene, and xylene. Benzene is a known human carcinogen and can result in short-term acute and long-term chronic health impacts (U.S. EPA n.d.).

In 1983, the California Legislature enacted a program to identify the health effects of TACs and to reduce exposure to these contaminants to protect the public health (Assembly Bill [AB] 1807: Health and Safety Code Sections 39650–39674). The Legislature established a two-step process to address the potential health effects from TACs. The first step is the risk assessment (or identification) phase. The second step is the risk management (or control) phase of the process.

The California Air Toxics Program establishes the process for the identification and control of TACs and includes provisions to make the public aware of significant toxic exposures and for reducing risk. Additionally, the Air Toxics "Hot Spots" Information and Assessment Act (AB 2588, 1987, Connelly Bill) was enacted in 1987 and requires stationary sources to report the types and quantities of certain substances routinely released into the air. The goals of the Air Toxics "Hot Spots" Act are to collect emission data, identify facilities having localized impacts, ascertain health risks, notify nearby residents of significant risks, and reduce those significant risks to acceptable levels. The Children's Environmental Health Protection Act, California Senate Bill 25 (Chapter 731, Escutia, Statutes of 1999), focuses on children's exposure to air pollutants. The act requires CARB to review its air quality standards from a children's health perspective, evaluate the statewide air quality monitoring network, and develop any additional air toxic control measures needed to protect children's health.

STATE IMPLEMENTATION PLAN

The federal CAA Amendments mandate that states submit and implement a State Implementation Plan (SIP) for areas not meeting air quality standards. The SIP includes pollution control measures to demonstrate how the standards will be met through those measures. The SIP is established by incorporating measures established during the preparation of air quality attainment plans and adopted rules and regulations by each local air district, which are submitted for approval to CARB

and the U.S. EPA. The goal of an air quality attainment plan is to reduce pollutant concentrations below the NAAQS through the implementation of air pollutant emissions controls.

The SIP relies on information from SANDAG to develop emission inventories and emission reduction strategies that are included in the attainment demonstration for the air basin. The SIP also includes rules and regulations that have been adopted by the SDAPCD to control emissions from stationary sources. These SIP-approved rules may be used as a guideline to determine whether a project's emissions would have the potential to conflict with the SIP and thereby hinder attainment of the NAAQS for ozone.

Local Air Quality Regulations

SAN DIEGO REGIONAL AIR QUALITY STRATEGY

The San Diego Air Pollution Control District (SDAPCD) is the designated air quality control agency for the SDAB. The SDAPCD developed the San Diego Regional Air Quality Strategy (RAQS) pursuant to California Clean Air Act (CCAA) requirements. The RAQS was initially adopted in 1991 and was updated in 1995, 1998, 2001, 2004, 2009, 2016, and 2020 (SDAPCD 2020). The RAQS identifies feasible emission control measures to provide progress in San Diego County toward attaining the State ozone standard. The pollutants addressed in the RAQS are volatile organic compounds (VOCs) and NO_X, precursors to the photochemical formation of ozone (the primary component of smog). The RAQS was initially adopted by the SDAPCD Board on June 30, 1992, and amended on March 2, 1993, in response to CARB comments. At present, no attainment plan for PM_{10} or $PM_{2.5}$ is required by the state regulations. However, SDAPCD has adopted measures to reduce PM_{10} and $PM_{2.5}$ in San Diego County. These measures range from regulation against open burning to incentive programs that introduce cleaner technology. These measures can be found in a report titled "Measures to Reduce Particulate Matter in San Diego County" (2005) found on the SDAPCD website (http://www.sdapcd.org).

The RAQS relies on information from CARB and San Diego Association of Governments (SANDAG), including mobile and area source emissions, as well as information regarding projected growth in the County, to project future emissions and then determine from that the strategies necessary for the reduction of emissions through regulatory controls.

CITY OF SAN MARCOS GENERAL PLAN

The San Marcos General Plan (2011) contains goals, policies, and recommendations that represent a shared vision for the future of the City. It establishes a framework for ensuring that changes to the built environment, whether public or private, aid in maintaining or improving specific communities while enhancing community qualities as a place for living, recreating, and working. The General Plan Conservation Open Space Element, Land Use and Community Design Element, and Mobility Element contain policies related to the City's sustainable land development goals. Policies specifically related to air quality are as follows:

COS-4.1: Continue to work with the U.S. EPA, CARB, SANDAG, and the SDAPCD to meet State and federal ambient air quality standards.

COS-4.2: Require new sensitive-use development, such as schools, day care centers and hospitals, located near mobile and stationary TACs be designed with consideration of site and building orientation, location of trees, and incorporation of appropriate technology (i.e., ventilation and filtration) for improved air quality to lessen any potential health risks.

COS-4.5: Encourage energy conservation and the use of alternative energy sources within the community.

LU – 2.1: Promote compact development patterns that reduce air pollution and automobile dependence and facilitate walking, bicycling, and transit use.

LU – 2.4: Encourage retrofits to existing buildings to promote energy efficiency and indoor air quality.

M – 3.1: Develop an integrated, multimodal circulation system that accommodates transit, bicycles, pedestrians, and vehicles; provides opportunities to reduce air pollution and GHG emissions; and reinforces the role of the street as a public space that unites the City.

Criteria Pollutants

Ozone

Ozone is produced by a photochemical reaction (triggered by sunlight) between nitrogen oxides (NO_X) and reactive organic gases[1] (ROG). NO_X are formed during the combustion of fuels, while ROG are formed during combustion and evaporation of organic solvents. Because ozone requires sunlight to form, it usually occurs in substantial concentrations between the months of April and October. Ozone is a pungent, colorless, toxic gas with direct health effects on humans including respiratory and eye irritation and possible changes in lung functions. Groups most sensitive to ozone include children, the elderly, people with respiratory disorders, and people who exercise strenuously outdoors.

Carbon Monoxide

CO is a local pollutant produced in the incomplete combustion of carbon-containing fuels, such as gasoline, natural gas, oil, coal, and wood. The primary source of CO, a colorless, odorless, poisonous gas, is automobile traffic. Therefore, elevated concentrations are usually found near areas of high traffic volumes. The health effects from CO are related to its affinity for hemoglobin in the blood. At high concentrations, CO reduces the amount of oxygen in the blood, causing heart difficulty in people with chronic diseases, reduced lung capacity, and impaired mental abilities.

Sulfur Dioxide

SO_2 is a combustion product, with the primary source being power plants and heavy industries that use coal or oil as fuel. SO_2 is also a product of diesel engine combustion. The health effects of SO_2 include lung disease and breathing problems for people with asthma. SO_2 in the atmosphere contributes to the formation of acid rain.

Nitrogen Dioxide

NO_2 is a byproduct of fuel combustion, with the primary sources being motor vehicles and industrial boilers and furnaces. The principal form of NO_2 produced by combustion is nitric oxide (NO), but NO reacts rapidly to form NO_2, creating the mixture of NO and NO_2 commonly called NO_X. NO_2 is an

[1] Organic compound precursors of ozone are routinely described by several variations of three terms: hydrocarbons (HC), organic gases (OG), and organic compounds (OC). These terms are often modified by adjectives such as total, reactive, or volatile, and result in various acronyms, such as TOG (total organic gases), ROG (reactive organic gases), ROC (reactive organic compounds), and VOC (volatile organic compounds). While most of these differ in some significant way from a chemical perspective, two groups are important from an air quality perspective: non-photochemically reactive in the lower atmosphere, or photochemically reactive in the lower atmosphere (ROG and VOC).

acute irritant. A relationship between NO_2 and chronic pulmonary fibrosis may exist, and an increase in bronchitis in young children at concentrations below 0.3 parts per million (ppm) may occur. NO_2 absorbs blue light, gives a reddish-brown cast to the atmosphere, and reduces visibility. It can also contribute to the formation of ozone/smog and acid rain.

Particulate Matter

Suspended atmospheric PM_{10} and $PM_{2.5}$ is comprised of finely divided solids and liquids such as dust, soot, aerosols, fumes, and mists. The characteristics, sources, and potential health effects associated with PM_{10} and $PM_{2.5}$ can be different. Major man-made sources of PM_{10} are agricultural operations, industrial processes, combustion of fossil fuels, construction, demolition operations, and entrainment of road dust into the atmosphere. Natural sources include windblown dust, wildfire smoke, and sea spray salt. The finer $PM_{2.5}$ particulates are generally associated with combustion processes as well as formation in the atmosphere as a secondary pollutant through chemical reactions. $PM_{2.5}$ is more likely to penetrate deeply into the lungs and poses a serious health threat to all groups, but particularly to the elderly, children, and those with respiratory problems. More than half of the $PM_{2.5}$ that is inhaled into the lungs remains there, which can cause permanent lung damage. These materials can damage health by interfering with the body's mechanisms for clearing the respiratory tract or by acting as carriers of an absorbed toxic substance.

Sensitive Receptors

The term "sensitive receptor" refers to a person in the population who is more susceptible to health effects due to exposure to an air contaminant than the population at large or to a land use that may reasonably be associated with such a person. Examples include residences, schools, playgrounds, childcare centers, churches, athletic facilities, retirement homes, and long-term health care facilities.

Sensitive receptors that may be affected by air quality impacts associated with project construction and operation include the Royal Oaks Senior Apartments senior care facility located approximately 200 feet to the east, single-family residences located approximately 500 feet to the east, beyond the Royal Oaks Senior Apartments, and single-family residences located approximately 400 feet to the southwest.

Current Air Quality

CARB operates a network of air quality monitoring stations throughout the SDAB. The purpose of the monitoring stations is to measure ambient concentrations of pollutants and determine whether ambient air quality meets the California and federal standards. The monitoring station located closest to the project site is the Camp Pendleton station, located approximately 14 miles northwest of the project site. Table 2 reports ambient air quality measurements and indicates the number of days that each standard has been exceeded at the Camp Pendleton station. The ambient air quality in the area exceeded the Federal 8-hour Ozone standard on multiple days in 2017. The area did not exceed other air quality standards in 2017.

Table 2 Ambient Air Quality at the Monitoring Station

Pollutant	2017[1]	2018	2019
8 Hour Ozone (ppm), 8-Hr Average	0.081	0.068	0.064
Number of days of State and Federal exceedances (>0.070 ppm)	5	0	0
Ozone (ppm), Worst Hour	0.094	0.084	0.075
Number of days of State exceedances (>0.09 ppm)	0	0	0
Number of days of Federal exceedances (>0.112 ppm)	0	0	0
Nitrogen Dioxide (ppm) - Worst Hour (Federal Measurements)[1]	0.063	0.048	0.053
Number of days of State exceedances (>0.18 ppm)	0	0	0
Number of days of Federal exceedances (0.10 ppm)	0	0	0
Particulate Matter 10 microns, μg/m^3, Worst 24 Hours	*	*	*
Number of days above Federal standard (>150 μg/m^3)	*	*	*
Particulate Matter <2.5 microns, μg/m^3, Worst 24 Hours	26.0	30.5	13.8
Number of days above Federal standard (>35 μg/m^3)	0	0	0

* No data available

Source: CARB, Top 4 Annual Air Quality Data Summaries available at https://www.arb.ca.gov/adam/topfour/topfourdisplay.php

2.2 Greenhouse Gas Emissions

Greenhouse Gas Overview

Gases that absorb and re-emit infrared radiation in the atmosphere are called GHGs. The gases that are widely seen as the principal contributors to human-induced climate change include carbon dioxide (CO_2), methane (CH_4), nitrous oxides (N_2O), fluorinated gases such as hydrofluorocarbons and perfluorocarbons and sulfur hexafluoride (SF_6). Water vapor is excluded from the list of GHGs because it is short-lived in the atmosphere, and its atmospheric concentrations are largely determined by natural processes, such as oceanic evaporation.

GHGs are emitted by both natural processes and human activities. Of these gases, CO_2 and CH_4 are emitted in the greatest quantities from human activities. Emissions of CO_2 are largely byproducts of fossil fuel combustion, whereas CH_4 largely results from off-gassing associated with agricultural practices and landfills.

Man-made GHGs, many of which have greater heat-absorption potential than CO_2, include fluorinated gases and SF_6 (U.S. EPA 2018). However, because the project is a non-industrial development, the quantity of fluorinated gases would not be significant since fluorinated gases are primarily associated with industrial processes; therefore, fluorinated gases are not analyzed further in this document.

Different types of GHGs have varying global warming potentials (GWPs). The GWP of a GHG is the potential of a gas or aerosol to trap heat in the atmosphere over a specified timescale (generally,

100 years). Because GHGs absorb different amounts of heat, a common reference gas (CO_2) is used to relate the amount of heat absorbed to the amount of the gas emissions, referred to as "carbon dioxide equivalent" (CO_2e), and is the amount of a GHG emitted multiplied by its GWP. CO_2 has a 100-year GWP of one. By contrast, CH_4 has a GWP of 25, meaning its global warming effect is 25 times greater than CO_2 on a molecule per molecule basis (Intergovernmental Panel on Climate Change [IPCC] 2007). N_2O has a GWP of 298 (IPCC 2007).

Greenhouse Gas Emissions Inventory

Global

Worldwide anthropogenic emissions of GHGs were approximately 46,000 million metric tons (MMT or gigatonnes) CO_2e in 2010 (IPCC 2014). CO_2 emissions from fossil fuel combustion and industrial processes contributed about 65 percent of total emissions in 2010. Of anthropogenic GHGs, CO_2 was the most abundant accounting for 76 percent of total 2010 emissions. CH_4 emissions accounted for 16 percent of the 2010 total, while N_2O and fluorinated gases accounted for 6 percent and 2 percent respectively (IPCC 2014).

Federal

Total U.S. GHG emissions were 6,511 million metric tons (MMT or gigatonnes) CO_2e in 2016 (U.S. EPA 2018). Total U.S. emissions have increased by 2.4 percent since 1990; emissions decreased by 1.9 percent from 2015 to 2016 (U.S. EPA 2018). The decrease from 2015 to 2016 was a result of multiple factors, including: (1) substitution from coal to natural gas and other non-fossil energy sources in the electric power sector and (2) warmer winter conditions in 2016 resulting in a decreased demand for heating fuel in the residential and commercial sectors (U.S. EPA 2018). Since 1990, U.S. emissions have increased at an average annual rate of 0.1 percent. In 2015, the industrial and transportation end-use sectors accounted for 29 percent each of GHG emissions (with electricity-related emissions distributed), respectively. Meanwhile, the residential and commercial end-use sectors accounted for 15 percent and 16 percent of CO_2e emissions, respectively (U.S. EPA 2018).

California

Based on CARB's California GHG Inventory for 2000-2018, California produced 425.3 MMT CO_2e in 2018 (CARB 2020a). The largest source of GHGs in California is transportation, which generates 40 percent of the state's total GHG emissions. The industrial sector is the second largest source, contributing 21 percent of the state's GHG emissions, and electric power accounted for approximately 15 percent (CARB 2018a). California emissions are due in part to its large size and large population compared to other states. However, per capita emissions in California are lower than all states except New York (U.S. Energy Information Administration 2019). A factor that reduces California's per capita fuel use and GHG emissions, as compared to other states, is its relatively mild climate.

Regional

The City of San Marcos' Climate Action Plan includes GHG inventories for the City. In 2012, GHG emissions were estimated at 599,000 MT CO_2e. Most of the emissions were from transportation related activities on local roads and state highways.

Potential Effects of Climate Change

Globally, climate change has the potential to affect numerous environmental resources through potential impacts related to future air temperatures and precipitation patterns. Scientific modeling predicts that continued GHG emissions at or above current rates would induce more extreme climate changes during the 21st century than were observed during the 20th century. Long-term trends have found that each of the past three decades has been warmer than all the previous decades in the instrumental record, and the decade from 2000 through 2010 has been the warmest. The observed global mean surface temperature for the decade from 2006 to 2015 was approximately 0.87°C (0.75°C to 0.99°C) higher than the global mean surface temperature over the period from 1850 to 1900. Furthermore, several independently analyzed data records of global and regional Land-Surface Air Temperature (LSAT) obtained from station observations agree that LSAT as well as sea surface temperatures have increased. Due to past and current activities, anthropogenic GHG emissions are increasing global mean surface temperature at a rate of 0.2°C per decade. In addition to these findings, there are identifiable signs that global warming is currently taking place, including substantial ice loss in the Arctic over the past two decades (IPCC 2014 and 2018).

According to *California's Fourth Climate Change Assessment*, statewide temperatures from 1986 to 2016 were approximately 1°F to 2°F higher than those recorded from 1901 to 1960. Potential impacts of climate change in California may include loss in water supply from snow pack, sea level rise, more extreme heat days per year, more large forest fires, and more drought years (State of California 2018a). While there is growing scientific consensus about the possible effects of climate change at a global and statewide level, current scientific modeling tools are unable to predict what local impacts may occur with a similar degree of accuracy. In addition to statewide projections, *California's Fourth Climate Change Assessment* includes regional projections (State of California 2018b). Projections under "intermediate" climate change scenario[2] indicate that the average maximum daily temperatures in the San Marcos area will increase from historic (1961-1990) average of 74.2°F to 79.8°F by 2099 (State of California 2018b). Below is a summary of some of the potential effects that could be experienced in California as a result of climate change.

Air Quality

Higher temperatures, which are conducive to air pollution formation, could worsen air quality in California. Climate change may increase the concentration of ground-level ozone, but the magnitude of the effect, and therefore its indirect effects, are uncertain. As temperatures have increased in recent years, the area burned by wildfires throughout the state has increased, and wildfires have been occurring at higher elevations in the Sierra Nevada Mountains (State of California 2018a). If higher temperatures continue to be accompanied by an increase in the incidence and extent of large wildfires, air quality would worsen. However, if higher temperatures are accompanied by wetter, rather than drier conditions, the rains would tend to temporarily clear the air of particulate pollution and reduce the incidence of large wildfires, thereby improving the pollution associated with wildfires. Additionally, severe heat accompanied by drier conditions and poor air quality could increase the number of heat-related deaths, illnesses, and asthma attacks throughout the state (California Natural Resources Agency 2009).

[2] The specific scenario referenced is the Representative Concentration Pathway (RCP) 4.5 scenario is considered a stabilization scenario in which under which societies attempt to reduce GHG emissions. Under this scenario global emissions peak around 2040 and then gradually decline.

Water Supply

Analysis of paleoclimatic data (such as tree-ring reconstructions of stream flow and precipitation) indicates a history of naturally and widely varying hydrologic conditions in California and the west, including a pattern of recurring and extended droughts. Uncertainty remains with respect to the overall impact of climate change on future precipitation trends and water supplies in California. This uncertainty regarding future precipitation trends complicates the analysis of future water demand, especially where the relationship between climate change and its potential effect on water demand is not well understood. However, the average early spring snowpack in the western United States, including the Sierra Nevada Mountains, decreased by about 10 percent during the last century. During the same period, sea level rose over 5.9 inches along the central and southern California coast (State of California 2018a). The Sierra snowpack provides most of California's water supply by accumulating snow during the state's wet winters and releasing it slowly during the state's dry springs and summers. A warmer climate is predicted to reduce the fraction of precipitation falling as snow and result in less snowfall at lower elevations, thereby reducing the total snowpack (California Department of Water Resources 2008; State of California 2018a). The State of California projects that average spring snowpack in the Sierra Nevada and other mountain catchments in central and northern California will decline by approximately 66 percent from its historical average by 2050 (State of California 2018a).

Hydrology and Sea Level Rise

Climate change has the potential to induce substantial sea level rise in the coming century (State of California 2018a). The rising sea level increases the likelihood and risk of flooding. The rate of increase of global mean sea levels over the 2001-2010 decade, as observed by satellites, ocean buoys and land gauges, was approximately 3.2 mm per year, which is double the observed 20th century trend of 1.6 mm per year (World Meteorological Organization [WMO] 2013). As a result, global mean sea levels averaged over the last decade were about 8 inches higher than those of 1880 (WMO 2013). Sea levels are rising faster now than in the previous two millennia and the rise is expected to accelerate, even with robust GHG emission control measures. The most recent IPCC report predicts a mean sea–level rise of 10 to 37 inches by 2100 (IPCC 2018). A rise in sea levels could completely erode 31 to 67 percent of southern California beaches, result in flooding of approximately 370 miles of coastal highways during 100-year storm events, jeopardize California's water supply due to salt water intrusion, and induce groundwater flooding and/or exposure of buried infrastructure (State of California 2018a). In addition, increased CO_2 emissions can cause oceans to acidify due to the carbonic acid it forms. Increased storm intensity and frequency could affect the ability of flood-control facilities, including levees, to handle storm events.

Agriculture

California has a $50 billion annual agricultural industry that produces over a third of the country's vegetables and two-thirds of the country's fruits and nuts (California Department of Food and Agriculture 2018). Higher CO_2 levels can stimulate plant production and increase plant water-use efficiency. However, if temperatures rise and drier conditions prevail, certain regions of agricultural production could experience water shortages of up to 16 percent; water demand could increase as hotter conditions lead to the loss of soil moisture; crop-yield could be threatened by water-induced stress and extreme heat waves; and plants may be susceptible to new and changing pest and disease outbreaks (State of California 2018a). In addition, temperature increases could change the time of year certain crops, such as wine grapes, bloom or ripen, and thereby affect their quality (California Climate Change Center 2006).

Ecosystems and Wildlife

Climate change, and the potential resulting changes in weather patterns, could have ecological effects on a global and local scale. Increasing concentrations of GHGs are likely to accelerate the rate of climate change. Scientists project that the annual average maximum daily temperatures in California could rise by 4.4 to 5.8°F in the next 50 years and by 5.6 to 8.8°F in the next century (State of California 2018a). Soil moisture is likely to decline in many regions, and intense rainstorms are likely to become more frequent. Rising temperatures could have four major impacts on plants and animals related to (1) timing of ecological events; (2) geographic distribution and range; (3) species' composition and the incidence of nonnative species within communities; and (4) ecosystem processes, such as carbon cycling and storage (Parmesan 2006; State of California 2018a). Increases in wildfire would further remove sensitive habitat; increased severity in droughts would potentially starve plants and animals of water; and sea level rise will affect sensitive coastal ecosystems.

Greenhouse Gas Regulations

Federal Regulations

The U.S. Supreme Court in *Massachusetts et al. v. Environmental Protection Agency et al*. ([2007] 549 U.S. 05-1120) held that the U.S. EPA has the authority to regulate motor-vehicle GHG emissions under the federal Clean Air Act. The U.S. EPA issued a Final Rule for mandatory reporting of GHG emissions in October 2009. This Final Rule applies to fossil fuel suppliers, industrial gas suppliers, direct GHG emitters, and manufacturers of heavy-duty and off-road vehicles and vehicle engines, and requires annual reporting of emissions. In 2012, the U.S. EPA issued a Final Rule that establishes the GHG permitting thresholds that determine when CAA permits under the New Source Review Prevention of Significant Deterioration (PSD) and Title V Operating Permit programs are required for new and existing industrial facilities.

In 2014, the U.S. Supreme Court in *Utility Air Regulatory Group v. EPA* (134 S. Ct. 2427 [2014]) held that U.S. EPA may not treat GHGs as an air pollutant for purposes of determining whether a source is a major source required to obtain a PSD or Title V permit. The Court also held that PSD permits that are otherwise required (based on emissions of other pollutants) may continue to require limitations on GHG emissions based on the application of Best Available Control Technology (BACT).

State Regulations

ASSEMBLY BILL 1493 - CALIFORNIA ADVANCED CLEAN CARS PROGRAM

AB 1493 (2002), California's Advanced Clean Cars program (referred to as "Pavley"), requires CARB to develop and adopt regulations to achieve "the maximum feasible and cost-effective reduction of GHG emissions from motor vehicles." On June 30, 2009, U.S. EPA granted the waiver of CAA preemption to California for its GHG emission standards for motor vehicles beginning with the 2009 model year. Pavley I regulates model years from 2009 to 2016 and Pavley II, which is now referred to as "LEV (Low Emission Vehicle) III GHG" regulates model years from 2017 to 2025. The Advanced Clean Cars program coordinates the goals of the Low Emissions Vehicles (LEV), Zero Emissions Vehicles (ZEV), and Clean Fuels Outlet programs, and should provide major reductions in GHG emissions. By 2025, when the rules will be fully implemented, new automobiles will emit 34 percent fewer GHGs and 75 percent fewer smog-forming emissions from their model year 2016 levels (CARB 2011).

ASSEMBLY BILL 32 - CALIFORNIA GLOBAL WARMING SOLUTIONS ACT OF 2006

California's major initiative for reducing GHG emissions is outlined in AB 32, the "California Global Warming Solutions Act of 2006," which was signed into law in 2006. AB 32 codifies the statewide goal of reducing GHG emissions to 1990 levels by 2020 and required CARB to prepare a Scoping Plan that outlines the main State strategies for reducing GHGs to meet the 2020 deadline. In addition, AB 32 required CARB to adopt regulations to require reporting and verification of statewide GHG emissions. Based on this guidance, CARB approved a 1990 statewide GHG level and 2020 limit of 427 MMT CO_2e. The Scoping Plan was approved by CARB on December 11, 2008 and included measures to address GHG emission reduction strategies related to energy efficiency, water use, and recycling and solid waste, among other measures. Many of the GHG reduction measures included in the Scoping Plan (e.g., Low Carbon Fuel Standard, Advanced Clean Car standards, and Cap-and-Trade) have been adopted since approval of the Scoping Plan.

In May 2014, CARB approved the first update to the AB 32 Scoping Plan. The 2013 Scoping Plan Update defined CARB's climate change priorities for the next five years and set the groundwork to reach post-2020 statewide goals. The update highlighted California's progress toward meeting the "near-term" 2020 GHG emission reduction goals defined in the original Scoping Plan. It also evaluated how to align the State's longer-term GHG reduction strategies with other State policy priorities, including those for water, waste, natural resources, clean energy, transportation, and land use (CARB 2018c).

Senate Bill (SB) 32, signed into law on September 8, 2016, extended AB 32 by requiring the State to further reduce GHGs to 40 percent below 1990 levels by 2030 (the other provisions of AB 32 remained unchanged). On December 14, 2017, CARB adopted the 2017 Scoping Plan, which provides a framework for achieving the 2030 target. The 2017 Scoping Plan relies on the continuation and expansion of existing policies and regulations, such as the Cap-and-Trade Program, as well as implementation of recently adopted policies and policies, such as SB 350 and SB 1383 (see below). The 2017 Scoping Plan also puts an increased emphasis on innovation, adoption of existing technology, and strategic investment to support its strategies. As with the 2013 Scoping Plan Update, the 2017 Scoping Plan does not provide project-level thresholds for land use development. Instead, it recommends that local governments adopt policies and locally-appropriate quantitative thresholds consistent with statewide per capita goals of no more than 6 metric tons (MT) CO_2e by 2030 and 2 MT CO_2e by 2050 (CARB 2017).

SENATE BILL 97 - CEQA: GREENHOUSE GAS EMISSIONS

SB 97, signed in August 2007, acknowledges that climate change is an environmental issue that requires analysis in CEQA documents. In March 2010, the California Natural Resources Agency (Resources Agency) adopted amendments to the State CEQA Guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions. The adopted guidelines give lead agencies the discretion to set quantitative or qualitative thresholds for the assessment and mitigation of GHG and climate change impacts.

SENATE BILL 375 - 2008 SUSTAINABLE COMMUNITIES AND CLIMATE PROTECTION ACT

SB 375, signed in August 2008, enhances the state's ability to reach AB 32 goals by directing CARB to develop regional GHG emission reduction targets to be achieved from passenger vehicles by 2020 and 2035. In addition, SB 375 directs each of the state's 18 major Metropolitan Planning Organizations (MPOs) to prepare a "sustainable communities strategy" (SCS) that contains a growth strategy to meet these emission targets for inclusion in the Regional Transportation Plan (RTP). On

March 22, 2018, CARB adopted updated regional targets for reducing GHG emissions from 2005 levels by 2020 and 2035. SCAG was assigned targets of an 8 percent reduction in GHGs from transportation sources by 2020 and a 19 percent reduction in GHGs from transportation sources by 2035. In the SCAG region, SB 375 also provides the option for the coordinated development of sub regional plans by the sub regional councils of governments and the county transportation commissions to meet SB 375 requirements.

SENATE BILL 1383 - SHORT-LIVED CLIMATE POLLUTANTS

Adopted in September 2016, SB 1383 requires CARB to approve and begin implementing a comprehensive strategy to reduce emissions of short-lived climate pollutants. The bill requires the California Department of Resources Recycling and Recovery (CalRecycle), in consultation with CARB, to adopt regulations that achieve:

- 50 percent reduction in the level of the statewide disposal of organic waste from the 2014 level by 2020; and,
- 75 percent reduction in the level of the statewide disposal of organic waste from the 2014 level by 2025.

The bill also mandates various state and local agencies develop of further strategies to reduce emissions generated by specific industries such as agriculture. The stated goal is to achieve the following reduction targets by 2030:

- Methane – 40 percent below 2013 levels
- Hydrofluorocarbons – 40 percent below 2013 levels
- Anthropogenic black carbon – 50 percent below 2013 levels

SENATE BILL 100 - CALIFORNIA RENEWABLES PORTFOLIO STANDARD PROGRAM

Adopted on September 10, 2018, SB 100 supports the reduction of GHG emissions from the electricity sector by accelerating the state's Renewables Portfolio Standard Program, which was last updated by SB 350 in 2015. SB 100 requires electricity providers to increase procurement from eligible renewable energy resources to 33 percent of total retail sales by 2020, 60 percent by 2030, and 100 percent by 2045.

EXECUTIVE ORDER B-55-18 TO ACHIEVE CARBON NEUTRALITY

On September 10, 2018, Governor Brown issued Executive Order B-55-18, which established a new statewide goal of achieving carbon neutrality by 2045 and maintaining net negative emissions thereafter. This goal is in addition to the existing statewide GHG reduction targets established by SB 375, SB 32, SB 1383, and SB 100.

ASSEMBLY BILL 341 - CALIFORNIA INTEGRATED WASTE MANAGEMENT ACT

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

ASSEMBLY BILL 2230 - RECYCLED WATER: CAR WASHES

AB 2230, passed in 2012, required all car washes constructed after January 1, 2014, to install a water recycling system that recycles and reuses at least 60 percent of the wash and rinse water, or to use recycled water provided by a water supplier for at least 60 percent of its wash and rinse water.

California Building Standards Code

CALIFORNIA CODE OF REGULATIONS, TITLE 24 – CALIFORNIA BUILDING CODE

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

PART 6 – BUILDING ENERGY EFFICIENCY STANDARDS

The CCR, Title 24, Part 6 is the Building Energy Efficiency Standards. This code, originally enacted in 1978, establishes energy-efficiency standards for residential and non-residential buildings in order to reduce California's energy demand. The Building Energy Efficiency Standards is updated periodically to incorporate and consider new energy-efficiency technologies and methodologies as they become available. New construction and major renovations must demonstrate their compliance with the current Building Energy Efficiency Standards through submission and approval of a Title 24 Compliance Report to the local building permit review authority and the California Energy Commission (CEC).

The 2019 standards will be in effect beginning on January 1, 2020, and therefore would be applicable to the project. The 2019 standards focus on four key areas: 1) smart residential photovoltaic systems; 2) updated thermal envelope standards (preventing heat transfer from the interior to exterior and vice versa); 3) residential and nonresidential ventilation requirements; 4) and nonresidential lighting requirements (CEC 2018a). Under the 2019 standards, nonresidential buildings will be 30 percent more energy efficient compared to the 2016 standards, and single-family homes will be 7 percent more energy efficient (CEC 2018b). When accounting for the electricity generated by the solar photovoltaic system, single-family homes would use 53 percent less energy compared to homes built to the 2016 standards (CEC 2018b).

PART 11 – CALIFORNIA GREEN BUILDING STANDARDS

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

The mandatory standards require:

- 20 percent reduction in indoor water use relative to specified baseline levels;

- 65 percent construction/demolition waste diverted from landfills;
- Inspections of energy systems to ensure optimal working efficiency;
- Low-pollutant emitting exterior and interior finish materials such as paints, carpets, vinyl flooring, and particleboards;
- Dedicated circuitry to facilitate installation of EV charging stations in newly constructed attached garages for single-family and duplex dwellings; and
- Installation of EV charging stations at least five percent of the parking spaces for new multi-family and non-residential developments.

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

Regional and Local Regulations

SAN DIEGO COUNTY GREENHOUSE GAS INVENTORY

The University of San Diego, School of Law's Energy Policy Initiative Center prepared a regional GHG inventory (EPIC 2013) for San Diego County. This San Diego County GHG Inventory considered the unique characteristics of the region in calculating emissions. The study found that emissions of GHGs must be reduced by 33 percent below business as usual (BAU) for San Diego County to achieve 1990 emission levels by 2020.

SAN DIEGO FORWARD: THE REGIONAL PLAN

SANDAG adopted *San Diego Forward: The Regional Plan* in 2015, which combines the Regional Comprehensive Plan (RCP) from 2004 with the 2050 RTP/SCS (Regional Plan). The Regional Plan serves as the blueprint for growth in the San Diego region and SANDAG's planned investments in transportation infrastructure to provide more choices, strengthen the economy, promote a healthy environment, and support thriving communities. The Regional Plan sets forth six general objectives: Habitat and Open Space Preservation, Regional Economic Prosperity, Environmental Stewardship, Providing Mobility Choices, Partnerships/Collaboration with neighboring entities, and creating Healthy and Complete Communities.

The Regional Plan charts a course towards lowering GHG emissions and includes the following five building blocks:

1. A land use pattern that accommodates our region's future employment and housing needs, and protects sensitive habitats, cultural resources, and resource areas
2. A transportation network of public transit, managed lanes and highways, local streets, bikeways, and walkways built and maintained with reasonably expected funding
3. Managing demands on our transportation system (also known as Transportation Demand Management, or TDM) in ways that reduce or eliminate traffic congestion during peak periods of demand

4. Managing our transportation system (also known as Transportation System Management, or TSM) through measures that maximize the overall efficiency of the transportation network
5. Innovative pricing policies and other measures designed to reduce the number of miles people travel in their vehicles, as well as traffic congestion during peak periods of demand

CITY OF SAN MARCOS GENERAL PLAN

The City's General Plan Mobility Element includes smart growth and land use planning principles designed to reduce vehicle miles traveled (VMT), which would result in a reduction in GHG emissions (San Marcos 2013). Policies relevant to the project intended to encourage multimodal circulation, which subsequently contribute to GHG emission reductions, are as follows:

Policy M-1.3: Require new developments to prepare and implement Transportation Demand Management (TDM) programs to minimize vehicle trip generation and promote alternative modes of travel within the City.

Policy M-3.1: Develop an integrated, multimodal circulation system that accommodates transit, bicycles, pedestrians, and vehicles; provides opportunities to reduce air pollution and GHG emissions; and reinforces the role of the street as a public space that unites the City.

The City's General Plan Conservation Open Space Element also contains policies relevant to the project in addressing GHG reductions, which are provided below (San Marcos 2013).

Policy COS-4.5: Encourage energy conservation and the use of alternative energy sources within the community.

Policy COS-4.9: Encourage use and retrofitting of existing buildings under Title 24 of the California Building Energy Code.

CITY OF SAN MARCOS CLIMATE ACTION PLAN

The City of San Marcos adopted its original Climate Action Plan (CAP) in September 2013 and adopted an updated CAP in December 2020. The City's updated CAP establishes GHG emissions targets for years 2020 and 2030, consistent with statewide goals identified in AB 32, Executive Order S-03-05, and SB 32 and contains comprehensive implementation actions related to transportation, land, energy, and water uses, as well as managing wastewater and solid waste generation.

The City's CAP includes three methods to evaluate the GHG impacts associate with proposed development projects in the City. The first method is to screen out projects that would be too small to make a considerable contribution to the cumulative impact of climate change and would not need to provide additional analysis to demonstrate consistency with the CAP. The City developed a list of project screening thresholds for various project types that would be anticipated to emit less than 500 MT CO_2e per year. The second method is to evaluate whether a project would incorporate applicable GHG reduction measures from the CAP. The City prepared a CAP Consistency Checklist to simplify this review; where a project complies with the checklist, no further analysis is required. The third method is intended to accommodate projects that cannot use the Checklist due to unique land uses or circumstances but are otherwise consistent with CAP projections. These projects may incorporate project-specific GHG reduction measures and demonstrate consistency with the CAP through comparison to a numerical threshold of 2.1 MT CO_2e per service population per year, where service population is defined as the sum of the number or residents and jobs generated by the project.

3 Impact Analysis

3.1 Methodology

Criteria pollutant and GHG emissions for project construction and operation were calculated using the California Emissions Estimator Model (CalEEMod), Version 2016.3.2. CalEEMod is a statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant and GHG emissions associated with both construction and operations from a variety of land use projects. The model was developed for the California Air Pollution Control Officers Association (CAPCOA) in collaboration with the California air districts. CalEEMod allows for the use of default data (e.g., emission factors, trip lengths, meteorology, source inventory) provided by the various California air districts to account for local requirements and conditions, and/or user-defined inputs. The model is used to estimate criteria pollutant and GHGs emissions. The calculation methodology and input data used in CalEEMod can be found in the CalEEMod User's Guide Appendices A, D, and E (CAPCOA 2017). The input data and subsequent construction and operation emission estimates for the proposed project are discussed below. CalEEMod output files for the project are included in Appendix A to this report.

Construction Emissions

Project construction would primarily generate temporary criteria pollutant and GHG emissions from construction equipment operation on-site, construction worker vehicle trips to and from the site, and from export of materials off-site. Construction input data for CalEEMod include, but are not limited to: (1) the anticipated start and finish dates of construction activity; (2) inventories of construction equipment to be used; (3) areas to be excavated and graded; and (4) volumes of materials to be exported from and imported to the project site. The analysis assessed maximum daily emissions from individual construction activities, including demolition, site preparation, grading, building construction, paving, and architectural coating. Construction would require heavy equipment during demolition, site preparation, grading, building construction, and paving. Construction equipment estimates are based on surveys of construction projects within California conducted by members of CAPCOA.

Construction emissions were modeled in CalEEMod to begin in July 2021 and be completed in December 2021, consistent with the construction schedule provided by the applicant. Construction emissions associated with development of the proposed project were quantified by estimating the types and quantity of equipment that would be used on site during each of the construction phases, as provided by the time frame and equipment lists provided by the applicant. As indicated by the project grading plan, the project would necessitate the net import of approximately 12,106 cubic yards of fill soil. To reflect project grading, the duration of the grading phase was increased to one month and the number of associated heavy truck trips was increased.

The quantity, duration, and the intensity of construction activity influences the amount of construction emissions and their related pollutant concentrations that occur at any one time. The emission forecasts modeled for this report reflect conservative assumptions where a relatively large amount of construction is occurring in a relatively intensive manner. If construction is delayed or occurs over a longer period, emissions could be reduced because of (1) a more modern and cleaner-

burning construction equipment fleet mix than assumed in the CalEEMod, and/or (2) a less intensive buildout schedule (i.e., fewer daily emissions occurring over a longer time interval).

Consistent with the industry standard, total construction GHG emissions resulting from a project were amortized over 30 years and added to operational GHG emissions to account for their contribution to GHG emissions over the lifetime of the project.

Operational Emissions

In CalEEMod, operational sources of criteria pollutant emissions include area, energy, and mobile sources; GHG emissions include water and solid waste sources in addition to area, energy, and mobile sources. The project's car wash was attributed to the "Automobile Care Center" land use subtype; the convenience store and gas pumps were combined together under the "Convenience Market with Gas Pumps" land use subtype.

Energy Sources

The project would not use natural gas. Emissions from energy use include electricity demand. Electricity emissions only apply to GHG emissions (as the energy is generated off-site and therefore may not be relevant for local and regional air quality conditions) and are calculated by multiplying the energy use times the carbon intensity of the utility district per kilowatt hour (CAPCOA 2017). The default electricity consumption values in CalEEMod include the CEC-sponsored California Commercial End Use Survey (CEUS) and Residential Appliance Saturation Survey (RASS) studies. CalEEMod currently incorporates California's 2016 Title 24 building energy efficiency standards. Electricity use was increased to account for the additional electric water and space heating.

Electricity emissions are calculated by multiplying the energy use times the carbon intensity of the utility district per kilowatt hour (CAPCOA 2017). The project would be served by San Diego Gas & Electric (SDGE). Therefore, SDGE's specific energy intensity factors (i.e., the amount of CO_2, CH_4, and N_2O per kilowatt-hour) are used in the calculations of GHG emissions. The energy intensity factors included in CalEEMod are based on 2009 data by default at which time SDGE had only achieved a 10.2 percent procurement of renewable energy (California Public Utilities Commission [CPUC] 2011). Per SB 100, the statewide Renewable Portfolio Standard (RPS) Program requires electricity providers to increase procurement from eligible renewable energy sources to 60 percent by 2030. To account for the continuing effects of the RPS, the energy intensity factors included in CalEEMod were reduced to reflect 60 percent renewable energy procurement in 2030. SDGE energy intensity factors that include this reduction are shown in Table 3.

Table 3 SDGE Energy Intensity Factors

	2007 (lbs./MWh)	2030 (lbs./MWh)
Percent procurement	10.2%[1]	60%[2]
Carbon dioxide (CO_2)	720.49	320.93
Methane (CH_4)	0.029	0.013
Nitrous oxide (N_2O)	0.00617	0.003

lbs./MWh = pounds per megawatt-hour

[1] Source: CPUC 2011.

[2] RPS goal established by SB 100

Data from professional car wash industry surveys and reports were used to estimate the energy requirements for the proposed car wash. Based on a 2015 industry survey, an average of approximately 80,000 vehicles per year are washed at exterior-only automated conveyor car washes (Professional Car Washing 2017). The energy requirements for the car wash were estimated using car wash industry survey cost averages of $0.50 per vehicle for electricity (Professional Car Washing 2014).

The cost of $0.50 for electricity was converted to 4.69 kilowatt hours (kwh) per vehicle for electricity based on an average cost of $0.1066 per kwh for commercial customers in the U.S. in 2017 (U.S. Energy Information Administration [USEIA] 2018) for a total annual electricity use of 375,200 kWh per year.

PHOTOVOLTAIC SYSTEM

The project would include solar panels on the rooftop of the car wash with a rated capacity of approximately 45 kW. The regional annual solar generation potential for San Diego County is 1,704 kilowatt-hours (kWh) generated per kW installed (CAPCOA 2010). Therefore, the project's photovoltaic system would be anticipated to generate approximately 76,680 kWh per year. Energy use estimates were modified to reflect project solar photovoltaic generation.

Area Sources

Emissions associated with area sources, including consumer products, landscape maintenance, and architectural coating were calculated in CalEEMod and utilize standard emission rates from CARB, U.S. EPA, and emission factor values provided by the local air district (CAPCOA 2017).

Waste Sources

GHG emissions from waste generation were also calculated in CalEEMod and are based on the IPCC's methods for quantifying GHG emissions from solid waste using the degradable organic content of waste (CAPCOA 2017). Waste disposal rates by land use and overall composition of municipal solid waste in California was primarily based on data provided by the California Department of Resources Recycling and Recovery (CalRecycle).

Water and Wastewater Sources

GHG emissions from water and wastewater usage calculated in CalEEMod were based on the default electricity intensity from the CEC's 2006 Refining Estimates of Water-Related Energy Use in California using the average values for northern and southern California.

Data from professional car wash industry surveys and reports were used to estimate the water requirements for the proposed car wash. The annual number of vehicles washed for the project was estimated based on a 2015 industry survey which reported an average of approximately 80,000 vehicles per year for exterior-only automated conveyor car washes (Professional Car Washing 2017). According to a report on water conservation from the International Carwash Association, typical freshwater use for a friction type of conveyor car wash without water reclamation is 65.8 gallons per vehicle (International Carwash Association 2000). AB 2230, signed by the Governor in 2012, requires that any conveyor car wash installed after 2013 reuse a minimum of 60 percent of the water previously used in the wash or rinse cycles. Therefore, the proposed car wash would reclaim at least 39.5 gallons per vehicle for a total water use of 26.3 gallon per vehicle. Based on 80,000 vehicles washed per year, the estimated water use for the proposed car wash would be 2,104,000 gallons per year.

Mobile Sources

Mobile source emissions were estimated using standard vehicle trip generation rates and emission factors derived using CARB's motor vehicle emission inventory program, EMFAC2014, included in CalEEMod (CARB 2016). CalEEMod does not include a vehicle trip generation rate for car washes; trip generation for the project was estimated based on rates from SANDAG's (Not so) Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region, which indicates that a convenience store with fuel pumps and a car wash typical generates 155 vehicle trips per fueling space per day (16 spaces equates to 2,480 total trips per day) (SANDAG 2002). An average regional trip length of 5.7 miles for urban areas was used to determine vehicle miles traveled (VMT) based on SANDAG regional data (SANDAG 2011). Mobile emissions are estimated by multiplying the project trip rate, average trip length, and the vehicle emission factors.

NITROUS OXIDE EMISSIONS

Because CalEEMod does not calculate N_2O emissions from mobile sources, N_2O emissions were quantified using guidance from CARB and the EMFAC2017 Emissions Inventory for the San Diego County region (CARB 2020b; see Appendix A for calculations).

3.2 Significance Thresholds

Air Quality

To determine whether a project would result in a significant impact to air quality, Appendix G of the *CEQA Guidelines* requires consideration of whether a project would:

a) Conflict with or obstruct implementation of the applicable air quality plan;
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard;
c) Expose sensitive receptors to substantial pollutant concentrations; or

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

Air Quality Plan Conformity – Criterion a

The SDAPCD is required, pursuant to the federal Clean Air Act, to reduce emissions of criteria pollutants for which the SDAB is in nonattainment. Strategies to achieve these emissions reductions are developed in the RAQS, prepared by the SDAPCD for the region. Forecasts used in the RAQS are developed by SANDAG. SANDAG forecasts are based on local general plans and other related documents that are used to develop population, employment, and traffic projections. Consistency with the RAQS is determined by analyzing a project with the assumptions in the RAQS. As such, projects that propose development that is consistent with the growth anticipated by the local land use plan would be consistent with the SANDAG's growth projections and the RAQS emissions estimates. If a project would propose development that is less dense than anticipated by the growth projections, the project would likewise be consistent with the RAQS. In the event a project proposes development that is greater than anticipated in the growth projections, further analysis would be warranted to determine if the project would exceed the growth projections used in the RAQS for the specific subregional area.

Air Quality Criteria Pollutant Significance Thresholds – Criterion b

The SDAPCD has adopted numerical air quality impact analysis trigger levels to determine whether an air pollution source could contribute individually or cumulatively to the worsening local or regional air quality. These trigger levels are also used by planning agencies and local jurisdictions as screening level thresholds for comparative purposes when evaluating projects under CEQA. Thus, a project that does not exceed these SDAPCD screening level thresholds would have a less than significant impact in regard to air quality significance criterion b. The screening level thresholds for temporary construction and long-term operational emissions in the SDAB are shown in Table 4.

Table 4 SDAPCD Screening Level Thresholds

Pollutant	Total Emissions Lbs. per Day
ROG/VOCs	250
NO_x	250
CO	550
SO_x	250
PM_{10}	100
$PM_{2.5}$	67

Source: SDAPCD Rule 20.2.

Air Contaminants – Criterion c

The SDAPCD does not have a specified threshold for health risk impacts from TACs. Rule 1200 for the SDAPCD is related to review of new sources for TACs. The rule states that new sources with a maximum incremental cancer risk greater than 10 in one million shall conduct the following to obtain an Authority to Construct or Permit to Operate: implementation of Toxics Best Available Control Technology (T-BACT) and a report in support of approving an Authority to Construct the

project, which includes methods to reduce cancer risk. As the maximum incremental cancer risk greater than 10 in one million is used by SDAPCD to determine projects that must meet a high standard for Authority to Construct, that limit is used for the determination of impacts in this analysis.

Other Emissions – Criterion d

A potential odor impact would occur if the project would include development of sensitive receptors such as residential uses in the vicinity of existing odor sources or if the project would generate include odor sources that may affect a substantial number of persons.

Greenhouse Gas Emissions

Based on Appendix G of the State CEQA Guidelines, impacts related to GHG emissions from the project would be significant if the project would:

a) Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment; or
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing GHG emissions.

Greenhouse Gas Emissions Significance Thresholds

Most individual projects do not generate sufficient GHG emissions to directly influence climate change. However, physical changes caused by a project can contribute incrementally to cumulative effects that are significant, even if individual changes resulting from a project are limited. The issue of climate change typically involves an analysis of whether a project's contribution towards an impact would be cumulatively considerable. "Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, other current projects, and probable future projects (CEQA Guidelines, Section 15064[h][1]).

According to the CEQA Guidelines, projects can tier off a qualified GHG reduction plan, which allows for project-level evaluation of GHG emissions through the comparison of the project's consistency with the GHG reduction policies included in a qualified GHG reduction plan. This approach is considered by the Association of Environmental Professionals (AEP) in their white paper, Beyond Newhall and 2020, to be the most defensible approach presently available under CEQA to determine the significance of a project's GHG emissions impact on the environment (2016). The CEQA Guidelines define the requirements necessary to qualify as a comprehensive plan for the reduction of GHG emissions (CEQA Guidelines, Section 15183.5):

1. Quantify existing and projected GHG emissions within the plan area
2. Establish a reduction target based on substantial evidence, where GHG emission are not cumulatively considerable)
3. Identify and analyze sector specific GHG emissions from Plan activities
4. Specify policies and actions (measures) that local jurisdictions will enact and implement over time to achieve the specified reduction target
5. Establish a tool to monitor progress and amend if necessary
6. Adopt in a public process following environmental review

A key aspect of a qualified GHG reduction plan is substantial evidence that the identified reduction target establishes a threshold where GHG emissions are not cumulatively considerable. The AEP Beyond Newhall White Paper identifies this criterion as being a local target that aligns with the statewide legislative targets.

The updated San Marcos CAP, with a 2030 target that is consistent with SB 32, is a qualified GHG reduction plan consistent with the requirements of CEQA Guidelines Section 15183.5. As such, this project-level analysis assesses compliance with the CAP through completion of the CAP Consistency Checklist. Although quantification of project GHG emissions is not necessary for determining impacts, an estimate of the GHG emissions in the year 2030 (parallel to CAP reduction goals) is provided for informational purposes.

3.3 Impact Analysis

Air Quality

Air Quality Criterion a
Conflict with or obstruct implementation of the applicable air quality plan *(Less Than Significant)*.

The project site is zoned Commercial (C) and the General Plan land use designation for the project site is Commercial (C). The project proposes development of a convenience store with fuel pumps and an automated car wash. As the project would include development that is consistent with the land use designation, the project would not generate population and employment growth beyond the levels assumed for the region and would, therefore, not conflict with or obstruct implementation of the RAQS. Impacts to the San Diego RAQS would be less than significant.

Air Quality Criterion b
Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard *(Less Than Significant)*.

Construction

Table 5 summarizes maximum daily and annual emissions of pollutants throughout the construction period of the project. Detailed modeling results are provided in Appendix A. Emissions would not exceed SDAPCD screening level thresholds during project construction. Therefore, project construction would not result in a cumulatively considerable net increase of a criteria pollutant, and impacts would be less than significant.

Table 5 Construction Criteria Pollutant Emissions

	Maximum Daily Emissions (lbs/day)					
Construction Year	**ROC**	**NO_x**	**CO**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**
Construction Year 2021	32	40	17	<1	9	5
SDAPCD Regional Thresholds	250	250	550	250	100	67
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

See Appendix A for modeling results.

Operational

Table 6 summarizes emissions associated with operation of the project. Most operational emissions generated would be due to mobile emissions from vehicle trips to and from the project site. As shown in Table 6, emissions generated during the operation of project would not exceed SDAPCD screening level thresholds. Therefore, the project would not result in a cumulatively considerable net increase of a criteria pollutant, and impacts would be less than significant.

Table 6 Operational Criteria Pollutant Emissions

	Maximum Daily Emissions (lbs/day)					
Emissions Source	**ROC**	**NO_x**	**CO**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**
Area	<1	<1	<1	<1	<1	<1
Energy	<1	<1	<1	<1	<1	<1
Mobile	3	9	19	<1	3	1
Project Emissions	3	9	19	<1	3	1
SDAPCD Regional Thresholds	250	250	550	250	100	67
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

Notes: See Appendix A for modeling results. Some numbers may not add up due to independent rounding.

Air Quality Criterion c
Expose sensitive receptors to substantial pollutant concentrations *(Less Than Significant)*.

Toxic Air Contaminants

CONSTRUCTION

Construction-related activities would result in short-term, project-generated emissions of diesel particulate matter (DPM) exhaust emissions from off-road, heavy-duty diesel equipment for site preparation grading, building construction, and other construction activities. DPM was identified as a TAC by CARB in 1998. The potential cancer risk from the inhalation of DPM (discussed in the following paragraphs) outweighs the potential non-cancer health impacts (CARB 2020c). At this time, SDAPCD has not adopted a methodology for analyzing such impacts.

Generation of DPM from construction projects typically occurs in a single area for a short period. Construction of the proposed project would occur over approximately six months. The dose to which the receptors are exposed is the primary factor used to determine health risk. Dose is a function of the concentration of a substance or substances in the environment and the extent of exposure that person has with the substance. Dose is positively correlated with time, meaning that a longer exposure period would result in a higher exposure level for the Maximally Exposed Individual. The risks estimated for a Maximally Exposed Individual are higher if a fixed exposure occurs over a longer period. According to the Office of Environmental Health Hazard Assessment (OEHHA), health risk assessments, which determine the exposure of sensitive receptors to toxic emissions, should be based on a 30-year exposure period (assumed to be the approximate time that a person spends in a household). OEHHA recommends this risk be bracketed with 9-year and 70-year exposure periods. Health risk assessments should be limited to the period/duration of activities associated with the project.

The maximum $PM_{2.5}$ emissions, which is used to represent DPM emissions for this analysis, would occur during site preparation and grading activities. While site preparation and grading emissions represent the worst-case condition, such activities would only occur for about a month, less than one percent of the typical health risk calculation periods of 9 years, 30 years, and 70 years. $PM_{2.5}$ emissions would decrease for the remaining construction period because construction activities such as building construction and paving would require less construction equipment. Therefore, DPM generated by project construction is not expected to create conditions where the probability that the Maximally Exposed Individual would contract cancer is greater than 10 in one million. This impact would be less than significant.

OPERATION

The automotive fueling station would require Authority to Construct and Permit to Operate approval from the SDAPCD, which would review the facility design and location for compliance with applicable air quality standards. All tanks and dispensers would be equipped with the latest Phase I and Phase II Enhanced Vapor Recovery (EVR) air pollution control equipment technology per CARB regulations and associated Executive Orders. The Phase I EVR equipment controls the vapors in the return path from the on-site fuel storage tanks back to the tanker truck during offloading filling operations. Phase I EVR systems are 98 percent effective in controlling fugitive emissions from escaping into the environment. The Phase II EVR equipment, which also includes “in-station diagnostics,” controls and monitors the vapors in the return path from the fuel dispensers back to the on-site fuel storage tanks. Phase II EVR systems are 95 percent effective in controlling fugitive emissions from escaping into the environment.

Applicant provided information indicates that the annual fuel throughput of the proposed gasoline station service will be approximately 2.7 million gallons (MG) a year, includes Phase I and Phase II vapor recovery systems, and will be located in an urban area approximately 200 feet from the nearest sensitive receptor, a senior living facility. Emissions were modeled under urban conditions. Based on 200 feet to the nearest receptor, the default cancer risk is 1.53 per one million for a station with an annual throughput of 1 MG. As such, the estimated cancer risk for the station with a 2.7 MG annual throughput is estimated to be 4.13 per one million (2.7 MG/1 MG * 1.53 = 4.13 cancer risk). The cancer risk estimate is conservative as the nearest residents and sensitive receptors are a senior living facility, which means receptors at that location will be exposed to emissions from the gasoline station for less than 70 years and the cancer risk will be further reduced. The screening risk assessment does not indicate that the gasoline station would cause a risk of concern nor does it exceed the threshold of 10 in a million.

In addition, the proposed gasoline station meets the CAPCOA land-use guidelines such that the nearest sensitive receptors are located greater than the recommended 50-foot separation between residences and typical gas dispensing facilities. CARB defines "large gasoline dispensing facilities" as those with 3.6 MG per year or greater of throughput; therefore, the proposed gas station with a 2.7 MG throughput annually would not meet the CARB definition for a large facility and is considered to be "typical" (CARB 2005).

Furthermore, gas station permit applications with the SDAPCD fall under a general HRA that is in place with the SDAPCD and a project-specific HRA is not required (Creaven 2018) since use categories such as gas stations are considered small foot-print facilities with small zones of impact (OEHHA 2015).

Other long-term operational emissions include toxic substances such as cleaning agents in use on site. Compliance with State and federal handling regulations would ensure that emissions remain below a level of significance. The use of such substances such as cleaning agents is regulated by the 1990 Federal Clean Air Act Amendments as well as State-adopted regulations for the chemical composition of consumer products. Project-related TAC emission impacts during operation would be less than significant.

Air Quality Criterion d
Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people *(Less Than Significant)*.

CONSTRUCTION

Sensitive receptors in the project vicinity include Royal Oaks Senior Apartments senior care facility, located approximately 200 feet to the east of the eastern project boundary; single-family residences located 500 feet to the east; and single-family residences located approximately 400 feet to the southwest of the southwestern project boundary.

Construction activities would be temporary and transitory and associated odors would cease upon construction completion. Accordingly, the proposed project would not create objectionable odors affecting a substantial number of people during construction, and short-term impacts would be less than significant.

OPERATION

As discussed in the CARB's *Air Quality and Land Use Handbook*, land uses typically associated with odor complaints from operation include sewage treatment plants, landfills, recycling facilities, and waste transfer stations, petroleum refineries, biomass operations, autobody shops, coating operations, fiberglass manufacturing, foundries, rendering plants, and livestock operations (CARB 2005). On-site fuel storage tanks and dispensers would be equipped with vapor recovery systems to minimize fugitive emissions of fuel vapors and would thereby minimize fuel vapor odors. Nonetheless, as no system is perfect, minor amounts of odorous fuel vapors may be released. Additionally, vehicles approaching, idling, and leaving the site may release odorous exhaust emissions. As the project site is located at the intersection of two arterial roads, Twin Oaks Valley Road and Borden Road, vehicle exhaust is already prevalent. Odors of this nature dissipate quickly with distance and do not typically result in odor impacts. As the project would not include a land use typically associated with odor complaints, operational odor impacts would be less than significant.

Greenhouse Gas Emissions

GHG Emissions Criterion a
Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment *(Less Than Significant)*.

GHG Emissions Criterion b
Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing GHG emissions *(Less Than Significant)*.

The City of San Marcos CAP is a qualified GHG reduction plan consistent with the requirements of CEQA Guidelines Section 15183.5. Project GHG emissions would be less than significant if it can be demonstrated that the project would be consistent with the CAP. The CAP Consistency Checklist for the project is included as Appendix C and a summary is included in the section below.

CAP Checklist Overview

Step 1: Land Use Consistency

Step 1 of the CAP Consistency Checklist evaluates the land use consistency of a project. If a project is consistent with the existing General Plan land use and specific/master plan or zoning designations, then the project proceeds to Step 2 of the Checklist.

The General Plan land use designation for the project site is Commercial (C), as is the underlying zoning designation. The project proposes development of a convenience store with fuel pumps and an automated car wash which is permitted in Commercial designated lands. Therefore, the project would be consistent with the City's existing General Plan land use and zoning designation.

Step 2: CAP Measures Consistency

Step 2 of the CAP Consistency Checklist evaluates a project's implementation of applicable GHG reduction measures from the CAP.

MEASURE 1 ELECTRIC VEHICLE CHARGING STATIONS (MEASURE T-2) - EXCEEDED

This measure applies to multi-family residential and non-residential projects. Where applicable, projects shall install electric vehicle charging stations (Level 2 or better) in at least five percent of the total parking spaces provided on-site.

The project would include 25 on-site parking spaces; five percent of this amount would equate to two spaces. The project would provide electric vehicle charging stations (Level 2 or better) at three parking spaces, which would exceed the requirements of Measure T-2.

MEASURE 2 BICYCLE INFRASTRUCTURE (MEASURE T-8) – NOT APPLICABLE

This measure applies to residential and non-residential projects which would either propose intersection or roadway improvements or the City's General Plan Mobility Element identifies bicycle infrastructure improvements at an intersection or roadway segment improved as part of the project.

This measure would not be applicable to the project because the project does not propose any intersection or roadway segment improvements.

MEASURE 3 TRANSPORTATION DEMAND MANAGEMENT (MEASURE T-9) – NOT APPLICABLE

This measure applies to multi-family residential and non-residential projects that would be subject to the City's TDM Ordinance. Where applicable, projects shall develop and implement a TDM Plan.

Based on data provided by the applicant, the proposed convenience store would have three employees per shift and two shifts per day and the proposed car wash would have one attendant per day. Thus, the project would be anticipated to have seven employees.

The City's TDM Ordinance has not yet been drafted. Due to the minimal employee count, TDM strategies included in the CAP such as mass transit subsidies, carpool spaces, pedestrian connections, bicycle racks, employee showers/lockers, and telecommuting would not achieve meaningful GHG reductions and therefore are not applicable. Based on a review of similar ordinances[3] the project is anticipated be exempt from the TDM Ordinance because this limited amount of employment generated by the project is far less than thresholds of applicability of similar ordinance adopted by nearby jurisdictions. For these reasons, this measure is presumed to not be applicable.

MEASURE 4 REDUCE PARKING NEAR TRANSIT (MEASURE T-12) – NOT APPLICABLE

This measure applies to multi-family residential projects which would be located within one half-mile of a major transit stop. Where applicable, projects shall provide at least 27 percent fewer parking spaces than required based on the City's municipal code parking requirements.

The proposed project is a gas station with a car wash and convenience store. This measure would not be applicable.

MEASURE 5 WATER HEATERS (MEASURE E-L) – NOT APPLICABLE

This measure applies to residential projects. Where applicable, projects shall install one, or a combination of, specified water heater types.

The proposed project is a gas station with a car wash and convenience store. This measure would not be applicable.

MEASURE 6 PHOTOVOLTAIC INSTALLATION (MEASURE E-2L) – EXCEEDED

This measure applies to non-residential projects. Where applicable, projects shall install photovoltaic systems with a minimum capacity of two watts per square foot of gross floor area.

The project proposes a 4,083 square foot convenience store with 712 square feet of storage space and a 2,134 square foot car wash. The gas station canopy would be 5,462 sf and include 16 fuel pumps. Consistency with this item would require a photovoltaic system with a capacity of approximately 24.8 kW. The project would comply with this item through installation of solar panels on the rooftop of the car wash; the rated capacity of the system would be approximately 45 kW. As discussed previously, the project's photovoltaic system would be anticipated to generate approximately 76,500 kWh per year.

[3] For example, the San Diego County Checklist indicates that TDM Ordinance measures would not accommodate more than 25 employees and the City of San Diego CAP Checklist indicates that the TDM Ordinance measures would not accommodate more than 50 employees.

MEASURE 7 LANDSCAPING WATER USE (MEASURE W-L) – MET

This measure applies to residential and non-residential projects which are subject to the City's Water Efficient Landscape Ordinance. Where applicable, projects shall comply with the Water Efficient Landscape Ordinance.

The project would comply with the City's Water Efficient Landscape Ordinance. The Maximum Applied Water Allowance for the project is 471,444 gallons per year.

MEASURE 8 URBAN TREE CANOPY (MEASURE C-2) – EXCEEDED

This measure applies to single-family residential projects and to multi-family and non-residential projects which provide more than 10 parking spaces. Where applicable, single family residential projects shall plant one tree per unit and multi-family and non-residential projects shall provide one tree per five parking spaces.

The project would include 25 on-site parking spaces; one tree per five spaces would equate to five trees. The project would include 21 total trees, which would exceed the requirements of Measure T-2. Proposed trees include 4 marina arbutus trees, 4 coast live oak trees, and 16 desert museum palo verde trees.

Project-generated Greenhouse Gas Emissions

Table 7 shows GHG emissions associated with the proposed project for informational purposes. As shown therein, the project would generate approximately 654 MT CO_2e per person per year.

Table 7 Project Annual Equivalent Emissions

Emission Source	Annual Emissions (MT CO_2e)
Construction[1]	5
Operational	
Area	<1
Energy	35
Solid Waste	11
Water	8
Mobile	
CO_2 and CH_4	579
N_2O	15
Total Project Emissions	654

Source: Appendix A CalEEMod worksheets

[1] Construction emissions were estimated to be 163 MT CO_2e. Results were amortized over a 30-year period.

4 Conclusions

Air Quality

The project would be consistent with the applicable air quality plan because the project proposes a land use that is consistent with the project site's Commercial designation from the San Marcos General Plan; therefore, the project emissions are accounted for under current regional growth projections.

As shown in Table 5 and Table 6, project construction and operational emissions would not exceed applicable screening level thresholds for all criteria pollutants. Therefore, the project would not result in a cumulatively considerable net increase of any criteria pollutant.

The project would generate TAC emissions including DPM exhaust emissions associated with use of heavy-duty diesel construction equipment, exhaust from vehicles idling during operation of the automotive fuel station, as well as fugitive fuel vapors from fuel dispensers. As discussed under Air Quality Threshold 3, health risks at the nearest sensitive receptors resulting from construction and operation of the project would be well below applicable thresholds.

The project does not include land uses typically associated with odor complaints such as sewage treatment plants, landfills, recycling facilities, and agricultural uses. During construction, the project would temporarily generate diesel exhaust odors from use of heavy-duty equipment and during operation the project would generate vehicle exhaust and fugitive fuel vapors may be released. These types of odor dissipate quickly with distance and do not typically result in odor impacts. Additionally, as the project site is located at the intersection of two arterial roads, Twin Oaks Valley Road and Borden Road, vehicle exhaust is already prevalent. For these reasons, operational odor impacts would be less than significant.

Construction and operation of the project would not result in significant air quality impacts.

Greenhouse Gas

The project would result in an overall GHG emissions of 654 MT CO_2e per year. Most of these emissions would result from vehicle trips to and from the site.

The City of San Marcos has adopted a CAP that meets the requirements under CEQA Guidelines Section 15183.5 for a qualified GHG reduction plan. Therefore, this project-level analysis is streamlined by tiering off the San Marcos CAP. As demonstrated through preparation of the CAP Consistency Checklist, the project would be consistent with the CAP. Therefore, the project's incremental contribution to a global climate would be less than significant and the project would not conflict with an applicable plan, policy or regulation adopted for the purpose of reducing GHG emissions.

Construction and operation of the project would not result in significant greenhouse gas emissions impacts.

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Appendix A

CalEEMod Output Files and N_2O Emissions Calculations

Borden Road Gas Station Project

San Diego County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Automobile Care Center	2.10	1000sqft	0.05	2,100.00	0
Convenience Market (24 Hour)	4.80	1000sqft	0.11	4,800.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2022
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	320.93	**CH4 Intensity (lb/MWhr)**	0.013	**N2O Intensity (lb/MWhr)**	0.003

1.3 User Entered Comments & Non-Default Data

Borden Road Gas Station Project - San Diego County, Summer

Project Characteristics - Adjusted to reflect compliance with accelerated RPS standards

Land Use -

Construction Phase - Grading phase duration extended to one month to account for soil import.

Off-road Equipment -

Off-road Equipment - Client provided data

Off-road Equipment - Client provided data

Off-road Equipment -

Off-road Equipment - Client provided data

Trips and VMT -

Grading - Grading area

Vehicle Trips - Trip generation for the convenience store with gas pumps and a car wash was estimated to be 2480 trips per day (155/pump). Trip lengths revised to match regional average trip length reported by SANDAG.

Energy Use - Car wash specific energy use; kBTU converted to kWh (rounded up) and added to electricity use factor.

Water And Wastewater - Car wash specific water use

Energy Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	2.00	22.00
tblEnergyUse	NT24E	4.27	117.25
tblEnergyUse	NT24E	3.16	3.48
tblEnergyUse	NT24NG	7.25	0.00
tblEnergyUse	NT24NG	1.09	0.00
tblEnergyUse	T24E	1.21	0.00
tblEnergyUse	T24E	3.18	3.52
tblEnergyUse	T24NG	4.31	0.00
tblEnergyUse	T24NG	1.14	0.00
tblGrading	MaterialImported	0.00	12,106.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00

tblOffRoadEquipment	UsageHours	1.00	8.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.013
tblProjectCharacteristics	CO2IntensityFactor	720.49	320.93
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.003
tblVehicleTrips	CC_TL	7.30	5.70
tblVehicleTrips	CC_TL	7.30	5.70
tblVehicleTrips	CC_TTP	48.00	80.10
tblVehicleTrips	CNW_TL	7.30	5.70
tblVehicleTrips	CNW_TL	7.30	5.70
tblVehicleTrips	CW_TL	9.50	5.70
tblVehicleTrips	CW_TL	9.50	5.70
tblVehicleTrips	CW_TTP	33.00	0.90
tblVehicleTrips	DV_TP	51.00	15.00
tblVehicleTrips	PB_TP	28.00	61.00
tblVehicleTrips	PR_TP	21.00	24.00
tblVehicleTrips	ST_TR	23.72	0.00
tblVehicleTrips	ST_TR	863.10	516.70
tblVehicleTrips	SU_TR	11.88	0.00
tblVehicleTrips	SU_TR	758.45	516.70
tblVehicleTrips	WD_TR	23.72	0.00
tblVehicleTrips	WD_TR	737.99	516.70
tblWater	IndoorWaterUseRate	197,570.33	2,104,000.00
tblWater	OutdoorWaterUseRate	121,091.49	0.00

2.0 Emissions Summary

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					
2021	32.2004	40.0171	17.2217	0.0799	7.9382	1.0725	9.0106	3.7369	1.0025	4.7393	0.0000	8,409.4257	8,409.4257	1.1640	0.0000	8,438.5268
2022	32.1860	1.4085	1.8136	2.9700e-003	0.0000	0.0817	0.0817	0.0000	0.0817	0.0817	0.0000	281.4481	281.4481	0.0183	0.0000	281.9062
Maximum	**32.2004**	**40.0171**	**17.2217**	**0.0799**	**7.9382**	**1.0725**	**9.0106**	**3.7369**	**1.0025**	**4.7393**	**0.0000**	**8,409.4257**	**8,409.4257**	**1.1640**	**0.0000**	**8,438.5268**

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					
2021	32.2004	40.0171	17.2217	0.0799	7.9382	1.0725	9.0106	3.7369	1.0025	4.7393	0.0000	8,409.4257	8,409.4257	1.1640	0.0000	8,438.5268
2022	32.1860	1.4085	1.8136	2.9700e-003	0.0000	0.0817	0.0817	0.0000	0.0817	0.0817	0.0000	281.4481	281.4481	0.0183	0.0000	281.9062
Maximum	**32.2004**	**40.0171**	**17.2217**	**0.0799**	**7.9382**	**1.0725**	**9.0106**	**3.7369**	**1.0025**	**4.7393**	**0.0000**	**8,409.4257**	**8,409.4257**	**1.1640**	**0.0000**	**8,438.5268**

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

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.1915	1.0000e-005	7.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.5100e-003	1.5100e-003	0.0000		1.6100e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	2.7554	9.2906	17.2029	0.0440	3.1446	0.0404	3.1849	0.8404	0.0376	0.8780		4,491.1483	4,491.1483	0.3093		4,498.8802
Total	**2.9470**	**9.2906**	**17.2036**	**0.0440**	**3.1446**	**0.0404**	**3.1849**	**0.8404**	**0.0376**	**0.8780**		**4,491.1498**	**4,491.1498**	**0.3093**	**0.0000**	**4,498.8818**

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	0.1915	1.0000e-005	7.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.5100e-003	1.5100e-003	0.0000		1.6100e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	2.7554	9.2906	17.2029	0.0440	3.1446	0.0404	3.1849	0.8404	0.0376	0.8780		4,491.1483	4,491.1483	0.3093		4,498.8802
Total	**2.9470**	**9.2906**	**17.2036**	**0.0440**	**3.1446**	**0.0404**	**3.1849**	**0.8404**	**0.0376**	**0.8780**		**4,491.1498**	**4,491.1498**	**0.3093**	**0.0000**	**4,498.8818**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	7/1/2021	7/1/2021	5	1	
2	Grading	Grading	7/2/2021	8/2/2021	5	22	
3	Building Construction	Building Construction	8/3/2021	12/20/2021	5	100	
4	Paving	Paving	12/21/2021	12/27/2021	5	5	
5	Architectural Coating	Architectural Coating	12/28/2021	1/3/2022	5	5	

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 11

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 10,350; Non-Residential Outdoor: 3,450; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Borden Road Gas Station Project - San Diego County, Summer

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Skid Steer Loaders	1	8.00	65	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Skid Steer Loaders	1	8.00	65	0.37
Grading	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Cranes	1	4.00	231	0.29
Building Construction	Excavators	1	8.00	158	0.38
Building Construction	Forklifts	2	6.00	89	0.20
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	5	13.00	0.00	1,513.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	6	2.00	1.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Site Preparation - 2021

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					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	1.7621	19.7952	9.4552	0.0203		0.8728	0.8728		0.8029	0.8029		1,970.1348	1,970.1348	0.6372		1,986.0643
Total	**1.7621**	**19.7952**	**9.4552**	**0.0203**	**6.5523**	**0.8728**	**7.4251**	**3.3675**	**0.8029**	**4.1704**		**1,970.1348**	**1,970.1348**	**0.6372**		**1,986.0643**

3.2 Site Preparation - 2021

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
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
Worker	0.0346	0.0225	0.2652	8.2000e-004	0.0822	5.7000e-004	0.0827	0.0218	5.2000e-004	0.0223		81.4441	81.4441	2.3200e-003		81.5022
Total	**0.0346**	**0.0225**	**0.2652**	**8.2000e-004**	**0.0822**	**5.7000e-004**	**0.0827**	**0.0218**	**5.2000e-004**	**0.0223**		**81.4441**	**81.4441**	**2.3200e-003**		**81.5022**

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					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	1.7621	19.7952	9.4552	0.0203		0.8728	0.8728		0.8029	0.8029	0.0000	1,970.1348	1,970.1348	0.6372		1,986.0643
Total	**1.7621**	**19.7952**	**9.4552**	**0.0203**	**6.5523**	**0.8728**	**7.4251**	**3.3675**	**0.8029**	**4.1704**	**0.0000**	**1,970.1348**	**1,970.1348**	**0.6372**		**1,986.0643**

3.2 Site Preparation - 2021

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
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
Worker	0.0346	0.0225	0.2652	8.2000e-004	0.0822	5.7000e-004	0.0827	0.0218	5.2000e-004	0.0223		81.4441	81.4441	2.3200e-003		81.5022
Total	**0.0346**	**0.0225**	**0.2652**	**8.2000e-004**	**0.0822**	**5.7000e-004**	**0.0827**	**0.0218**	**5.2000e-004**	**0.0223**		**81.4441**	**81.4441**	**2.3200e-003**		**81.5022**

3.3 Grading - 2021

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					6.6297	0.0000	6.6297	3.3792	0.0000	3.3792			0.0000			0.0000
Off-Road	2.1001	22.3591	12.5641	0.0258		1.0179	1.0179		0.9503	0.9503		2,487.5744	2,487.5744	0.6473		2,503.7561
Total	**2.1001**	**22.3591**	**12.5641**	**0.0258**	**6.6297**	**1.0179**	**7.6476**	**3.3792**	**0.9503**	**4.3295**		**2,487.5744**	**2,487.5744**	**0.6473**		**2,503.7561**

3.3 Grading - 2021

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	0.5105	17.6287	4.3127	0.0530	1.2017	0.0538	1.2555	0.3293	0.0515	0.3808		5,815.9740	5,815.9740	0.5138		5,828.8178
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
Worker	0.0450	0.0292	0.3448	1.0600e-003	0.1068	7.4000e-004	0.1075	0.0283	6.8000e-004	0.0290		105.8773	105.8773	3.0200e-003		105.9529
Total	**0.5555**	**17.6579**	**4.6576**	**0.0541**	**1.3085**	**0.0545**	**1.3630**	**0.3577**	**0.0521**	**0.4098**		**5,921.8513**	**5,921.8513**	**0.5168**		**5,934.7707**

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					6.6297	0.0000	6.6297	3.3792	0.0000	3.3792			0.0000			0.0000
Off-Road	2.1001	22.3591	12.5641	0.0258		1.0179	1.0179		0.9503	0.9503	0.0000	2,487.5744	2,487.5744	0.6473		2,503.7561
Total	**2.1001**	**22.3591**	**12.5641**	**0.0258**	**6.6297**	**1.0179**	**7.6476**	**3.3792**	**0.9503**	**4.3295**	**0.0000**	**2,487.5744**	**2,487.5744**	**0.6473**		**2,503.7561**

3.3 Grading - 2021

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	0.5105	17.6287	4.3127	0.0530	1.2017	0.0538	1.2555	0.3293	0.0515	0.3808		5,815.9740	5,815.9740	0.5138		5,828.8178
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
Worker	0.0450	0.0292	0.3448	1.0600e-003	0.1068	7.4000e-004	0.1075	0.0283	6.8000e-004	0.0290		105.8773	105.8773	3.0200e-003		105.9529
Total	**0.5555**	**17.6579**	**4.6576**	**0.0541**	**1.3085**	**0.0545**	**1.3630**	**0.3577**	**0.0521**	**0.4098**		**5,921.8513**	**5,921.8513**	**0.5168**		**5,934.7707**

3.4 Building Construction - 2021

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	1.0042	10.1384	10.5355	0.0166		0.5520	0.5520		0.5078	0.5078		1,603.4078	1,603.4078	0.5186		1,616.3721
Total	**1.0042**	**10.1384**	**10.5355**	**0.0166**		**0.5520**	**0.5520**		**0.5078**	**0.5078**		**1,603.4078**	**1,603.4078**	**0.5186**		**1,616.3721**

3.4 Building Construction - 2021

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
Vendor	3.0200e-003	0.1018	0.0260	2.7000e-004	6.7700e-003	2.1000e-004	6.9800e-003	1.9500e-003	2.0000e-004	2.1500e-003		29.1352	29.1352	2.0800e-003		29.1872
Worker	6.9200e-003	4.4900e-003	0.0531	1.6000e-004	0.0164	1.1000e-004	0.0165	4.3600e-003	1.0000e-004	4.4600e-003		16.2888	16.2888	4.6000e-004		16.3004
Total	**9.9400e-003**	**0.1063**	**0.0790**	**4.3000e-004**	**0.0232**	**3.2000e-004**	**0.0235**	**6.3100e-003**	**3.0000e-004**	**6.6100e-003**		**45.4240**	**45.4240**	**2.5400e-003**		**45.4877**

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	1.0042	10.1384	10.5355	0.0166		0.5520	0.5520		0.5078	0.5078	0.0000	1,603.4078	1,603.4078	0.5186		1,616.3721
Total	**1.0042**	**10.1384**	**10.5355**	**0.0166**		**0.5520**	**0.5520**		**0.5078**	**0.5078**	**0.0000**	**1,603.4078**	**1,603.4078**	**0.5186**		**1,616.3721**

3.4 Building Construction - 2021

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
Vendor	3.0200e-003	0.1018	0.0260	2.7000e-004	6.7700e-003	2.1000e-004	6.9800e-003	1.9500e-003	2.0000e-004	2.1500e-003		29.1352	29.1352	2.0800e-003		29.1872
Worker	6.9200e-003	4.4900e-003	0.0531	1.6000e-004	0.0164	1.1000e-004	0.0165	4.3600e-003	1.0000e-004	4.4600e-003		16.2888	16.2888	4.6000e-004		16.3004
Total	**9.9400e-003**	**0.1063**	**0.0790**	**4.3000e-004**	**0.0232**	**3.2000e-004**	**0.0235**	**6.3100e-003**	**3.0000e-004**	**6.6100e-003**		**45.4240**	**45.4240**	**2.5400e-003**		**45.4877**

3.5 Paving - 2021

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	0.7214	6.7178	7.0899	0.0113		0.3534	0.3534		0.3286	0.3286		1,035.3425	1,035.3425	0.3016		1,042.8818
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.7214**	**6.7178**	**7.0899**	**0.0113**		**0.3534**	**0.3534**		**0.3286**	**0.3286**		**1,035.3425**	**1,035.3425**	**0.3016**		**1,042.8818**

3.5 Paving - 2021

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
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
Worker	0.0623	0.0405	0.4774	1.4700e-003	0.1479	1.0200e-003	0.1489	0.0392	9.4000e-004	0.0402		146.5994	146.5994	4.1800e-003		146.7040
Total	**0.0623**	**0.0405**	**0.4774**	**1.4700e-003**	**0.1479**	**1.0200e-003**	**0.1489**	**0.0392**	**9.4000e-004**	**0.0402**		**146.5994**	**146.5994**	**4.1800e-003**		**146.7040**

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	0.7214	6.7178	7.0899	0.0113		0.3534	0.3534		0.3286	0.3286	0.0000	1,035.3425	1,035.3425	0.3016		1,042.8818
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.7214**	**6.7178**	**7.0899**	**0.0113**		**0.3534**	**0.3534**		**0.3286**	**0.3286**	**0.0000**	**1,035.3425**	**1,035.3425**	**0.3016**		**1,042.8818**

3.5 Paving - 2021

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
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
Worker	0.0623	0.0405	0.4774	1.4700e-003	0.1479	1.0200e-003	0.1489	0.0392	9.4000e-004	0.0402		146.5994	146.5994	4.1800e-003		146.7040
Total	**0.0623**	**0.0405**	**0.4774**	**1.4700e-003**	**0.1479**	**1.0200e-003**	**0.1489**	**0.0392**	**9.4000e-004**	**0.0402**		**146.5994**	**146.5994**	**4.1800e-003**		**146.7040**

3.6 Architectural Coating - 2021

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					
Archit. Coating	31.9815					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941		281.4481	281.4481	0.0193		281.9309
Total	**32.2004**	**1.5268**	**1.8176**	**2.9700e-003**		**0.0941**	**0.0941**		**0.0941**	**0.0941**		**281.4481**	**281.4481**	**0.0193**		**281.9309**

3.6 Architectural Coating - 2021

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

Mitigated 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					
Archit. Coating	31.9815					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941	0.0000	281.4481	281.4481	0.0193		281.9309
Total	**32.2004**	**1.5268**	**1.8176**	**2.9700e-003**		**0.0941**	**0.0941**		**0.0941**	**0.0941**	**0.0000**	**281.4481**	**281.4481**	**0.0193**		**281.9309**

3.6 Architectural Coating - 2021

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

3.6 Architectural Coating - 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					
Archit. Coating	31.9815					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062
Total	**32.1860**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**		**281.4481**	**281.4481**	**0.0183**		**281.9062**

3.6 Architectural Coating - 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
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
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

Mitigated 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					
Archit. Coating	31.9815					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817	0.0000	281.4481	281.4481	0.0183		281.9062
Total	**32.1860**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**	**0.0000**	**281.4481**	**281.4481**	**0.0183**		**281.9062**

3.6 Architectural Coating - 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
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
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	2.7554	9.2906	17.2029	0.0440	3.1446	0.0404	3.1849	0.8404	0.0376	0.8780		4,491.1483	4,491.1483	0.3093		4,498.8802
Unmitigated	2.7554	9.2906	17.2029	0.0440	3.1446	0.0404	3.1849	0.8404	0.0376	0.8780		4,491.1483	4,491.1483	0.3093		4,498.8802

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Automobile Care Center	0.00	0.00	0.00		
Convenience Market (24 Hour)	2,480.16	2,480.16	2480.16	1,483,039	1,483,039
Total	2,480.16	2,480.16	2,480.16	1,483,039	1,483,039

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
Automobile Care Center	5.70	5.70	5.70	0.90	80.10	19.00	24	15	61
Convenience Market (24 Hour)	5.70	5.70	5.70	0.90	80.10	19.00	24	15	61

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Automobile Care Center	0.598645	0.040929	0.181073	0.106149	0.015683	0.005479	0.016317	0.023976	0.001926	0.001932	0.006016	0.000753	0.001122
Convenience Market (24 Hour)	0.598645	0.040929	0.181073	0.106149	0.015683	0.005479	0.016317	0.023976	0.001926	0.001932	0.006016	0.000753	0.001122

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Kilowatt Hours of Renewable Electricity Generated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

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					
Automobile Care Center	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
Convenience Market (24 Hour)	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
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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					
Automobile Care Center	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
Convenience Market (24 Hour)	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
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.1915	1.0000e-005	7.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.5100e-003	1.5100e-003	0.0000		1.6100e-003
Unmitigated	0.1915	1.0000e-005	7.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.5100e-003	1.5100e-003	0.0000		1.6100e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0438					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.1477					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	7.0000e-005	1.0000e-005	7.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.5100e-003	1.5100e-003	0.0000		1.6100e-003
Total	**0.1915**	**1.0000e-005**	**7.1000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**1.5100e-003**	**1.5100e-003**	**0.0000**		**1.6100e-003**

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	0.0438					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.1477					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	7.0000e-005	1.0000e-005	7.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.5100e-003	1.5100e-003	0.0000		1.6100e-003
Total	**0.1915**	**1.0000e-005**	**7.1000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**1.5100e-003**	**1.5100e-003**	**0.0000**		**1.6100e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

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

Borden Road Gas Station Project

San Diego County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Automobile Care Center	2.10	1000sqft	0.05	2,100.00	0
Convenience Market (24 Hour)	4.80	1000sqft	0.11	4,800.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2022
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	320.93	**CH4 Intensity (lb/MWhr)**	0.013	**N2O Intensity (lb/MWhr)**	0.003

1.3 User Entered Comments & Non-Default Data

Borden Road Gas Station Project - San Diego County, Winter

Project Characteristics - Adjusted to reflect compliance with accelerated RPS standards

Land Use -

Construction Phase - Grading phase duration extended to one month to account for soil import.

Off-road Equipment -

Off-road Equipment - Client provided data

Off-road Equipment - Client provided data

Off-road Equipment -

Off-road Equipment - Client provided data

Trips and VMT -

Grading - Grading area

Vehicle Trips - Trip generation for the convenience store with gas pumps and a car wash was estimated to be 2480 trips per day (155/pump). Trip lengths revised to match regional average trip length reported by SANDAG.

Energy Use - Car wash specific energy use; kBTU converted to kWh (rounded up) and added to electricity use factor.

Water And Wastewater - Car wash specific water use

Energy Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	2.00	22.00
tblEnergyUse	NT24E	4.27	117.25
tblEnergyUse	NT24E	3.16	3.48
tblEnergyUse	NT24NG	7.25	0.00
tblEnergyUse	NT24NG	1.09	0.00
tblEnergyUse	T24E	1.21	0.00
tblEnergyUse	T24E	3.18	3.52
tblEnergyUse	T24NG	4.31	0.00
tblEnergyUse	T24NG	1.14	0.00
tblGrading	MaterialImported	0.00	12,106.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00

tblOffRoadEquipment	UsageHours	1.00	8.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.013
tblProjectCharacteristics	CO2IntensityFactor	720.49	320.93
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.003
tblVehicleTrips	CC_TL	7.30	5.70
tblVehicleTrips	CC_TL	7.30	5.70
tblVehicleTrips	CC_TTP	48.00	80.10
tblVehicleTrips	CNW_TL	7.30	5.70
tblVehicleTrips	CNW_TL	7.30	5.70
tblVehicleTrips	CW_TL	9.50	5.70
tblVehicleTrips	CW_TL	9.50	5.70
tblVehicleTrips	CW_TTP	33.00	0.90
tblVehicleTrips	DV_TP	51.00	15.00
tblVehicleTrips	PB_TP	28.00	61.00
tblVehicleTrips	PR_TP	21.00	24.00
tblVehicleTrips	ST_TR	23.72	0.00
tblVehicleTrips	ST_TR	863.10	516.70
tblVehicleTrips	SU_TR	11.88	0.00
tblVehicleTrips	SU_TR	758.45	516.70
tblVehicleTrips	WD_TR	23.72	0.00
tblVehicleTrips	WD_TR	737.99	516.70
tblWater	IndoorWaterUseRate	197,570.33	2,104,000.00
tblWater	OutdoorWaterUseRate	121,091.49	0.00

2.0 Emissions Summary

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					
2021	32.2004	40.1727	17.4725	0.0789	7.9382	1.0736	9.0118	3.7369	1.0036	4.7404	0.0000	8,302.4553	8,302.4553	1.1808	0.0000	8,331.9742
2022	32.1860	1.4085	1.8136	2.9700e-003	0.0000	0.0817	0.0817	0.0000	0.0817	0.0817	0.0000	281.4481	281.4481	0.0183	0.0000	281.9062
Maximum	**32.2004**	**40.1727**	**17.4725**	**0.0789**	**7.9382**	**1.0736**	**9.0118**	**3.7369**	**1.0036**	**4.7404**	**0.0000**	**8,302.4553**	**8,302.4553**	**1.1808**	**0.0000**	**8,331.9742**

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					
2021	32.2004	40.1727	17.4725	0.0789	7.9382	1.0736	9.0118	3.7369	1.0036	4.7404	0.0000	8,302.4553	8,302.4553	1.1808	0.0000	8,331.9742
2022	32.1860	1.4085	1.8136	2.9700e-003	0.0000	0.0817	0.0817	0.0000	0.0817	0.0817	0.0000	281.4481	281.4481	0.0183	0.0000	281.9062
Maximum	**32.2004**	**40.1727**	**17.4725**	**0.0789**	**7.9382**	**1.0736**	**9.0118**	**3.7369**	**1.0036**	**4.7404**	**0.0000**	**8,302.4553**	**8,302.4553**	**1.1808**	**0.0000**	**8,331.9742**

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

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.1915	1.0000e-005	7.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.5100e-003	1.5100e-003	0.0000		1.6100e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	2.6585	9.2881	18.9731	0.0415	3.1446	0.0413	3.1859	0.8404	0.0385	0.8789		4,231.7081	4,231.7081	0.3289		4,239.9294
Total	**2.8500**	**9.2881**	**18.9738**	**0.0415**	**3.1446**	**0.0413**	**3.1859**	**0.8404**	**0.0385**	**0.8789**		**4,231.7096**	**4,231.7096**	**0.3289**	**0.0000**	**4,239.9310**

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	0.1915	1.0000e-005	7.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.5100e-003	1.5100e-003	0.0000		1.6100e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	2.6585	9.2881	18.9731	0.0415	3.1446	0.0413	3.1859	0.8404	0.0385	0.8789		4,231.7081	4,231.7081	0.3289		4,239.9294
Total	**2.8500**	**9.2881**	**18.9738**	**0.0415**	**3.1446**	**0.0413**	**3.1859**	**0.8404**	**0.0385**	**0.8789**		**4,231.7096**	**4,231.7096**	**0.3289**	**0.0000**	**4,239.9310**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	7/1/2021	7/1/2021	5	1	
2	Grading	Grading	7/2/2021	8/2/2021	5	22	
3	Building Construction	Building Construction	8/3/2021	12/20/2021	5	100	
4	Paving	Paving	12/21/2021	12/27/2021	5	5	
5	Architectural Coating	Architectural Coating	12/28/2021	1/3/2022	5	5	

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 11

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 10,350; Non-Residential Outdoor: 3,450; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Borden Road Gas Station Project - San Diego County, Winter

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Skid Steer Loaders	1	8.00	65	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Skid Steer Loaders	1	8.00	65	0.37
Grading	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Cranes	1	4.00	231	0.29
Building Construction	Excavators	1	8.00	158	0.38
Building Construction	Forklifts	2	6.00	89	0.20
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	5	13.00	0.00	1,513.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	6	2.00	1.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Site Preparation - 2021

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					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	1.7621	19.7952	9.4552	0.0203		0.8728	0.8728		0.8029	0.8029		1,970.1348	1,970.1348	0.6372		1,986.0643
Total	**1.7621**	**19.7952**	**9.4552**	**0.0203**	**6.5523**	**0.8728**	**7.4251**	**3.3675**	**0.8029**	**4.1704**		**1,970.1348**	**1,970.1348**	**0.6372**		**1,986.0643**

3.2 Site Preparation - 2021

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
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
Worker	0.0392	0.0252	0.2493	7.7000e-004	0.0822	5.7000e-004	0.0827	0.0218	5.2000e-004	0.0223		76.4548	76.4548	2.2000e-003		76.5097
Total	**0.0392**	**0.0252**	**0.2493**	**7.7000e-004**	**0.0822**	**5.7000e-004**	**0.0827**	**0.0218**	**5.2000e-004**	**0.0223**		**76.4548**	**76.4548**	**2.2000e-003**		**76.5097**

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					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	1.7621	19.7952	9.4552	0.0203		0.8728	0.8728		0.8029	0.8029	0.0000	1,970.1348	1,970.1348	0.6372		1,986.0643
Total	**1.7621**	**19.7952**	**9.4552**	**0.0203**	**6.5523**	**0.8728**	**7.4251**	**3.3675**	**0.8029**	**4.1704**	**0.0000**	**1,970.1348**	**1,970.1348**	**0.6372**		**1,986.0643**

3.2 Site Preparation - 2021

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
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
Worker	0.0392	0.0252	0.2493	7.7000e-004	0.0822	5.7000e-004	0.0827	0.0218	5.2000e-004	0.0223		76.4548	76.4548	2.2000e-003		76.5097
Total	**0.0392**	**0.0252**	**0.2493**	**7.7000e-004**	**0.0822**	**5.7000e-004**	**0.0827**	**0.0218**	**5.2000e-004**	**0.0223**		**76.4548**	**76.4548**	**2.2000e-003**		**76.5097**

3.3 Grading - 2021

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					6.6297	0.0000	6.6297	3.3792	0.0000	3.3792			0.0000			0.0000
Off-Road	2.1001	22.3591	12.5641	0.0258		1.0179	1.0179		0.9503	0.9503		2,487.5744	2,487.5744	0.6473		2,503.7561
Total	**2.1001**	**22.3591**	**12.5641**	**0.0258**	**6.6297**	**1.0179**	**7.6476**	**3.3792**	**0.9503**	**4.3295**		**2,487.5744**	**2,487.5744**	**0.6473**		**2,503.7561**

3.3 Grading - 2021

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	0.5246	17.7808	4.5842	0.0521	1.2017	0.0549	1.2567	0.3293	0.0526	0.3819		5,715.4897	5,715.4897	0.5306		5,728.7556
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
Worker	0.0510	0.0328	0.3241	1.0000e-003	0.1068	7.4000e-004	0.1075	0.0283	6.8000e-004	0.0290		99.3912	99.3912	2.8600e-003		99.4626
Total	**0.5756**	**17.8136**	**4.9084**	**0.0531**	**1.3085**	**0.0557**	**1.3642**	**0.3577**	**0.0532**	**0.4109**		**5,814.8809**	**5,814.8809**	**0.5335**		**5,828.2181**

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					6.6297	0.0000	6.6297	3.3792	0.0000	3.3792			0.0000			0.0000
Off-Road	2.1001	22.3591	12.5641	0.0258		1.0179	1.0179		0.9503	0.9503	0.0000	2,487.5744	2,487.5744	0.6473		2,503.7561
Total	**2.1001**	**22.3591**	**12.5641**	**0.0258**	**6.6297**	**1.0179**	**7.6476**	**3.3792**	**0.9503**	**4.3295**	**0.0000**	**2,487.5744**	**2,487.5744**	**0.6473**		**2,503.7561**

3.3 Grading - 2021

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	0.5246	17.7808	4.5842	0.0521	1.2017	0.0549	1.2567	0.3293	0.0526	0.3819		5,715.4897	5,715.4897	0.5306		5,728.7556
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
Worker	0.0510	0.0328	0.3241	1.0000e-003	0.1068	7.4000e-004	0.1075	0.0283	6.8000e-004	0.0290		99.3912	99.3912	2.8600e-003		99.4626
Total	**0.5756**	**17.8136**	**4.9084**	**0.0531**	**1.3085**	**0.0557**	**1.3642**	**0.3577**	**0.0532**	**0.4109**		**5,814.8809**	**5,814.8809**	**0.5335**		**5,828.2181**

3.4 Building Construction - 2021

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	1.0042	10.1384	10.5355	0.0166		0.5520	0.5520		0.5078	0.5078		1,603.4078	1,603.4078	0.5186		1,616.3721
Total	**1.0042**	**10.1384**	**10.5355**	**0.0166**		**0.5520**	**0.5520**		**0.5078**	**0.5078**		**1,603.4078**	**1,603.4078**	**0.5186**		**1,616.3721**

3.4 Building Construction - 2021

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
Vendor	3.1900e-003	0.1016	0.0289	2.6000e-004	6.7700e-003	2.2000e-004	6.9900e-003	1.9500e-003	2.1000e-004	2.1600e-003		28.3819	28.3819	2.2100e-003		28.4372
Worker	7.8400e-003	5.0400e-003	0.0499	1.5000e-004	0.0164	1.1000e-004	0.0165	4.3600e-003	1.0000e-004	4.4600e-003		15.2910	15.2910	4.4000e-004		15.3019
Total	**0.0110**	**0.1066**	**0.0788**	**4.1000e-004**	**0.0232**	**3.3000e-004**	**0.0235**	**6.3100e-003**	**3.1000e-004**	**6.6200e-003**		**43.6729**	**43.6729**	**2.6500e-003**		**43.7391**

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	1.0042	10.1384	10.5355	0.0166		0.5520	0.5520		0.5078	0.5078	0.0000	1,603.4078	1,603.4078	0.5186		1,616.3721
Total	**1.0042**	**10.1384**	**10.5355**	**0.0166**		**0.5520**	**0.5520**		**0.5078**	**0.5078**	**0.0000**	**1,603.4078**	**1,603.4078**	**0.5186**		**1,616.3721**

3.4 Building Construction - 2021

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
Vendor	3.1900e-003	0.1016	0.0289	2.6000e-004	6.7700e-003	2.2000e-004	6.9900e-003	1.9500e-003	2.1000e-004	2.1600e-003		28.3819	28.3819	2.2100e-003		28.4372
Worker	7.8400e-003	5.0400e-003	0.0499	1.5000e-004	0.0164	1.1000e-004	0.0165	4.3600e-003	1.0000e-004	4.4600e-003		15.2910	15.2910	4.4000e-004		15.3019
Total	**0.0110**	**0.1066**	**0.0788**	**4.1000e-004**	**0.0232**	**3.3000e-004**	**0.0235**	**6.3100e-003**	**3.1000e-004**	**6.6200e-003**		**43.6729**	**43.6729**	**2.6500e-003**		**43.7391**

3.5 Paving - 2021

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	0.7214	6.7178	7.0899	0.0113		0.3534	0.3534		0.3286	0.3286		1,035.3425	1,035.3425	0.3016		1,042.8818
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.7214**	**6.7178**	**7.0899**	**0.0113**		**0.3534**	**0.3534**		**0.3286**	**0.3286**		**1,035.3425**	**1,035.3425**	**0.3016**		**1,042.8818**

3.5 Paving - 2021

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
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
Worker	0.0706	0.0454	0.4488	1.3800e-003	0.1479	1.0200e-003	0.1489	0.0392	9.4000e-004	0.0402		137.6186	137.6186	3.9500e-003		137.7174
Total	**0.0706**	**0.0454**	**0.4488**	**1.3800e-003**	**0.1479**	**1.0200e-003**	**0.1489**	**0.0392**	**9.4000e-004**	**0.0402**		**137.6186**	**137.6186**	**3.9500e-003**		**137.7174**

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	0.7214	6.7178	7.0899	0.0113		0.3534	0.3534		0.3286	0.3286	0.0000	1,035.3425	1,035.3425	0.3016		1,042.8818
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.7214**	**6.7178**	**7.0899**	**0.0113**		**0.3534**	**0.3534**		**0.3286**	**0.3286**	**0.0000**	**1,035.3425**	**1,035.3425**	**0.3016**		**1,042.8818**

3.5 Paving - 2021

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
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
Worker	0.0706	0.0454	0.4488	1.3800e-003	0.1479	1.0200e-003	0.1489	0.0392	9.4000e-004	0.0402		137.6186	137.6186	3.9500e-003		137.7174
Total	**0.0706**	**0.0454**	**0.4488**	**1.3800e-003**	**0.1479**	**1.0200e-003**	**0.1489**	**0.0392**	**9.4000e-004**	**0.0402**		**137.6186**	**137.6186**	**3.9500e-003**		**137.7174**

3.6 Architectural Coating - 2021

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					
Archit. Coating	31.9815					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941		281.4481	281.4481	0.0193		281.9309
Total	**32.2004**	**1.5268**	**1.8176**	**2.9700e-003**		**0.0941**	**0.0941**		**0.0941**	**0.0941**		**281.4481**	**281.4481**	**0.0193**		**281.9309**

3.6 Architectural Coating - 2021

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

Mitigated 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					
Archit. Coating	31.9815					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941	0.0000	281.4481	281.4481	0.0193		281.9309
Total	**32.2004**	**1.5268**	**1.8176**	**2.9700e-003**		**0.0941**	**0.0941**		**0.0941**	**0.0941**	**0.0000**	**281.4481**	**281.4481**	**0.0193**		**281.9309**

3.6 Architectural Coating - 2021

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

3.6 Architectural Coating - 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					
Archit. Coating	31.9815					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062
Total	**32.1860**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**		**281.4481**	**281.4481**	**0.0183**		**281.9062**

3.6 Architectural Coating - 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
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
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

Mitigated 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					
Archit. Coating	31.9815					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817	0.0000	281.4481	281.4481	0.0183		281.9062
Total	**32.1860**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**	**0.0000**	**281.4481**	**281.4481**	**0.0183**		**281.9062**

3.6 Architectural Coating - 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
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
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	2.6585	9.2881	18.9731	0.0415	3.1446	0.0413	3.1859	0.8404	0.0385	0.8789		4,231.7081	4,231.7081	0.3289		4,239.9294
Unmitigated	2.6585	9.2881	18.9731	0.0415	3.1446	0.0413	3.1859	0.8404	0.0385	0.8789		4,231.7081	4,231.7081	0.3289		4,239.9294

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Automobile Care Center	0.00	0.00	0.00		
Convenience Market (24 Hour)	2,480.16	2,480.16	2480.16	1,483,039	1,483,039
Total	2,480.16	2,480.16	2,480.16	1,483,039	1,483,039

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
Automobile Care Center	5.70	5.70	5.70	0.90	80.10	19.00	24	15	61
Convenience Market (24 Hour)	5.70	5.70	5.70	0.90	80.10	19.00	24	15	61

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Automobile Care Center	0.598645	0.040929	0.181073	0.106149	0.015683	0.005479	0.016317	0.023976	0.001926	0.001932	0.006016	0.000753	0.001122
Convenience Market (24 Hour)	0.598645	0.040929	0.181073	0.106149	0.015683	0.005479	0.016317	0.023976	0.001926	0.001932	0.006016	0.000753	0.001122

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Kilowatt Hours of Renewable Electricity Generated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

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					
Automobile Care Center	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
Convenience Market (24 Hour)	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
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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					
Automobile Care Center	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
Convenience Market (24 Hour)	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
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.1915	1.0000e-005	7.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.5100e-003	1.5100e-003	0.0000		1.6100e-003
Unmitigated	0.1915	1.0000e-005	7.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.5100e-003	1.5100e-003	0.0000		1.6100e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0438					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.1477					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	7.0000e-005	1.0000e-005	7.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.5100e-003	1.5100e-003	0.0000		1.6100e-003
Total	**0.1915**	**1.0000e-005**	**7.1000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**1.5100e-003**	**1.5100e-003**	**0.0000**		**1.6100e-003**

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	0.0438					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.1477					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	7.0000e-005	1.0000e-005	7.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.5100e-003	1.5100e-003	0.0000		1.6100e-003
Total	**0.1915**	**1.0000e-005**	**7.1000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**1.5100e-003**	**1.5100e-003**	**0.0000**		**1.6100e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

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

Borden Road Gas Station Project

San Diego County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Automobile Care Center	2.10	1000sqft	0.05	2,100.00	0
Convenience Market (24 Hour)	4.80	1000sqft	0.11	4,800.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2030
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	320.93	**CH4 Intensity (lb/MWhr)**	0.013	**N2O Intensity (lb/MWhr)**	0.003

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Adjusted to reflect compliance with accelerated RPS standards

Land Use -

Construction Phase - Grading phase duration extended to one month to account for soil import.

Off-road Equipment -

Off-road Equipment - Client provided data

Off-road Equipment - Client provided data

Off-road Equipment -

Off-road Equipment - Client provided data

Trips and VMT -

Grading - Grading area

Vehicle Trips - Trip generation for the convenience store with gas pumps and a car wash was estimated to be 2480 trips per day (155/pump). Trip lengths revised to match regional average trip length reported by SANDAG.

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Energy Use - Car wash specific energy use; kBTU converted to kWh (rounded up) and added to electricity use factor.

Water And Wastewater - Car wash specific water use

Energy Mitigation -

Table Name	Column Name	Default Value	New Value
tblEnergyUse	NT24E	4.27	117.25
tblEnergyUse	NT24E	3.16	3.48
tblEnergyUse	NT24NG	7.25	0.00
tblEnergyUse	NT24NG	1.09	0.00
tblEnergyUse	T24E	1.21	0.00
tblEnergyUse	T24E	3.18	3.52
tblEnergyUse	T24NG	4.31	0.00
tblEnergyUse	T24NG	1.14	0.00

tblGrading	AcresOfGrading	1.00	11.00
tblGrading	MaterialImported	0.00	12,106.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	UsageHours	1.00	8.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.013
tblProjectCharacteristics	CO2IntensityFactor	720.49	320.93
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.003
tblVehicleTrips	CC_TL	7.30	5.70
tblVehicleTrips	CC_TL	7.30	5.70
tblVehicleTrips	CC_TTP	48.00	80.10
tblVehicleTrips	CNW_TL	7.30	5.70
tblVehicleTrips	CNW_TL	7.30	5.70
tblVehicleTrips	CW_TL	9.50	5.70
tblVehicleTrips	CW_TL	9.50	5.70
tblVehicleTrips	CW_TTP	33.00	0.90
tblVehicleTrips	DV_TP	51.00	15.00
tblVehicleTrips	PB_TP	28.00	61.00
tblVehicleTrips	PR_TP	21.00	24.00
tblVehicleTrips	ST_TR	23.72	0.00
tblVehicleTrips	ST_TR	863.10	516.70
tblVehicleTrips	SU_TR	11.88	0.00
tblVehicleTrips	SU_TR	758.45	516.70
tblVehicleTrips	WD_TR	23.72	0.00
tblVehicleTrips	WD_TR	737.99	516.70
tblWater	IndoorWaterUseRate	197,570.33	2,104,000.00
tblWater	OutdoorWaterUseRate	121,091.49	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.1419	0.7629	0.6205	1.5000e-003	0.0306	0.0308	0.0614	9.7500e-003	0.0284	0.0381	0.0000	138.9318	138.9318	0.0305	0.0000	139.6932
Maximum	**0.1419**	**0.7629**	**0.6205**	**1.5000e-003**	**0.0306**	**0.0308**	**0.0614**	**9.7500e-003**	**0.0284**	**0.0381**	**0.0000**	**138.9318**	**138.9318**	**0.0305**	**0.0000**	**139.6932**

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					
2021	0.1419	0.7629	0.6205	1.5000e-003	0.0306	0.0308	0.0614	9.7500e-003	0.0284	0.0381	0.0000	138.9317	138.9317	0.0305	0.0000	139.6931
Maximum	**0.1419**	**0.7629**	**0.6205**	**1.5000e-003**	**0.0306**	**0.0308**	**0.0614**	**9.7500e-003**	**0.0284**	**0.0381**	**0.0000**	**138.9317**	**138.9317**	**0.0305**	**0.0000**	**139.6931**

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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**5-9-2021**	**8-8-2021**	0.5293	0.5293
2	**8-9-2021**	**9-30-2021**	0.2118	0.2118
		Highest	0.5293	0.5293

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	0.0350	0.0000	6.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.2000e-004	1.2000e-004	0.0000	0.0000	1.3000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	45.9458	45.9458	1.8600e-003	4.3000e-004	46.1204
Mobile	0.3081	1.3200	2.1950	6.1800e-003	0.5586	4.7800e-003	0.5634	0.1495	4.4300e-003	0.1540	0.0000	578.2395	578.2395	0.0367	0.0000	579.1570
Waste						0.0000	0.0000		0.0000	0.0000	4.5572	0.0000	4.5572	0.2693	0.0000	11.2901
Water						0.0000	0.0000		0.0000	0.0000	0.7803	5.0145	5.7948	0.0804	1.9400e-003	8.3814
Total	**0.3431**	**1.3200**	**2.1951**	**6.1800e-003**	**0.5586**	**4.7800e-003**	**0.5634**	**0.1495**	**4.4300e-003**	**0.1540**	**5.3375**	**629.1999**	**634.5374**	**0.3882**	**2.3700e-003**	**644.9490**

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	0.0350	0.0000	6.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.2000e-004	1.2000e-004	0.0000	0.0000	1.3000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	34.8096	34.8096	1.4100e-003	3.3000e-004	34.9418
Mobile	0.3081	1.3200	2.1950	6.1800e-003	0.5586	4.7800e-003	0.5634	0.1495	4.4300e-003	0.1540	0.0000	578.2395	578.2395	0.0367	0.0000	579.1570
Waste						0.0000	0.0000		0.0000	0.0000	4.5572	0.0000	4.5572	0.2693	0.0000	11.2901
Water						0.0000	0.0000		0.0000	0.0000	0.7803	5.0145	5.7948	0.0804	1.9400e-003	8.3814
Total	**0.3431**	**1.3200**	**2.1951**	**6.1800e-003**	**0.5586**	**4.7800e-003**	**0.5634**	**0.1495**	**4.4300e-003**	**0.1540**	**5.3375**	**618.0637**	**623.4012**	**0.3878**	**2.2700e-003**	**633.7705**

	ROG	NOx	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**	**1.77**	**1.76**	**0.12**	**4.22**	**1.73**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	5/9/2021	5/10/2021	5	1	
2	Grading	Grading	5/11/2021	5/12/2021	5	2	
3	Building Construction	Building Construction	5/13/2021	9/29/2021	5	100	
4	Paving	Paving	9/30/2021	10/6/2021	5	5	
5	Architectural Coating	Architectural Coating	10/7/2021	10/13/2021	5	5	

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 11

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 10,350; Non-Residential Outdoor: 3,450; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Skid Steer Loaders	1	8.00	65	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Skid Steer Loaders	1	8.00	65	0.37
Grading	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Cranes	1	4.00	231	0.29
Building Construction	Excavators	1	8.00	158	0.38
Building Construction	Forklifts	2	6.00	89	0.20
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	5	13.00	0.00	1,513.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	6	2.00	1.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Site Preparation - 2021

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					3.2800e-003	0.0000	3.2800e-003	1.6800e-003	0.0000	1.6800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.8000e-004	9.9000e-003	4.7300e-003	1.0000e-005		4.4000e-004	4.4000e-004		4.0000e-004	4.0000e-004	0.0000	0.8936	0.8936	2.9000e-004	0.0000	0.9009
Total	**8.8000e-004**	**9.9000e-003**	**4.7300e-003**	**1.0000e-005**	**3.2800e-003**	**4.4000e-004**	**3.7200e-003**	**1.6800e-003**	**4.0000e-004**	**2.0800e-003**	**0.0000**	**0.8936**	**0.8936**	**2.9000e-004**	**0.0000**	**0.9009**

3.2 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-005	1.0000e-005	1.2000e-004	0.0000	4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0350	0.0350	0.0000	0.0000	0.0351
Total	**2.0000e-005**	**1.0000e-005**	**1.2000e-004**	**0.0000**	**4.0000e-005**	**0.0000**	**4.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0350**	**0.0350**	**0.0000**	**0.0000**	**0.0351**

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					3.2800e-003	0.0000	3.2800e-003	1.6800e-003	0.0000	1.6800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.8000e-004	9.9000e-003	4.7300e-003	1.0000e-005		4.4000e-004	4.4000e-004		4.0000e-004	4.0000e-004	0.0000	0.8936	0.8936	2.9000e-004	0.0000	0.9009
Total	**8.8000e-004**	**9.9000e-003**	**4.7300e-003**	**1.0000e-005**	**3.2800e-003**	**4.4000e-004**	**3.7200e-003**	**1.6800e-003**	**4.0000e-004**	**2.0800e-003**	**0.0000**	**0.8936**	**0.8936**	**2.9000e-004**	**0.0000**	**0.9009**

3.2 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-005	1.0000e-005	1.2000e-004	0.0000	4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0350	0.0350	0.0000	0.0000	0.0351
Total	**2.0000e-005**	**1.0000e-005**	**1.2000e-004**	**0.0000**	**4.0000e-005**	**0.0000**	**4.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0350**	**0.0350**	**0.0000**	**0.0000**	**0.0351**

3.3 Grading - 2021

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					0.0127	0.0000	0.0127	4.0700e-003	0.0000	4.0700e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.1000e-003	0.0224	0.0126	3.0000e-005		1.0200e-003	1.0200e-003		9.5000e-004	9.5000e-004	0.0000	2.2567	2.2567	5.9000e-004	0.0000	2.2714
Total	**2.1000e-003**	**0.0224**	**0.0126**	**3.0000e-005**	**0.0127**	**1.0200e-003**	**0.0137**	**4.0700e-003**	**9.5000e-004**	**5.0200e-003**	**0.0000**	**2.2567**	**2.2567**	**5.9000e-004**	**0.0000**	**2.2714**

3.3 Grading - 2021

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	5.6800e-003	0.1976	0.0487	5.8000e-004	0.0129	6.0000e-004	0.0135	3.5600e-003	5.7000e-004	4.1300e-003	0.0000	57.6166	57.6166	5.2000e-003	0.0000	57.7466
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0000e-005	3.0000e-005	3.2000e-004	0.0000	1.0000e-004	0.0000	1.0000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0911	0.0911	0.0000	0.0000	0.0911
Total	**5.7300e-003**	**0.1976**	**0.0491**	**5.8000e-004**	**0.0130**	**6.0000e-004**	**0.0136**	**3.5900e-003**	**5.7000e-004**	**4.1600e-003**	**0.0000**	**57.7077**	**57.7077**	**5.2000e-003**	**0.0000**	**57.8378**

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					0.0127	0.0000	0.0127	4.0700e-003	0.0000	4.0700e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.1000e-003	0.0224	0.0126	3.0000e-005		1.0200e-003	1.0200e-003		9.5000e-004	9.5000e-004	0.0000	2.2567	2.2567	5.9000e-004	0.0000	2.2714
Total	**2.1000e-003**	**0.0224**	**0.0126**	**3.0000e-005**	**0.0127**	**1.0200e-003**	**0.0137**	**4.0700e-003**	**9.5000e-004**	**5.0200e-003**	**0.0000**	**2.2567**	**2.2567**	**5.9000e-004**	**0.0000**	**2.2714**

3.3 Grading - 2021

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	5.6800e-003	0.1976	0.0487	5.8000e-004	0.0129	6.0000e-004	0.0135	3.5600e-003	5.7000e-004	4.1300e-003	0.0000	57.6166	57.6166	5.2000e-003	0.0000	57.7466
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0000e-005	3.0000e-005	3.2000e-004	0.0000	1.0000e-004	0.0000	1.0000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0911	0.0911	0.0000	0.0000	0.0911
Total	**5.7300e-003**	**0.1976**	**0.0491**	**5.8000e-004**	**0.0130**	**6.0000e-004**	**0.0136**	**3.5900e-003**	**5.7000e-004**	**4.1600e-003**	**0.0000**	**57.7077**	**57.7077**	**5.2000e-003**	**0.0000**	**57.8378**

3.4 Building Construction - 2021

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	0.0502	0.5069	0.5268	8.3000e-004		0.0276	0.0276		0.0254	0.0254	0.0000	72.7294	72.7294	0.0235	0.0000	73.3174
Total	**0.0502**	**0.5069**	**0.5268**	**8.3000e-004**		**0.0276**	**0.0276**		**0.0254**	**0.0254**	**0.0000**	**72.7294**	**72.7294**	**0.0235**	**0.0000**	**73.3174**

3.4 Building Construction - 2021

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	1.5000e-004	5.1400e-003	1.3700e-003	1.0000e-005	3.3000e-004	1.0000e-005	3.4000e-004	1.0000e-004	1.0000e-005	1.1000e-004	0.0000	1.3072	1.3072	1.0000e-004	0.0000	1.3096
Worker	3.5000e-004	2.5000e-004	2.5000e-003	1.0000e-005	8.0000e-004	1.0000e-005	8.1000e-004	2.1000e-004	1.0000e-005	2.2000e-004	0.0000	0.7005	0.7005	2.0000e-005	0.0000	0.7010
Total	**5.0000e-004**	**5.3900e-003**	**3.8700e-003**	**2.0000e-005**	**1.1300e-003**	**2.0000e-005**	**1.1500e-003**	**3.1000e-004**	**2.0000e-005**	**3.3000e-004**	**0.0000**	**2.0077**	**2.0077**	**1.2000e-004**	**0.0000**	**2.0107**

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	0.0502	0.5069	0.5268	8.3000e-004		0.0276	0.0276		0.0254	0.0254	0.0000	72.7293	72.7293	0.0235	0.0000	73.3173
Total	**0.0502**	**0.5069**	**0.5268**	**8.3000e-004**		**0.0276**	**0.0276**		**0.0254**	**0.0254**	**0.0000**	**72.7293**	**72.7293**	**0.0235**	**0.0000**	**73.3173**

3.4 Building Construction - 2021

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	1.5000e-004	5.1400e-003	1.3700e-003	1.0000e-005	3.3000e-004	1.0000e-005	3.4000e-004	1.0000e-004	1.0000e-005	1.1000e-004	0.0000	1.3072	1.3072	1.0000e-004	0.0000	1.3096
Worker	3.5000e-004	2.5000e-004	2.5000e-003	1.0000e-005	8.0000e-004	1.0000e-005	8.1000e-004	2.1000e-004	1.0000e-005	2.2000e-004	0.0000	0.7005	0.7005	2.0000e-005	0.0000	0.7010
Total	**5.0000e-004**	**5.3900e-003**	**3.8700e-003**	**2.0000e-005**	**1.1300e-003**	**2.0000e-005**	**1.1500e-003**	**3.1000e-004**	**2.0000e-005**	**3.3000e-004**	**0.0000**	**2.0077**	**2.0077**	**1.2000e-004**	**0.0000**	**2.0107**

3.5 Paving - 2021

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	1.8000e-003	0.0168	0.0177	3.0000e-005		8.8000e-004	8.8000e-004		8.2000e-004	8.2000e-004	0.0000	2.3481	2.3481	6.8000e-004	0.0000	2.3652
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.8000e-003**	**0.0168**	**0.0177**	**3.0000e-005**		**8.8000e-004**	**8.8000e-004**		**8.2000e-004**	**8.2000e-004**	**0.0000**	**2.3481**	**2.3481**	**6.8000e-004**	**0.0000**	**2.3652**

3.5 Paving - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.6000e-004	1.1000e-004	1.1200e-003	0.0000	3.6000e-004	0.0000	3.6000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.3152	0.3152	1.0000e-005	0.0000	0.3155
Total	**1.6000e-004**	**1.1000e-004**	**1.1200e-003**	**0.0000**	**3.6000e-004**	**0.0000**	**3.6000e-004**	**1.0000e-004**	**0.0000**	**1.0000e-004**	**0.0000**	**0.3152**	**0.3152**	**1.0000e-005**	**0.0000**	**0.3155**

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	1.8000e-003	0.0168	0.0177	3.0000e-005		8.8000e-004	8.8000e-004		8.2000e-004	8.2000e-004	0.0000	2.3481	2.3481	6.8000e-004	0.0000	2.3652
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.8000e-003**	**0.0168**	**0.0177**	**3.0000e-005**		**8.8000e-004**	**8.8000e-004**		**8.2000e-004**	**8.2000e-004**	**0.0000**	**2.3481**	**2.3481**	**6.8000e-004**	**0.0000**	**2.3652**

3.5 Paving - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.6000e-004	1.1000e-004	1.1200e-003	0.0000	3.6000e-004	0.0000	3.6000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.3152	0.3152	1.0000e-005	0.0000	0.3155
Total	**1.6000e-004**	**1.1000e-004**	**1.1200e-003**	**0.0000**	**3.6000e-004**	**0.0000**	**3.6000e-004**	**1.0000e-004**	**0.0000**	**1.0000e-004**	**0.0000**	**0.3152**	**0.3152**	**1.0000e-005**	**0.0000**	**0.3155**

3.6 Architectural Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0800					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.5000e-004	3.8200e-003	4.5400e-003	1.0000e-005		2.4000e-004	2.4000e-004		2.4000e-004	2.4000e-004	0.0000	0.6383	0.6383	4.0000e-005	0.0000	0.6394
Total	**0.0805**	**3.8200e-003**	**4.5400e-003**	**1.0000e-005**		**2.4000e-004**	**2.4000e-004**		**2.4000e-004**	**2.4000e-004**	**0.0000**	**0.6383**	**0.6383**	**4.0000e-005**	**0.0000**	**0.6394**

3.6 Architectural Coating - 2021

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0800					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.5000e-004	3.8200e-003	4.5400e-003	1.0000e-005		2.4000e-004	2.4000e-004		2.4000e-004	2.4000e-004	0.0000	0.6383	0.6383	4.0000e-005	0.0000	0.6394
Total	**0.0805**	**3.8200e-003**	**4.5400e-003**	**1.0000e-005**		**2.4000e-004**	**2.4000e-004**		**2.4000e-004**	**2.4000e-004**	**0.0000**	**0.6383**	**0.6383**	**4.0000e-005**	**0.0000**	**0.6394**

3.6 Architectural Coating - 2021

Mitigated Construction Off-Site

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

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.3081	1.3200	2.1950	6.1800e-003	0.5586	4.7800e-003	0.5634	0.1495	4.4300e-003	0.1540	0.0000	578.2395	578.2395	0.0367	0.0000	579.1570
Unmitigated	0.3081	1.3200	2.1950	6.1800e-003	0.5586	4.7800e-003	0.5634	0.1495	4.4300e-003	0.1540	0.0000	578.2395	578.2395	0.0367	0.0000	579.1570

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Automobile Care Center	0.00	0.00	0.00		
Convenience Market (24 Hour)	2,480.16	2,480.16	2480.16	1,483,039	1,483,039
Total	2,480.16	2,480.16	2,480.16	1,483,039	1,483,039

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
Automobile Care Center	5.70	5.70	5.70	0.90	80.10	19.00	24	15	61
Convenience Market (24 Hour)	5.70	5.70	5.70	0.90	80.10	19.00	24	15	61

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Automobile Care Center	0.616428	0.037185	0.177402	0.097684	0.012090	0.005279	0.017663	0.025476	0.001931	0.001677	0.005617	0.000785	0.000782
Convenience Market (24 Hour)	0.616428	0.037185	0.177402	0.097684	0.012090	0.005279	0.017663	0.025476	0.001931	0.001677	0.005617	0.000785	0.000782

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Kilowatt Hours of Renewable Electricity Generated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	34.8096	34.8096	1.4100e-003	3.3000e-004	34.9418
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	45.9458	45.9458	1.8600e-003	4.3000e-004	46.1204
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Automobile Care Center	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
Convenience Market (24 Hour)	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Automobile Care Center	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
Convenience Market (24 Hour)	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Automobile Care Center	252168	36.7085	1.4900e-003	3.4000e-004	36.8479
Convenience Market (24 Hour)	63456	9.2374	3.7000e-004	9.0000e-005	9.2725
Total		**45.9458**	**1.8600e-003**	**4.3000e-004**	**46.1204**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Automobile Care Center	213918	31.1403	1.2600e-003	2.9000e-004	31.2586
Convenience Market (24 Hour)	25206	3.6693	1.5000e-004	3.0000e-005	3.6832
Total		**34.8096**	**1.4100e-003**	**3.2000e-004**	**34.9418**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0350	0.0000	6.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.2000e-004	1.2000e-004	0.0000	0.0000	1.3000e-004
Unmitigated	0.0350	0.0000	6.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.2000e-004	1.2000e-004	0.0000	0.0000	1.3000e-004

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	8.0000e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0270					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.0000e-005	0.0000	6.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.2000e-004	1.2000e-004	0.0000	0.0000	1.3000e-004
Total	**0.0350**	**0.0000**	**6.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.2000e-004**	**1.2000e-004**	**0.0000**	**0.0000**	**1.3000e-004**

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	8.0000e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0270					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.0000e-005	0.0000	6.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.2000e-004	1.2000e-004	0.0000	0.0000	1.3000e-004
Total	**0.0350**	**0.0000**	**6.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.2000e-004**	**1.2000e-004**	**0.0000**	**0.0000**	**1.3000e-004**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	5.7948	0.0804	1.9400e-003	8.3814
Unmitigated	5.7948	0.0804	1.9400e-003	8.3814

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Automobile Care Center	2.104 / 0	4.6556	0.0687	1.6600e-003	6.8671
Convenience Market (24 Hour)	0.355548 / 0.217917	1.1392	0.0116	2.8000e-004	1.5142
Total		**5.7948**	**0.0804**	**1.9400e-003**	**8.3814**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Automobile Care Center	2.104 / 0	4.6556	0.0687	1.6600e-003	6.8671
Convenience Market (24 Hour)	0.355548 / 0.217917	1.1392	0.0116	2.8000e-004	1.5142
Total		**5.7948**	**0.0804**	**1.9400e-003**	**8.3814**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	4.5572	0.2693	0.0000	11.2901
Unmitigated	4.5572	0.2693	0.0000	11.2901

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Automobile Care Center	8.02	1.6280	0.0962	0.0000	4.0333
Convenience Market (24 Hour)	14.43	2.9292	0.1731	0.0000	7.2569
Total		**4.5572**	**0.2693**	**0.0000**	**11.2901**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Automobile Care Center	8.02	1.6280	0.0962	0.0000	4.0333
Convenience Market (24 Hour)	14.43	2.9292	0.1731	0.0000	7.2569
Total		**4.5572**	**0.2693**	**0.0000**	**11.2901**

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

N2O Operational GHG Emission Mobile Calculations: Project with EVs

Project Code & Title: 19-07829, Carlsbad Corporate Plaza Parking GHG Study

Vehicle Population Breakdown*	
2779836	Gasoline vehicles
134216	Diesel vehicles
95.4%	Gasoline vehicle %
4.6%	Diesel vehicle %

VMT per Vehicle Type	
1,483,039	Project VMT (CalEEMod output minus EV estimated VMT)
1414733	Gasoline vehicle VMT
68306	Diesel vehicle VMT

Gasoline Vehicles	
95.4%	Gasoline vehicle %
1.3612	Tons per year mobile NOX emissions (annual output in CalEEMod)
1.30	Gasoline vehicle tons per year NOX emissions
4.16%	Percentage to convert NOX emissions to N2O **
0.0540	Tons per year N2O emissions for gasoline vehicles
0.0490	Metric tons per year N2O emissions for gasoline vehicles

Diesel Vehicles	
0.3316	grams N2O per gallon of fuel for diesel vehicles**
4055.98	Diesel average miles per gallon*
0.00008	grams per mile N2O for diesel vehicles
5.6	grams per year N2O for diesel vehicles
0.0000056	Metric tons per year N2O emissions for diesel vehicles

CO2E Emissions from N2O	
0.0490	Metric tons per year from gasoline + diesel vehicles
298	GWP of N2O***
14.6	**CO2E emissions per year from N2O emissions from gasoline + diesel vehicles**

Sources
***Vehicle population source:**
EMFAC2017 (v1.0.2) Emissions Inventory
Region Type: County
Region: SAN DIEGO
Calendar Year: 2030
Season: Annual
Vehicle Classification: EMFAC2007 Categories
****Methodology source:**
EMFAC2011 Frequently Asked Questions
https://www.arb.ca.gov/msei/emfac2011-faq.htm
*****GWP source:**
Intergovernmental Panel on Climate Change (IPCC). 2007.
AR4 Climate Change 2007: The Physical Science Basis.
Contrbution of Working Group I to the Fourth Assessment Report of the
Intergovernmental Panel on Climate Change.

Appendix B

Project CAP Consistency Checklist

Application Information

Contact Information

Project No. and Name: Twin Oaks Fuel, Convenience Store, and Car Wash Project; CUP 20-0006

Property Address and APN: 220-050-0900

Applicant Name and Co.: Namou Group

Contact Phone: _____ Contact Email: _____

Was a consultant retained to complete this checklist? ☑ Yes ☐ No
If Yes, complete the following:

Consultant Name: Jack Emerson Contact Phone: 858-761-3500

Company Name: Rincon Consultants, Inc. Contact Email: jemerson@rinconconsultants.com

Project Information

1. What is the size of the project site (acres)? 2.5 acres

2. Identify all applicable proposed land uses:
   - ☐ Residential (indicate # of single-family dwelling units): _____
   - ☐ Residential (indicate # of multi-family dwelling units): _____
   - ☑ Commercial (indicate total square footage): 4,795 square foot convenience store; and 2,134 square foot car wash
   - ☐ Industrial (indicate total square footage): _____
   - ☑ Other (describe): 16 fuel pumps under a 5,462 square foot canopy

3. Provide a description of the project proposed. This description should match the basic project description used for the CEQA document. The description may be attached to the Checklist if there are space constraints.

The project proposes an automotive fueling station consisting of a 4,795 square foot convenience store, a 5,462 square foot fuel pump canopy with 16 fuel pumps, and a 2,134 square foot automated car wash. The project site is zoned Commercial (C) and the General Plan land use designation is also Commercial (C).

STEP 1: LAND USE CONSISTENCY

The first step in this section evaluates a project's GHG emissions consistent with the City's *Guidance to Demonstrating Consistency with the City of San Marcos Climate Action Plan: For Discretionary Projects Subject to CEQA* (Guidance Document). New discretionary development projects subject to CEQA review that emit fewer than 500 metric tons of carbon dioxide equivalent ($MTCO_2e$) annually would not contribute considerably to cumulative climate change impacts as stated in the City's Guidance Document, and therefore, would be considered consistent with the CAP and associated emissions projections.

For projects that are subject to CAP consistency review, the next step in determining consistency is to assess the project's consistency with the growth projections used in the development of the CAP. This section allows the city to determine a project's consistency with the land use assumptions used in the CAP.

Step 1: Land Use Consistency

	Checklist Item (Check the appropriate box and provide an explanation and supporting documentation for your answer)	**Yes**	**No**
1.	The size and type of projects listed below would emit fewer than 500 $MTCO_2e$ per year. Based on this threshold, does the proposed project exceed these characteristics? ▪ Single Family Housing: 36 dwelling units ▪ Multi-Family Housing: 55 dwelling units ▪ Office: 43,000 square feet ▪ Commercial Space: 20,000 square feet ▪ Regional Shopping Center: 18,000 square feet ▪ Hotel: 37 rooms ▪ Restaurant (Sit-Down): 6,500 square feet ▪ Restaurant (Drive-Thru, High Turnover): 2,400 square feet ▪ General Light Industrial: 58,000 square feet ▪ University: 263 students ▪ Mixed-Use: See *Guidance to Demonstrating Consistency* memorandum for methods to estimate mixed-use development thresholds ▪ Other: For project types not listed in this section the need for GHG analysis and mitigation will be made on a project-specific basis, considering the 500 $MTCO_2e$ per year screening threshold. If **"Yes",** proceed to Question 2 of Step 1. If **"No",** in accordance with the City's CAP screening criteria, the project's GHG impact is less than significant and is not subject to the measures of the CAP.	☑	☐
2.	Is the proposed project consistent with the City's existing General Plan land use designation? If **"Yes"**, proceed to Step 2. If **"No"**, proceed to Question 3 of Step 1	☑	☐
3.	For projects not consistent with the existing General Plan land use designation, does the project include a General Plan Amendment that would generate GHG emissions equal to or less than estimated emissions generated under the existing designation? If **"Yes"**, proceed to Step 2 and provide estimated project emissions under both existing and proposed designation(s) for comparison. If **"No"**, the project's GHG impact is potentially significant, and a GHG analysis must be prepared in accordance with the City's Guidance Document and applicable CEQA guidelines. The project must incorporate each of the measures identified in Step 2 to mitigate cumulative GHG emissions impacts, along with other mitigation measures as necessary based on a project specific GHG analysis.. Proceed and complete a project specific GHG analysis, and Step 2 of the Checklist.	☐	☐

STEP 2: CAP MEASURES CONSISTENCY

The second step of CAP consistency review is to evaluate a project's consistency with the applicable strategies and measures of the CAP. Each Checklist item is associated with a specific GHG reduction measure in the City's CAP. "N/A" should only be checked based on the direction provided in each Checklist Item question. All projects for which the measure is applicable must demonstrate that they would implement measures consistent with the Checklist Item, or fully substantiate how the item would be infeasible for project implementation. "N/A" responses are subject to Planning Division review and approval. If "No" is provided as a response to a question, the project would be determined to be inconsistent with the CAP and result in a significant GHG impact.

Step 2: CAP Measures Consistency			
Checklist Item (Check the appropriate box and provide an explanation for your answer. Please use additional sheets if necessary)	**Yes**	**No**	**N/A**
Project Design			
1. Electric Vehicle Charging Stations (Measure T-2) Multi-Family Residential and Non-Residential: Will the project install electric vehicle charging stations (Level 2 or better) in at least five percent of the total parking spaces provided on-site? Check "N/A" if the project is a single-family residential project or would not provide any parking.	☑	☐	☐
Please substantiate how the project satisfies question 1: The project will include 25 on-site parking spaces; five percent of this amount would equate to two (1.25 rounded up) spaces. The project would exceed the requirement by providing EV charging (Level 2 or better) at three parking spaces.			
2. Bicycle Infrastructure (Measure T-8) Residential and Non-Residential Projects: If the following conditions are met, would the project pay its fair-share contribution to bicycle infrastructure improvements? ☐ Intersection or roadway segment improvements are proposed as part of the project and, ☐ The City's General Plan Mobility Element identifies bicycle infrastructure improvements at any intersection(s) or roadway segment(s) that would be improved as part of the project. Check "N/A" if the conditions above would not be met.	☐	☐	☑
Please substantiate how the project satisfies question 2: The project would not propose intersection or roadway segment improvements.			

Step 2: CAP Measures Consistency			
Checklist Item (Check the appropriate box and provide an explanation for your answer. Please use additional sheets if necessary)	**Yes**	**No**	**N/A**
3. Transportation Demand Management (Measure T-9) Multi-Family Residential and Non-Residential: Will the project develop and implement a TDM plan that includes, at a minimum, all of the TDM strategies listed below? ☐ Provide discounted monthly transit pass or provide at least 25 percent transit fare subsidy to residents/employees. ☐ Provide designated car-share, carpool, vanpool, and/or park-and-ride parking spaces.[2] ☐ Provide pedestrian connections between all internal uses and to all existing or planned external streets around the project site(s). ☐ Provide secure bicycle parking spaces or bicycle racks, showers, and clothes lockers. ☐ Encourage telecommuting for employees (allow one telecommute day per week or compressed work weeks) or provide a telecommute work center with common office space and equipment available to residents. *-or-* Would the project implement and monitor for four (4) years a TDM program that demonstrates an alternative transportation (i.e. carpool, public transit, bicycle, walk, telecommute) mode share of at least 29 percent [3] for all residents? Check "N/A" if the project is a single-family residential project or is not subject to the City's TDM Ordinance.	☐	☐	☑

Please state which measure option the project for which the project would comply and substantiate how the project satisfies question 3:

The project would have 7 employees per day (two 3-employee shifts for the convenience store and one atendant for the car wash). Due to the minimal employee count, TDM strategies included in the CAP such as mass transit subsidies, carpool spaces, pedestrian connections, bicycle racks, employee showers/lockers, and telecommuting would not achieve meaningful GHG reductions and therefore are not applicable.

[2] The designated number of car-share, carpool, vanpool, and/or park-and-ride parking spaces provided at a rate equal to or greater than CALGreen minimum requirements.

[3] Measure T-10 requires projects to increase alternative mode share by seven percent. The baseline mode share for alternative transportation (i.e. carpool, public transit, bicycle, walk, and telecommute) is 22 percent based on 2010 Census Data.

Step 2: CAP Measures Consistency			
Checklist Item (Check the appropriate box and provide an explanation for your answer. Please use additional sheets if necessary)	**Yes**	**No**	**N/A**
4. Reduce Parking Near Transit (Measure T-12) Multi-Family Residential: If located within a half-mile of a major transit stop[4], would the project provide at least 27 percent fewer parking spaces than required for the same use based on the City's municipal code parking requirements? Check "N/A" if the project is a single-family residential or non-residential project.	☐	☐	☑
Please substantiate how the project satisfies question 4: The project is a non-residential project.			
5. Water Heaters (Measure E-1) Residential: Will the project install one of, or a combination of, the following water heater types in place of natural gas water heaters? ☐ Electric heat pump water heater ☐ Instantaneous electric water heater ☐ Electric tank ☐ Solar water heater with heat pump water heater backup ☐ Solar water heater with electric tank backup Check "N/A" if the project is a non-residential project.	☐	☐	☑
Please substantiate how the project satisfies question 5: The project is a non-residential project.			

[4] Major transit stop is defined as a bus or light-rail station with fixed service and 10-minute minimum headways during peak hours. Project applicants should confirm with City staff if the project site would fall within this proximity tot a major transit stop.

Step 2: CAP Measures Consistency			
Checklist Item (Check the appropriate box and provide an explanation for your answer. Please use additional sheets if necessary)	**Yes**	**No**	**N/A**
6. Photovoltaic Installation (Measure E-2) Non-Residential: Will the project install photovoltaic systems with a minimum capacity of two watts per square foot of gross floor area? Check "N/A" if the project is a residential project or if installation of on-site photovoltaic would be infeasible.	☑	☐	☐
Please substantiate how the project satisfies question 6: The project proposes a 4,083 square foot convenience store with 712 square feet of storage space and a 2,134 square foot car wash. The gas station canopy is 5,462 square feet and includes 16 fuel pumps. Consistency with this item would require a photovoltaic system with a capacity of approximately 24.8 kW. The project would comply with this item through installation of solar panels on the rooftop of the car wash; the rated capacity of the system would be approximately 45 kW. The project would thereby exceed this requirement.			
7. Landscaping Water Use (Measure W-1) Residential and Non-Residential: Will the project comply with the City's Water Efficient Landscape Ordinance?[5] Check "N/A" if the project is not proposing any landscaping or is not subject to the City's Water Efficient Landscape Ordinance.	☑	☐	☐
Please substantiate how the project satisfies question 7: The project would comply with the City's Water Efficient Landscape Ordinance. The Maximum Applied Water Allowance (MAWA) for the project is 471,444 gallons per year.			

[5] City of San Marcos Landscape Manual: https://www.san-marcos.net/home/showdocument?id=13984

Step 2: CAP Measures Consistency			
Checklist Item (Check the appropriate box and provide an explanation for your answer. Please use additional sheets if necessary)	**Yes**	**No**	**N/A**
8. Urban Tree Canopy (Measure C-2) Single-Family Residential: Will the project plant a minimum of one tree per single-family residential unit? *-or-* Multi-Family Residential and Non-Residential: If the project is providing more than 10 parking spaces, will the project plant at least one tree per five parking spaces provided? Check "N/A" if planting the required number of trees on-site would be infeasible.	☑	☐	☐

Please substantiate how the project satisfies question 8:

The project includes 25 on-site parking spaces; one tree per five spaces would equate to five trees. The project would exceed this requirement by planting 24 total trees, which includes 4 marina arbutus trees, 4 coast live oak trees, and 16 desert museum palo verde trees.