AIR QUALITY AND GREENHOUSE GAS ANALYSIS

SHELL GAS STATION PROJECT

COMMUNITY OF MENTONE

SAN BERNARDINO COUNTY, CALIFORNIA

LSA

April 2019

AIR QUALITY AND GREENHOUSE GAS ANALYSIS

SHELL GAS STATION PROJECT

COMMUNITY OF MENTONE

SAN BERNARDINO COUNTY, CALIFORNIA

Prepared for:

CJC Design, Inc.
22485 La Palma Avenue, Suite 202
Yorba Linda, California 92887

Prepared by:

LSA Associates, Inc.
1500 Iowa Avenue, Suite 200
Riverside, California 92507
(951) 781-9310

LSA Project No. CJD1901

LSA

April 2019

EXECUTIVE SUMMARY

LSA was retained by the CJC Design to prepare an air quality and greenhouse gas (GHG) impact study for the Shell Gas Station Project (project) to be located in the unincorporated community of Mentone, San Bernardino County (County), California.

The project involves the development of a Shell gas station with car wash services and a convenience store. The project would be constructed starting in 2019 and would become operational in 2020.

This air quality and GHG impact analysis provides a discussion of the proposed project, the physical setting of the project area, and the regulatory framework for air quality and GHG. The report provides data on existing air quality and evaluates potential air quality and GHG impacts associated with the proposed project.

Emissions with regional effects during project construction, calculated with the California Emissions Estimator Model (CalEEMod; Version 2016.3.2), would not exceed criteria pollutant thresholds established by the South Coast Air Quality Management District (SCAQMD). Compliance with SCAQMD Rules and Regulations during construction would reduce construction-related air quality impacts from fugitive dust emissions and construction equipment emissions. Construction emissions for the proposed project would not exceed the localized significance thresholds (LSTs) at the closest existing residences south of the project site.

Pollutant emissions from project operation, also calculated with CalEEMod, would not exceed the SCAQMD criteria pollutant thresholds. LSTs would not be exceeded by long-term emissions from project operations. Historical air quality data show that existing carbon monoxide (CO) levels for the project area and the general vicinity do not exceed either federal or State ambient air quality standards. The proposed project would not result in substantial increases in CO concentrations at intersections in the project vicinity that would result in the exceedance of federal or State CO concentration standards.

Although odor impacts are unlikely, the proposed project would be required to comply with SCAQMD Rule 402 in the event a nuisance complaint occurs. Impacts associated with objectionable odors would be less than significant.

This study addresses the project's potential to affect global climate change. In 2016, the County adopted the GHG Development Review Process (DRP). The DRP sets a review standard of 3,000 metric tons of carbon dioxide equivalent per year, which is the applicable threshold for this project. Short-term construction and long-term operational emissions of the principal GHGs, including carbon dioxide and methane, were quantified and compared to this threshold. Project-related GHG emissions would not exceed this threshold. Consistency with the policies and goals of the adopted County of San Bernardino GHG Emissions Reduction Plan and incorporation of the GHG performance standards in the DRP demonstrates that the project complies with the regional GHG emissions reduction goals.

The proposed use is consistent with the County's zoning designation for the project site and its surrounding area, which is consistent with the County's General Plan. The County's General Plan is consistent with the Southern California Association of Governments (SCAG) Regional Comprehensive Plan Guidelines and the SCAQMD Air Quality Management Plan (AQMP). Thus, the proposed project would be consistent with the regional AQMP.

Cumulative construction and operational emissions were found to be less than significant. The proposed project's design would result in project consistency with the California Climate Change Scoping Plan and SCAG Regional Transportation Plan/Sustainable Communities Strategy. Therefore, the proposed project would not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the GHG emissions. Given this consistency, it is concluded that the proposed project's impact to the climate from GHG emissions would not be cumulatively considerable.

This evaluation was prepared in conformance with appropriate standards, using procedures and methodologies in the SCAQMD *CEQA Air Quality Handbook* (SCAQMD 1993) and associated updates. Air quality data posted on the California Air Resources Board and the United States Environmental Protection Agency websites are included to document the local air quality environment.

TABLE OF CONTENTS

APPENDIX

FIGURES

TABLES

LIST OF ABBREVIATIONS AND ACRONYMS

°C	degrees Celsius
°F	degrees Fahrenheit
µg/m^3	micrograms per cubic meter
AAQS	ambient air quality standards
AB	Assembly Bill
AQMP	Air Quality Management Plan
Basin	South Coast Air Basin
Bio-CO_2	biologically generated carbon dioxide
CAA	(Federal) Clean Air Act
CAAQS	California ambient air quality standards
CalEEMod	California Emissions Estimator Model
CALGreen	California Green Building Standards Code
CalRecycle	California Department of Resources Recycling and Recovery
CAP	Climate Action Plan
CARB	California Air Resources Board
CCAA	California Clean Air Act
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CH_4	methane
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
County	San Bernardino County
DRP	Development Review Process
EMFAC	Emission FACtors
EO	Executive Order
EPA	(United States) Environmental Protection Agency
GCC	global climate change
GHG	greenhouse gas
GWP	global warming potential
H_2S	hydrogen sulfide
HFCs	hydrofluorocarbons
IPCC	Intergovernmental Panel on Climate Change
ITE	Institute of Transportation Engineers
lbs/day	pounds per day
LOS	Level of Service
LST	localized significance threshold
mg/m^3	milligrams per cubic meter
MICR	maximum individual cancer risk
MMT	million metric tons
MMT CO_2e	million metric tons of carbon dioxide equivalent
mph	miles per hour

MPO	Metropolitan Planning Organization
MT	metric ton(s)
MT CO_2e	metric tons of carbon dioxide equivalent
MT CO_2e/yr	metric tons of carbon dioxide equivalent per year
MT/yr	metric tons per year
N_2O	nitrous oxide
NAAQS	national ambient air quality standards
NBio-CO_2	non-biologically generated carbon dioxide
NO	nitric oxide
NO_2	nitrogen dioxide
NOx	nitrogen oxides
O_3	ozone (or smog)
OPR	Office of Planning and Research
PFCs	perfluorocarbons
PM	particulate matter
PM_{10}	particulate matter less than 10 microns in size
$PM_{2.5}$	particulate matter less than 2.5 microns in size
ppb	parts per billion
ppm	parts per million
project	Shell Gas Station Project
ROCs	reactive organic compounds
ROGs	reactive organic gases
RTP/SCS	Regional Transportation Plan/Sustainable Communities Strategy
SB	Senate Bill
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
sf	square feet/foot
SF_6	sulfur hexafluoride
SIP	State Implementation Plan
SO_2	sulfur dioxide
SOx	sulfur oxides
SRA	Source Receptor Area
State	State of California
TAC	toxic air contaminant
VMT	vehicle miles traveled
VOCs	volatile organic compounds

INTRODUCTION

This air quality and greenhouse gas (GHG) impact analysis has been prepared to evaluate the potential air quality and climate change impacts and mitigation measures associated with the proposed Shell Gas Station Project (project) in the unincorporated community of Mentone, San Bernardino County (County), California. This report provides a project-specific air quality and climate change impact analysis by examining the impacts of the proposed uses on adjacent sensitive uses as well as the impacts on the proposed uses on the project site. This air quality and GHG impact analysis will follow guidelines identified by the South Coast Air Quality Management District (SCAQMD) in its *CEQA Air Quality Handbook* (SCAQMD 1993), and associated updates.

PROJECT LOCATION

As shown in Figure 1, the Shell Gas Station Project site is located at the southwest corner of Mentone Boulevard and Crafton Avenue, in the unincorporated community of Mentone, San Bernardino County. The project site is currently vacant.

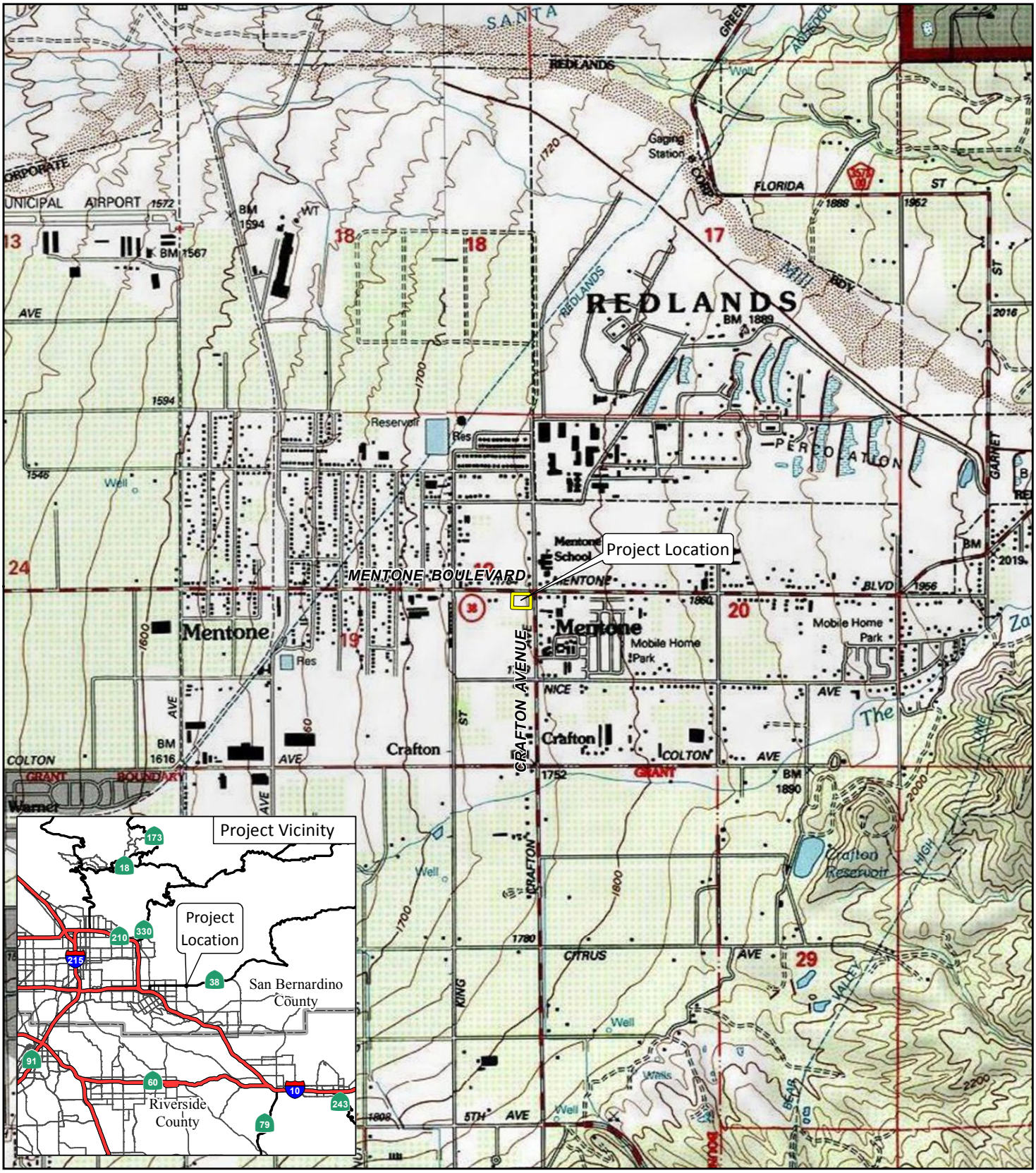
PROJECT DESCRIPTION

The project would construct a gas station with 12 fueling stations, automated car wash services, and a convenience store. The convenience store would be 2,920 square feet (sf) and the car wash would be 4,419 sf. The total lot area is 1.28 acres. The project would also include 38 parking spaces. Figure 2 depicts the project's proposed site plan.

Existing Sensitive Land Uses in the Project Area

Sensitive receptors include residences, schools, hospitals, and similar uses sensitive to air quality. The project site is surrounded primarily by residential and commercial development. The areas adjacent to the project site include the following uses:

- North: Commercial development, including a storage warehouse and a car repair store.
- South: Residential development within 20 feet from the project site boundary.
- East: Commercial development, including several retail stores.
- West: Residential development approximately 200 feet from the project site boundary.



LSA

LEGEND

Project Location

FIGURE 1

N

0 1000 2000

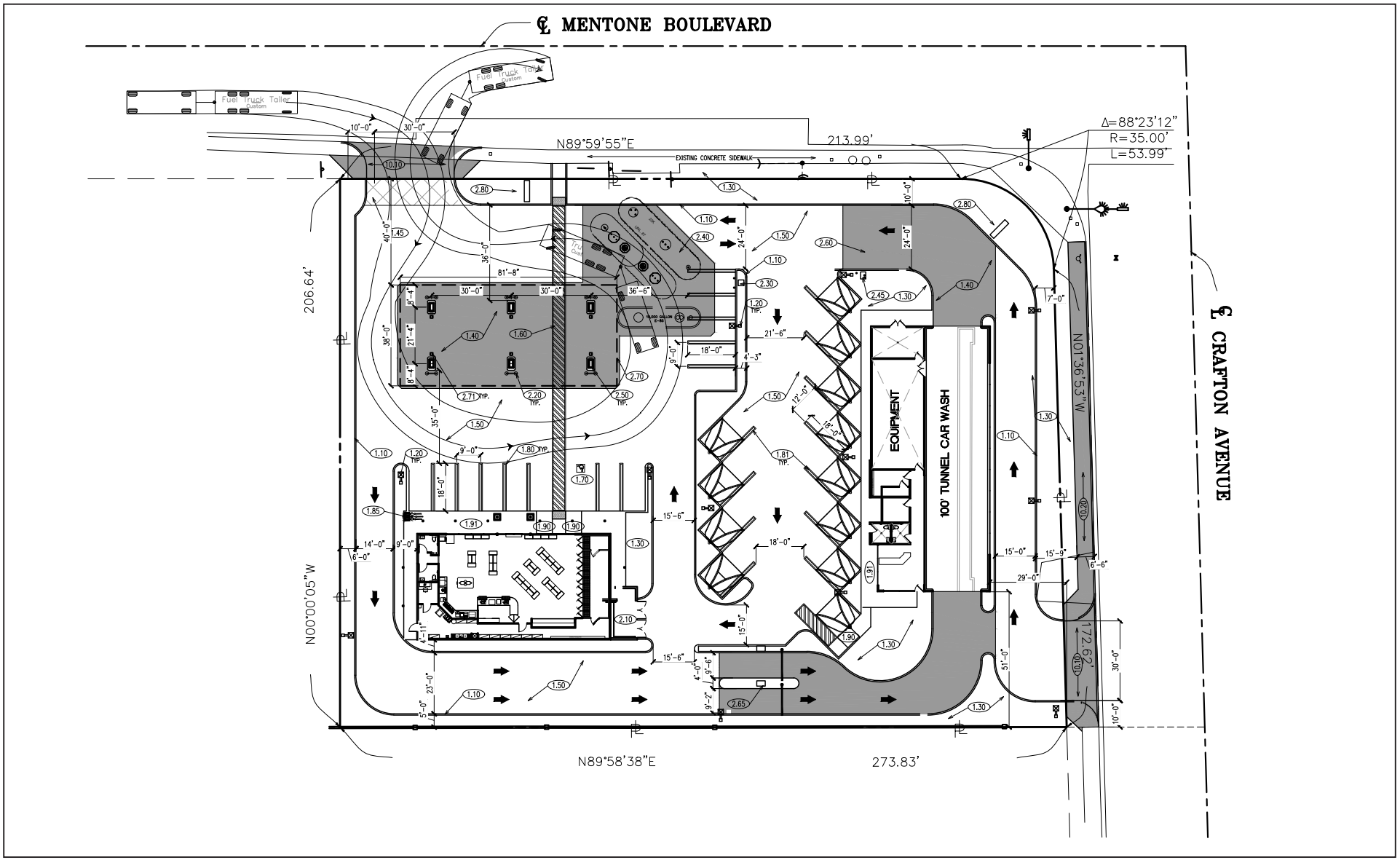
FEET

Shell Gas Station Project

Regional and Project Location

SOURCE: USGS 7.5' Quads: Redlands & Yucaipa, 1988, CA.

I:\CJD1901\Reports\BIO\Reg_Loc.mxd (4/9/2019)



LSA

FIGURE 2

N

0 27 54

FEET

SOURCE: CJC Design, Inc.

Shell Gas Station Project

Site Plan

I:\CJD1901\G\Site Plan.cdr (4/22/2019)

PROJECT SETTING

REGIONAL AIR QUALITY

The project site is in the non-desert portion of San Bernardino County, California, which is part of the South Coast Air Basin (Basin) and is under the jurisdiction of the SCAQMD. The air quality assessment for the proposed project includes estimating emissions associated with short-term construction and long-term operation of the proposed project.

Both the State of California (State) and the federal government have established health-based ambient air quality standards (AAQS) for seven air pollutants. As detailed in Table A, these pollutants include ozone (O_3), carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), particulate matter less than 10 microns in size (PM_{10}), particulate matter less than 2.5 microns in size ($PM_{2.5}$), and lead. In addition, the State has set standards for sulfates, hydrogen sulfide (H_2S), vinyl chloride, and visibility-reducing particles. These standards are designed to protect the health and welfare of the populace within a reasonable margin of safety.

Table B summarizes the primary health effects and sources of common air pollutants. Because the concentration standards were set at a level that protects public health within an adequate margin of safety (United States Environmental Protection Agency [EPA]), these health effects would not occur unless the standards are exceeded by a large margin or for a prolonged period of time. State AAQS are typically more stringent than federal AAQS. Among the pollutants, O_3 and particulate matter ($PM_{2.5}$ and PM_{10}) are considered pollutants with regional effects, while the others have more localized effects.

The California Clean Air Act (CCAA) provides SCAQMD and other air districts with the authority to manage transportation activities at indirect sources. Indirect sources of pollution include any facility, building, structure, or installation, or combination thereof that attracts or generates mobile source emissions of any pollutant. In addition, area source emissions that are generated when minor sources collectively emit a substantial amount of pollution are also managed by the local air districts. Examples of this would be the motor vehicles at an intersection, at a mall, and on highways. SCAQMD also regulates stationary sources of pollution throughout its jurisdictional area. The California Air Resources Board (CARB) regulates direct emissions from motor vehicles.

Climate/Meteorology

Air quality in the planning area is not only affected by various emission sources (e.g., mobile and industry), but also by atmospheric conditions (e.g., wind speed, wind direction, temperature, and rainfall). The combination of topography, low mixing height, abundant sunshine, and emissions from the second-largest urban area in the United States gives the Basin some of the worst air pollution problems in the nation.

The annual average temperature varies little throughout the Basin, ranging from the low to middle 60s, measured in degrees Fahrenheit (°F). With a more pronounced oceanic influence, coastal areas show less variability in annual minimum and maximum temperatures than inland areas. The climatological station closest to the site is the Fontana Kaiser Station (Western Regional Climate

Table A: Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards[1]		National Standards[2]		
		Concentration[3]	Method[4]	Primary[3,5]	Secondary[3,6]	Method[7]
Ozone (O_3)[8]	1-Hour	0.09 ppm (180 µg/m^3)	Ultraviolet Photometry	—	Same as Primary Standard	Ultraviolet Photometry
	8-Hour	0.070 ppm (137 µg/m^3)		0.070 ppm (137 µg/m^3)		
Respirable Particulate Matter (PM_{10})[9]	24-Hour	50 µg/m^3	Gravimetric or Beta Attenuation	150 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m^3		—		
Fine Particulate Matter ($PM_{2.5}$)[9]	24-Hour	—	—	35 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m^3	Gravimetric or Beta Attenuation	12.0 µg/m^3	15 µg/m^3	
Carbon Monoxide (CO)	1-Hour	20 ppm (23 mg/m^3)	Non-Dispersive Infrared Photometry (NDIR)	35 ppm (40 mg/m^3)	—	Non-Dispersive Infrared Photometry (NDIR)
	8-Hour	9.0 ppm (10 mg/m^3)		9 ppm (10 mg/m^3)	—	
	8-Hour (Lake Tahoe)	6 ppm (7 mg/m^3)		—	—	
Nitrogen Dioxide (NO_2)[10]	1-Hour	0.18 ppm (339 µg/m^3)	Gas Phase Chemiluminescence	100 ppb (188 µg/m^3)	—	Gas Phase Chemiluminescence
	Annual Arithmetic Mean	0.030 ppm (57 µg/m^3)		0.053 ppm (100 µg/m^3)	Same as Primary Standard	
Sulfur Dioxide (SO_2)[11]	Annual Arithmetic Mean	—	Ultraviolet Fluorescence	0.030 ppm (for certain areas)[11]	—	Ultraviolet Fluorescence; Spectrophotometry (Pararosaniline Method)
	24-Hour	0.04 ppm (105 µg/m^3)		0.14 ppm (for certain areas)[11]	—	
	3-Hour	—		—	0.5 ppm (1300 µg/m^3)	
	1-Hour	0.25 ppm (655 µg/m^3)		75 ppb (196 µg/m^3)	—	
Lead[12,13]	30-Day Average	1.5 µg/m^3	Atomic Absorption	—	—	High-Volume Sampler and Atomic Absorption
	Calendar Quarter	—		1.5 µg/m^3 (for certain areas)[13]	Same as Primary Standard	
	Rolling 3-Month Average[11]	—		0.15 µg/m^3		
Visibility-Reducing Particles[14]	8-Hour	See footnote 14	Beta Attenuation and Transmittance through Filter Tape	No National Standards		
Sulfates	24-Hour	25 µg/m^3	Ion Chromatography			
Hydrogen Sulfide	1-Hour	0.03 ppm (42 µg/m^3)	Ultraviolet Fluorescence			
Vinyl Chloride[12]	24-Hour	0.01 ppm (26 µg/m^3)	Gas Chromatography			

Source: Ambient Air Quality Standards (CARB 2016a). Website: http://www.arb.ca.gov/research/aaqs/aaqs2.pdf (accessed April 2019). Air Quality Standards and Area Designations (CARB 2016b). Website: http://www.arb.ca.gov/desig/desig.htm (accessed April 2019).

Footnotes are provided on the following page.

[1] California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1- and 24-hour), nitrogen dioxide, and particulate matter (PM_{10}, $PM_{2.5}$, and visibility-reducing particles) are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

[2] National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth-highest 8-hour concentration measured at each site in a year, averaged over 3 years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 $\mu g/m^3$ is equal to or less than 1. For $PM_{2.5}$, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over 3 years, are equal to or less than the standard. Contact the EPA for further clarification and current national policies.

[3] Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

[4] Any equivalent measurement method which can be shown to the satisfaction of the CARB to give equivalent results at or near the level of the air quality standard may be used.

[5] National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.

[6] National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

[7] Reference method as described by the EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the EPA.

[8] On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.

[9] On December 14, 2012, the national annual $PM_{2.5}$ primary standard was lowered from 15 $\mu g/m^3$ to 12.0 $\mu g/m^3$. The existing national 24-hour $PM_{2.5}$ standards (primary and secondary) were retained at 35 $\mu g/m^3$, as was the annual secondary standard of 15 $\mu g/m^3$. The existing 24-hour PM_{10} standards (primary and secondary) of 150 $\mu g/m^3$ also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.

[10] To attain the 1-hour standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards, the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.

[11] On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until 1 year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.

[12] The CARB has identified lead and vinyl chloride as "toxic air contaminants" with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

[13] The national standard for lead was revised on October 15, 2008, to a rolling 3-month average. The 1978 lead standard (1.5 $\mu g/m^3$ as a quarterly average) remains in effect until 1 year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standards are approved.

[14] In 1989, the CARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

°C = degrees Celsius
CARB = California Air Resources Board
EPA = United States Environmental Protection Agency
$\mu g/m^3$ = micrograms per cubic meter
mg/m^3 = milligrams per cubic meter
ppm = parts per million
ppb = parts per billion

Table B: Summary of Health Effects of the Major Criteria Air Pollutants

Pollutant	Health Effects	Examples of Sources
Particulate Matter ($PM_{2.5}$ and PM_{10}: less than or equal to 2.5 or 10 microns, respectively)	• Hospitalizations for worsened heart diseases • Emergency room visits for asthma • Premature death	• Cars and trucks (especially diesels) • Fireplaces, wood stoves • Windblown dust from roadways, agriculture, and construction
Ozone (O_3)	• Cough, chest tightness • Difficulty taking a deep breath • Worsened asthma symptoms • Lung inflammation	• Precursor sources[1]: motor vehicles, industrial emissions, and consumer products
Carbon Monoxide (CO)	• Chest pain in heart patients[2] • Headaches, nausea[2] • Reduced mental alertness[2] • Death at very high levels[2]	• Any source that burns fuel, such as cars, trucks, construction and farming equipment, and residential heaters and stoves
Nitrogen Dioxide (NO_2)	• Increased response to allergens	• See carbon monoxide sources
Toxic Air Contaminants	• Cancer • Chronic eye, lung, or skin irritation • Neurological and reproductive disorders	• Cars and trucks (especially diesels) • Industrial sources such as chrome platers • Neighborhood businesses such as dry cleaners and service stations • Building materials and products

Source: CARB Fact Sheet: Air Pollution and Health. Website: http://www.arb.ca.gov/research/health/fs/fs1/fs1.htm (accessed April 2019).

[1] Ozone is not generated directly by these sources. Rather, chemicals emitted by these precursor sources react with sunlight to form ozone in the atmosphere.

[2] Health effects from CO exposures occur at levels considerably higher than ambient.

CARB = California Air Resources Board

Center). The monthly average maximum temperature recorded at this station ranged from 66.8°F in January to 95.0°F in July, with an annual average maximum of 79.4°F. The monthly average minimum temperature recorded at this station ranged from 44.0°F in January to 62.9°F in August, with an annual average minimum of 52.3°F. These levels are still representative of the project area. January is typically the coldest month, and July and August are typically the warmest months in this area of the Basin.

The majority of annual rainfall in the Basin occurs between November and April. Summer rainfall is minimal and is generally limited to scattered thundershowers in coastal regions and slightly heavier showers in the eastern portion of the Basin and along the coastal side of the mountains. The Fontana Kaiser Station monitored precipitation for the same period of time. Average monthly rainfall during that period varied from 3.65 inches in January to 0.34 inch or less between May and October, with an annual total of 15.32 inches. Patterns in monthly and yearly rainfall totals are unpredictable due to fluctuations in the weather.

The Basin experiences a persistent temperature inversion (increasing temperature with increasing altitude) as a result of the Pacific high. This inversion limits the vertical dispersion of air contaminants, holding them relatively near the ground. As the sun warms the ground and the lower air layer, the temperature of the lower air layer approaches the temperature of the base of the inversion (upper) layer until the inversion layer finally breaks, allowing vertical mixing with the lower layer. This phenomenon is observed in midafternoon to late afternoon on hot summer days, when the smog appears to clear up suddenly. Winter inversions frequently break by midmorning.

Winds in the project area blow predominantly from the south-southwest, with relatively low velocities. Wind speeds in the project area average about 5 miles per hour (mph). Summer wind speeds average slightly higher than winter wind speeds. Low average wind speeds, together with a persistent temperature inversion, limit the vertical dispersion of air pollutants throughout the Basin. Strong, dry, north or northeasterly winds, known as Santa Ana winds, occur during the fall and winter months, dispersing air contaminants. The Santa Ana conditions tend to last for several days at a time.

The combination of stagnant wind conditions and low inversions produces the greatest pollutant concentrations. On days of no inversion or high wind speeds, ambient air pollutant concentrations are the lowest. During periods of low inversions and low wind speeds, air pollutants generated in urbanized areas are transported predominantly onshore into Riverside and San Bernardino Counties. In the winter, the greatest pollution problems are CO and nitrogen oxides (NOx) because of extremely low inversions and air stagnation during the night and early morning hours. In the summer, the longer daylight hours and the brighter sunshine combine to cause a reaction between hydrocarbons and NOx to form photochemical smog.

Description of Global Climate Change and its Sources

Global climate change (GCC) is the observed increase in the average temperature of the Earth's atmosphere and oceans along with other significant changes in climate (e.g., precipitation or wind) that last for an extended period of time. The term "global climate change" is often used interchangeably with the term "global warming," but "global climate change" is preferred to "global warming" because it helps convey that there are other changes in addition to rising temperatures.

Climate change refers to any change in measures of weather (e.g., temperature, precipitation, or wind) lasting for an extended period (decades or longer). Climate change may result from natural factors (e.g., changes in the sun's intensity), natural processes within the climate system (e.g., changes in ocean circulation), or human activities (e.g., the burning of fossil fuels, land clearing, or agriculture). The primary observed effect of GCC has been a rise in the average global tropospheric[1] temperature of 0.36°F per decade, determined from meteorological measurements worldwide between 1990 and 2005. Climate change modeling shows that further warming may occur, which may induce additional changes in the global climate system during the current century. Changes to the global climate system, ecosystems, and the environment of the State could include higher sea levels, drier or wetter weather, changes in ocean salinity, changes in wind patterns, or more energetic aspects of extreme weather, including droughts, heavy precipitation, heat waves, extreme cold, and increased intensity of tropical cyclones. Specific effects in the State might include a decline in the Sierra Nevada snowpack, erosion of the State's coastline, and seawater intrusion in the Sacrament-San Joaquin River Delta.

Global surface temperatures have risen by 1.33°F ±0.32°F over the last 100 years. The rate of warming over the last 50 years is almost double that over the last 100 years (Intergovernmental Panel on Climate Change [IPCC] 2013). The latest projections, based on state-of-the-art climate

[1] The troposphere is the zone of the atmosphere characterized by water vapor, weather, winds, and decreasing temperature with increasing altitude.

models, indicate that temperatures in the State are expected to rise 3–10.5°F by the end of the century (State of California 2013). The prevailing scientific opinion on climate change is that "most of the warming observed over the last 60 years is attributable to human activities" (IPCC 2013). Increased amounts of carbon dioxide (CO_2) and other GHGs are the primary causes of the human-induced component of warming. The observed warming effect associated with the presence of GHGs in the atmosphere (from either natural or human sources) is often referred to as the greenhouse effect.[1]

GHGs are present in the atmosphere naturally, are released by natural sources, or are formed from secondary reactions taking place in the atmosphere. The gases that are widely seen as the principal contributors to human-induced GCC are:[2]

- Carbon dioxide (CO_2)
- Methane (CH_4)
- Nitrous oxide (N_2O)
- Hydrofluorocarbons (HFCs)
- Perfluorocarbons (PFCs)
- Sulfur hexafluoride (SF_6)

Over the last 200 years, human activities have caused substantial quantities of GHGs to be released into the atmosphere. These extra emissions are increasing GHG concentrations in the atmosphere and enhancing the natural greenhouse effect, which can cause global warming. Although GHGs produced by human activities include naturally occurring GHGs (e.g., CO_2, CH_4, and N_2O), some gases (e.g., HFCs, PFCs, and SF_6) are completely new to the atmosphere. Certain other gases (e.g., water vapor) are short-lived in the atmosphere compared to these GHGs that remain in the atmosphere for significant periods of time, contributing to climate change in the long term. Water vapor is generally excluded from the list of GHGs, because it is short-lived in the atmosphere and its atmospheric concentrations are largely determined by natural processes (e.g., oceanic evaporation). For the purposes of this air quality study, the term "GHGs" will refer collectively to the six gases identified in the bulleted list provided above.

These gases vary considerably in terms of global warming potential (GWP), which is a concept developed to compare the ability of each GHG to trap heat in the atmosphere relative to another gas. GWP is based on several factors, including the relative effectiveness of a gas in absorbing infrared radiation and the length of time that the gas remains in the atmosphere ("atmospheric lifetime"). The GWP of each gas is measured relative to CO_2, the most abundant GHG. The definition of GWP for a particular GHG is the ratio of heat trapped by one unit mass of the GHG to the ratio of

[1] The temperature on Earth is regulated by a system commonly known as the "greenhouse effect." Just as the glass in a greenhouse lets heat from sunlight in and reduces the amount of heat that escapes, GHGs like CO_2, CH_4, and N_2O in the atmosphere keep the Earth at a relatively even temperature. Without the greenhouse effect, the Earth would be a frozen globe; thus, the *naturally occurring* greenhouse effect is necessary to keep our planet at a comfortable temperature.

[2] The GHGs listed are consistent with the definition in Assembly Bill 32 (Government Code 38505), as discussed later in this section.

heat trapped by one unit mass of CO_2 over a specified time period. GHG emissions are typically measured in terms of metric tons[1] of "CO_2 equivalents" (MT CO_2e). For example, N_2O is 265 times more potent at contributing to global warming than CO_2. Table C identifies the GWP for each type of GHG analyzed in this report.

Table C: Global Warming Potential of Select Greenhouse Gases

Greenhouse Gas	Atmospheric Lifetime (Years)	Global Warming Potential (100-year Time Horizon)
Carbon Dioxide (CO_2)	~100	1
Methane (CH_4)	12	28
Nitrous Oxide (N_2O)	121	265

Source: *California's 2017 Climate Change Scoping Plan* (CARB 2017). Website: https://www.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf (accessed April 2019).

The following discussion summarizes the characteristics of the six primary GHGs.

Carbon Dioxide

In the atmosphere, carbon generally exists in its oxidized form, as CO_2. Natural sources of CO_2 include the respiration (breathing) of humans, animals, and plants; volcanic outgassing; decomposition of organic matter; and evaporation from the oceans. Human-caused sources of CO_2 include the combustion of fossil fuels and wood, waste incineration, mineral production, and deforestation. The Earth maintains a natural carbon balance, and when concentrations of CO_2 are upset, the system gradually returns to its natural state through natural processes. Natural changes to the carbon cycle work slowly, especially compared to the rapid rate at which humans are adding CO_2 to the atmosphere. Natural removal processes (e.g., photosynthesis by land- and ocean-dwelling plant species) cannot keep pace with this extra input of human-made CO_2; consequently, the gas is building up in the atmosphere. The concentration of CO_2 in the atmosphere has risen from about 280 parts per million (ppm) prior to the Industrial Revolution to more than 400 ppm currently (National Oceanic and Atmospheric Administration 2016).

The transportation sector remained the largest source of GHG emissions in 2016, representing 41 percent of the State's GHG emission inventory (CARB 2018). The largest emissions category within the transportation sector is on-road, which consists of passenger vehicles (cars, motorcycles, and light-duty trucks) and heavy-duty trucks and buses. Emissions from on-road sources constitute more than 92 percent of the transportation sector total. Industry and electricity generation were the State's second- and third-largest categories of GHG emissions, respectively.

Methane

CH_4 is produced when organic matter decomposes in environments lacking sufficient oxygen. Natural sources of CH_4 include fires, geologic processes, and bacteria that produce CH_4 in a variety of settings (most notably, wetlands) (University of New Hampshire 2010). Anthropogenic sources include rice cultivation, livestock, landfills and waste treatment, biomass burning, and fossil fuel combustion (e.g., the burning of coal, oil, and natural gas). As with CO_2, the major removal process

[1] A metric ton is equivalent to approximately 1.1 tons.

of atmospheric CH_4—a chemical breakdown in the atmosphere—cannot keep pace with source emissions, and CH_4 concentrations in the atmosphere are increasing.

Nitrous Oxide

N_2O is produced naturally by a wide variety of biological sources, particularly microbial action in soils and water. Tropical soils and oceans account for the majority of natural source emissions. N_2O is also a product of the reaction that occurs between nitrogen and oxygen during fuel combustion. Both mobile and stationary combustion sources emit N_2O. The quantity of N_2O emitted varies according to the type of fuel, technology, and pollution control device used, as well as maintenance and operating practices. Agricultural soil management and fossil fuel combustion are the primary sources of human-generated N_2O emissions in the State.

Hydrofluorocarbons, Perfluorocarbons, and Sulfur Hexafluoride

HFCs are primarily used as substitutes for O_3-depleting substances regulated under the Montreal Protocol.[1] PFCs and SF_6 are emitted from various industrial processes, including aluminum smelting, semiconductor manufacturing, electric power transmission and distribution, and magnesium casting. There is no aluminum or magnesium production in the State; however, the rapid growth in the semiconductor industry, which is active in the State, has led to greater use of PFCs. However, there are no known project-related emissions of these three GHGs; therefore, these substances are not discussed further in this analysis.

Emissions Sources and Inventories

An emissions inventory that identifies and quantifies the primary human-generated sources and sinks of GHGs is a well-recognized and useful tool for addressing climate change. This section summarizes the latest information on national, State, and local GHG emission inventories. However, because GHGs persist for a long time in the atmosphere (previously referenced Table C), accumulate over time, and are generally well mixed, their impact on the atmosphere and climate cannot be tied to a specific point of emission.

United States Emissions

Total United States emissions have increased by 2.4 percent from 1990 to 2016, and emissions decreased from 2015 to 2016 by 1.9 percent. The decrease in total GHG emissions between 2015 and 2016 was driven in large part by a decrease in CO_2 emissions from fossil fuel combustion. The decrease in CO_2 emissions from fossil fuel combustion was a result of multiple factors, including substitution from coal to natural gas and non-fossil energy sources in the electric power sector; and warmer winter conditions in 2016 resulting in a decreased demand for heating fuel in the residential and commercial sectors (EPA 2016).

[1] The Montreal Protocol is an international treaty that was approved on January 1, 1989, and was designated to protect the ozone layer by phasing out the production of several groups of halogenated hydrocarbons believed to be responsible for O_3 depletion and that are also potent GHGs.

State of California Emissions

According to CARB emission inventory estimates, the State generated approximately 429.4 million metric tons of CO_2e (MMT CO_2e) emissions in 2016. This is a decrease of 12 MMT CO_2e from 2015, a 13 percent decrease since peak levels in 2004, and 2 MMT CO_2e below the 1990 level and the State's 2020 GHG target (CARB 2018).

The CARB estimates that transportation was the source of approximately 36 percent of the State's GHG emissions in 2016, followed by electricity generation (both in-State and out-of-State) at 20 percent and industrial sources at 21 percent. The remaining sources of GHG emissions were residential and commercial activities at 9 percent, agriculture at 8 percent, high-GWP gases at 4 percent, and recycling and waste at 2 percent (CARB 2018).

Air Pollution Constituents and Attainment Status

The CARB coordinates and oversees both State and federal air pollution control programs in the State. The CARB oversees activities of local air quality management agencies and maintains air quality monitoring stations throughout the State in conjunction with the EPA and local air districts. The CARB has divided the State into 15 air basins based on meteorological and topographical factors of air pollution. Data collected at these stations are used by the CARB and the EPA to classify air basins as attainment, nonattainment, nonattainment-transitional, or unclassified, based on air quality data for the most recent 3 calendar years compared with the AAQS.

Attainment areas may be:

- Attainment/Unclassified ("Unclassifiable" in some lists), which have never violated the air quality standard of interest or do not have enough monitoring data to establish attainment or nonattainment status;
- Attainment-Maintenance (National Ambient Air Quality Standards [NAAQS] only), which violated a NAAQS that is currently in use (was nonattainment) in or after 1990, but now attains the standard and is officially redesignated as Attainment by the EPA with a Maintenance State Implementation Plan (SIP); or
- Attainment (usually only for California Ambient Air Quality Standards [CAAQS], but sometimes for NAAQS), which have adequate monitoring data to show attainment, have never been nonattainment, or, for NAAQS, have completed the official Maintenance period.

Nonattainment areas are imposed with additional restrictions as required by the EPA. The air quality data are also used to monitor progress in attaining air quality standards. Table D lists the attainment status for the criteria pollutants in the Basin.

Table D: Attainment Status of Criteria Pollutants in the South Coast Air Basin

Pollutant	State	Federal
O_3	Nonattainment (1-hour) Nonattainment (8-hour)	Extreme Nonattainment (1-hour) Extreme Nonattainment (8-hour)
PM_{10}	Nonattainment (24-hour) Nonattainment (Annual)	Attainment/Maintenance (24-hour)

Table D: Attainment Status of Criteria Pollutants in the South Coast Air Basin

Pollutant	State	Federal
$PM_{2.5}$	Nonattainment (Annual)	Serious Nonattainment (24-hour) Moderate Nonattainment (Annual)
CO	Attainment (1-hour) Attainment (8-hour)	Attainment/Maintenance (1-hour) Attainment/Maintenance (8-hour)
NO_2	Attainment (1-hour) Attainment (Annual)	Unclassified/Attainment (1-hour) Attainment/Maintenance (Annual)
SO_2	Attainment (1-hour) Attainment (24-hour)	Unclassified/Attainment (1-hour) Unclassified/Attainment (Annual)
Lead	Attainment[1] (30-day average)	Attainment[1] (3-month rolling)
All Others	Attainment/Unclassified	N/A

Source 1: SCAQMD. National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS) Attainment Status for South Coast Air Basin. Website: www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/naaqs-caaqs-feb2016.pdf (accessed April 2019).
Source 2: EPA. Nonattainment Areas for Criteria Pollutants (Green Book). Website: https://www.epa.gov/green-book (accessed April 2019).

[1] The Los Angeles County portion of the Basin is in nonattainment for lead.

CO = carbon monoxide
N/A = not applicable
O_3 = ozone
$PM_{2.5}$ = particulate matter less than 2.5 microns in diameter
SO_2 = sulfur dioxide
EPA = United States Environmental Protection Agency
NO_2 = nitrogen dioxide
PM_{10} = particulate matter less than 10 microns in diameter
SCAQMD = South Coast Air Quality Management District

Ozone

O_3 (smog) is formed by photochemical reactions between oxides of nitrogen and reactive organic gases (ROGs) rather than being directly emitted. O_3 is a pungent, colorless gas typical of Southern California smog. Elevated O_3 concentrations result in reduced lung function, particularly during vigorous physical activity. This health problem is particularly acute in sensitive receptors (e.g., the sick, the elderly, and young children). O_3 levels peak during summer and early fall. The entire Basin is designated as a nonattainment area for the State 1-hour and 8-hour O_3 standards. The EPA has officially designated the status for most of the Basin regarding the 8-hour O_3 standard as "Extreme Nonattainment," which means the Basin has until 2024 to attain the federal 8-hour O_3 standard.

Carbon Monoxide

CO is formed by the incomplete combustion of fossil fuels, almost entirely from automobiles. CO is a colorless, odorless gas that can cause dizziness, fatigue, and impairments to central nervous system functions. The entire Basin is in attainment for the State standards for CO. The Basin is designated as an "Unclassified/Attainment" area under the federal CO standards.

Nitrogen Oxides

NO_2, a reddish brown gas, and nitric oxide (NO), a colorless, odorless gas, are formed from fuel combustion under high temperature or pressure. These compounds are referred to as nitrogen oxides, or NOx. NOx is a primary component of the photochemical smog reaction. It also contributes to other pollution problems, including a high concentration of fine particulate matter, poor visibility, and acid deposition (i.e., acid rain). NO_2 decreases lung function and may reduce resistance to

infection. The entire Basin is designated as attainment for the State NO_2 standard and as an "Unclassified/Attainment" area under the federal NO_2 standard.

Sulfur Dioxide

SO_2 is a colorless irritating gas formed primarily from incomplete combustion of fuels containing sulfur. Industrial facilities also contribute to gaseous SO_2 levels. SO_2 irritates the respiratory tract, can injure lung tissue when combined with fine particulate matter, and reduces visibility and the level of sunlight. The entire Basin is in attainment with both federal and State SO_2 standards.

Lead

Lead is found in old paints and coatings, plumbing, and a variety of other materials. Once in the bloodstream, lead can cause damage to the brain, nervous system, and other body systems. Children are highly susceptible to the effects of lead. The portion of the Basin the project site is in is in attainment with both federal and State standards.

Particulate Matter

Particulate matter (PM) is the term used for a mixture of solid particles and liquid droplets found in the air. Coarse particles (PM_{10}) derive from a variety of sources, including windblown dust and grinding operations. Fuel combustion and the resultant exhaust from power plants and diesel buses and trucks are primarily responsible for fine particle ($PM_{2.5}$) levels. Fine particles can also form in the atmosphere through chemical reactions. PM_{10} can accumulate in the respiratory system and aggravate health problems (e.g., asthma). The EPA's scientific review concluded that $PM_{2.5}$ particles, which penetrate deeply into the lungs, are more likely than coarse particles to contribute to the health effects listed in a number of recently published community epidemiological studies at concentrations that extend well below those allowed by the current PM_{10} standards. These health effects include premature death and increased hospital admissions and emergency room visits (primarily for the elderly and individuals with cardiopulmonary disease); increased respiratory symptoms and disease (children and individuals with cardiopulmonary disease [e.g., asthma]); decreased lung functions (particularly in children and individuals with asthma); and alterations in lung tissue and structure and in respiratory tract defense mechanisms. The Basin is designated nonattainment for the federal and State $PM_{2.5}$ standards and State PM_{10} standard, and attainment/ maintenance for the federal PM_{10} standard.

Volatile Organic Compounds

Volatile organic compounds (VOCs; also known as ROGs, and reactive organic compounds [ROCs]) are formed from the combustion of fuels and the evaporation of organic solvents. VOCs are not defined as criteria pollutants; however, because VOCs accumulate in the atmosphere more quickly during the winter when sunlight is limited and photochemical reactions are slower, they are a prime component of the photochemical smog reaction. There are no attainment designations for VOCs.

Sulfates

Sulfates occur in combination with metal and/or hydrogen ions. In California, emissions of sulfur compounds occur primarily from the combustion of petroleum-derived fuels (e.g., gasoline and

diesel fuel) that contain sulfur. This sulfur is oxidized to SO_2 during the combustion process and subsequently is converted to sulfate compounds in the atmosphere. The conversion of SO_2 to sulfates takes place comparatively rapidly and completely in urban areas of the State due to regional meteorological features. The entire Basin is in attainment for the State standard for sulfates.

Hydrogen Sulfide

H_2S is a colorless gas with the odor of rotten eggs. H_2S is formed during bacterial decomposition of sulfur-containing organic substances. In addition, H_2S can be present in sewer gas and some natural gas and can be emitted as the result of geothermal energy exploitation. In 1984, a CARB committee concluded that the ambient standard for H_2S is adequate to protect public health and to significantly reduce odor annoyance. The entire Basin is unclassified for the State standard for H_2S.

Visibility-Reducing Particles

Visibility-reducing particles consist of suspended particulate matter, which is a complex mixture of tiny particles that consists of dry, solid fragments, solid cores with liquid coatings, and small droplets of liquid. These particles vary greatly in shape, size, and chemical composition and can be made up of many different materials (e.g., metals, soot, soil, dust, and salt). The statewide standard is intended to limit the frequency and the severity of visibility impairment due to regional haze. The entire Basin is unclassified for the State standard for visibility-reducing particles.

LOCAL AIR QUALITY

SCAQMD, together with the CARB, maintains ambient air quality monitoring stations in the Basin. The air quality monitoring station that monitors air pollutant data closest to the site is the San Bernardino-4th Street Station at 24302 4th Street in the City of San Bernardino, approximately 9 miles northwest of the project site. The air quality trends from this station are used to represent the ambient air quality in the project area. The ambient air quality data in Table E show that O_3, NO_2, and CO levels are below the applicable State and federal standards.

In the past five years, PM_{10} levels exceeded the State 24-hour standard from 2 to 14 days per year and $PM_{2.5}$ levels exceeded the federal 24-hour standard up to 2 days per year.

REGULATORY SETTINGS

Federal Regulations/Standards

Pursuant to the Federal Clean Air Act (CAA) of 1970, the EPA established the NAAQS. The NAAQS were established for six major pollutants, termed “criteria” pollutants. Criteria pollutants are defined as those pollutants for which the federal and State governments have established AAQS, or criteria, for outdoor concentrations to protect public health.

The EPA has designated the Southern California Association of Governments (SCAG) as the Metropolitan Planning Organization (MPO) responsible for ensuring compliance with the requirements of the CAA for the Basin.

Table E: Air Quality Concentrations Measured at the San Bernardino-4th Street Station

Pollutant	Standard	2013	2014	2015	2016	2017
Ozone (O_3)						
Max 1-hour concentration (ppm)		0.139	0.121	0.134	0.158	0.158
No. days exceeded: State	> 0.09 ppm	0	0	0	0	0
Max 8-hour concentration (ppm)		0.112	0.099	0.117	0.118	0.136
No. days exceeded: State	> 0.07 ppm	0	0	0	0	0
Federal	> 0.07 ppm	0	0	0	0	0
Carbon Monoxide (CO)						
Max 1-hour concentration (ppm)		3.8	4.1	2.3	2.2	2.5
No. days exceeded: State	> 20 ppm	0	0	0	0	0
Federal	> 35 ppm	0	0	0	0	0
Max 8-hour concentration (ppm)		1.7	2.4	1.8	1.7	2.3
No. days exceeded: State	>9.0 ppm	0	0	0	0	0
Federal	>9.0 ppm	0	0	0	0	0
Particulate matter less than 10 microns in size (PM_{10})						
Max 24-hour concentration ($\mu g/m^3$)		177	157	187	277	158
No. days exceeded: State	> 50 $\mu g/m^3$	2	2	3	7	14
Federal	> 150 $\mu g/m^3$	1	1	1	1	1
Annual avg. concentration ($\mu g/m^3$)		33	36	33	37	33
Exceeds Standard? State	> 20 $\mu g/m^3$	Yes	Yes	Yes	Yes	Yes
Particulate matter less than 2.5 microns in size ($PM_{2.5}$)						
Max 24-hour concentration ($\mu g/m^3$)		55	32	54	54	38
No. days exceeded: Federal	> 35 $\mu g/m^3$	1	0	2	1	1
Annual avg. concentration ($\mu g/m^3$)		11	11	11	11	11
Exceeds Standard? State	> 12 $\mu g/m^3$	No	No	No	No	No
Federal	> 15 $\mu g/m^3$	No	No	No	No	No
Nitrogen Dioxide (NO_2)						
Max 1-hour concentration (ppb)		72	73	71	59	66
No. days exceeded: State	> 180 ppb	0	0	0	0	0
Federal	> 100 ppb	0	0	0	0	0
Annual avg. concentration (ppb)		18	18	15	17	16
Exceeds Standard? State	> 30 ppb	No	No	No	No	No
Federal	> 53 ppb	No	No	No	No	No

Source: U.S. EPA, Air Data. Website: https://www.epa.gov/outdoor-air-quality-data (accessed April 2019).
CARB, iADAM: Air Quality Data Statistics. Website: http://www.arb.ca.gov/adam (accessed April 2019).

$\mu g/m^3$ = micrograms per cubic meter
avg. = average
max = maximum
ppb = parts per billion
ppm = parts per million
U.S. EPA = United States Environmental Protection Agency

The United States has historically had a voluntary approach to reducing GHG emissions; however, on April 2, 2007, the United States Supreme Court ruled that the EPA has the authority to regulate CO_2 emissions under the CAA.

On December 7, 2009, the EPA Administrator signed a final action under the CAA, finding that six GHGs (i.e., CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6) constitute a threat to public health and welfare, and that the combined emissions from motor vehicles cause and contribute to GCC.

State Agencies, Regulations, and Standards

In 1967, the State Legislature passed the Mulford-Carrell Act, which combined two Department of Health bureaus (i.e., the Bureau of Air Sanitation and the Motor Vehicle Pollution Control Board) to establish the CARB. Since its formation, the CARB has worked with the public, the business sector, and local governments to find solutions to the State's air pollution problems.

California adopted the CCAA in 1988. The CARB administers the CAAQS for the 10 air pollutants designated in the CCAA. These 10 State air pollutants are the six criteria pollutants designated by the CAA as well as four others: visibility-reducing particulates, H_2S, sulfates, and vinyl chloride.

California Climate Action Milestones

In 1988, Assembly Bill (AB) 4420 directed the California Energy Commission (CEC) to report on "how global warming trends may affect the State's energy supply and demand, economy, environment, agriculture, and water supplies" and offer "recommendations for avoiding, reducing and addressing the impacts." This marked the first statutory direction to a State agency to address climate change.

The California Climate Action Registry was created to encourage voluntary reporting and early reductions of GHG emissions with the adoption of Senate Bill (SB) 1771 in 2000. The CEC was directed to assist by developing metrics and identifying and qualifying third-party organizations to provide technical assistance and advice to GHG emission reporters. The next year, SB 527 amended SB 1771 to emphasize third-party verification.

SB 1771 also contained several additional requirements for the CEC, including updating the State's GHG inventory from an existing 1998 report and continuing to update it every five years; acquiring, developing, and distributing information on GCC to agencies and businesses; establishing a State interagency task force to ensure policy coordination; and establishing a climate change advisory committee to make recommendations on the most equitable and efficient ways to implement climate change requirements. In 2006, AB 1803 transferred preparation of the inventory from the CEC to the CARB. The CARB updates the inventory annually.

AB 1493, authored by Assembly member Fran Pavley in 2002, directed the CARB to adopt regulations to achieve the maximum feasible and cost-effective reduction of GHG emissions from motor vehicles. The so-called "Pavley" regulations, or Clean Car regulations, were approved by the CARB in 2004. On September 24, 2009, the CARB adopted amendments to the "Pavley" regulations that reduced GHG emissions in new passenger vehicles from 2009 through 2016. AB 1493 also directed the State's Climate Action Registry to adopt protocols for reporting reductions in GHG emissions from mobile sources prior to the operative date of the regulations.

Executive Order (EO) S-3-05 (June 2005) established GHG targets for the State, including returning to year 2000 emission levels by 2010; 1990 levels by 2020; and 80 percent below 1990 levels by 2050. EO S-3-05 directed the Secretary of the California Environmental Protection Agency to coordinate

efforts to meet the targets with the heads of other State agencies. This group became the Climate Action Team.

In 2006, the State Legislature passed the California Global Warming Solutions Act of 2006 (AB 32), which created a comprehensive, multiyear program to reduce GHG emissions in California. AB 32 required the CARB to develop a Scoping Plan that describes the approach California will take to reduce GHGs to achieve the goal of reducing emissions to 1990 levels by 2020. The Scoping Plan was first approved by the CARB in 2008, updated on May 22, 2014 (CARB 2014), and again on December 14, 2017. In 2016, the State Legislature passed SB 32, which codifies a 2030 GHG emissions reduction target of 40 percent below 1990 levels. With SB 32, the State Legislature passed companion legislation AB 197, which provides additional direction for developing the Scoping Plan. The 2017 Scoping Plan update incorporates the 2030 target set by EO B-30-15 and codified by SB 32.

The governors of California, Arizona, New Mexico, Oregon, and Washington entered into a Memorandum of Understanding in February 2007 establishing the Western Climate Initiative. The governors agreed to set a regional goal for emissions reductions consistent with state-by-state goals, to develop a design for a regional market-based multisector mechanism to achieve the goals, and to participate in a multistate GHG registry. The initiative has since grown to include Montana, Utah, and the Canadian provinces of British Columbia, Manitoba, Ontario, and Québec.

California is implementing the world's first Low Carbon Fuel Standard for transportation fuels, pursuant to both EO S-01-07 (signed January 2007) and AB 32. The standard requires a reduction of at least 10 percent in the CO intensity of the State's transportation fuels by 2020. This reduction is expected to reduce GHG emissions in 2020 by 17.6 MMT CO_2e. Also in 2007, AB 118 created the Alternative and Renewable Fuel and Vehicle Technology Program. The CEC and the CARB administer the program. This act provides funding for alternative fuel and vehicle technology research, development, and deployment to attain the State's climate change goals, to achieve the State's petroleum reduction objectives and clean air and GHG emission reduction standards, to develop public-private partnerships, and to ensure a secure and reliable fuel supply.

In addition to vehicle emissions regulations and the Low Carbon Fuel Standard, the third effort to reduce GHG emissions from transportation is the reduction in the demand for personal vehicle travel (i.e., vehicle miles traveled or VMT). This measure was addressed in September 2008 through the Sustainable Communities and Climate Protection Act of 2008, or SB 375. The enactment of SB 375 initiated an important new regional land use planning process to mitigate GHG emissions by integrating and aligning planning for housing, land use, and transportation for California's 18 MPOs. The bill directed the CARB to set regional GHG emission reduction targets for most areas of the State. SB 375 also contained important elements related to federally mandated regional transportation plans and the alignment of State transportation and housing planning processes.

Also codified in 2008, SB 97 required the Governor's Office of Planning and Research (OPR) to develop GHG emissions criteria for use in determining project impacts under the California Environmental Quality Act (CEQA). These criteria were developed in 2009 and went into effect in 2010.

EO S-13-08 launched a major initiative for improving the State's adaptation to climate impacts from sea level rise, increased temperatures, shifting precipitation, and extreme weather events. EO S-13-08 ordered a California Sea Level Rise Assessment Report request from the National Academy of Sciences. The order also mandated the development of a Climate Adaptation Strategy. The strategy, published in December 2009, assesses the State's vulnerability to climate change impacts and outlines possible solutions that can be implemented within and across State agencies to promote resiliency. The Strategy focused on seven areas: public health, biodiversity and habitat, ocean and coastal resources, water management, agriculture, forestry, and transportation and energy infrastructure.

The initiatives, EOs, and statutes outlined above comprise the major milestones in California's efforts to address climate change through coordinated action on climate research, GHG mitigation, and climate change adaptation. Numerous other related efforts have been undertaken by State agencies and departments to address specific questions and programmatic needs. The Climate Action Team coordinates these efforts and others, which comprise the California Climate Adaptation Strategy (State of California 2018).

Regional Air Quality Planning Framework

The 1976 Lewis Air Quality Management Act established SCAQMD and other air districts throughout the State. The CAA Amendments of 1977 required that each state adopt an implementation plan outlining pollution control measures to attain the federal standards in nonattainment areas of the state.

The CARB is responsible for incorporating AQMPs for local air basins into an SIP for EPA approval. Significant authority for air quality control within them has been given to local air districts that regulate stationary-source emissions and develop local nonattainment plans.

Regional Air Quality Management Plan

SCAQMD and SCAG are responsible for formulating and implementing the AQMP for the Basin. The main purpose of an AQMP is to bring the area into compliance with federal and State air quality standards. SCAQMD prepares a new AQMP every three years, updating the previous plan and 20-year horizon.

The latest plan is the 2016 AQMP (SCAQMD 2017), which incorporates the latest scientific and technological information and planning assumptions, including the 2016 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) and updated emission inventory methodologies for various source categories. The 2016 AQMP included the integrated strategies and measures needed to meet the NAAQS, implementation of new technology measures, and demonstrations of attainment of the 1-hour and 8-hour O_3 NAAQS as well as the latest 24-hour and annual $PM_{2.5}$ standards. Key elements of the 2016 AQMP include:

- Calculation and credit for co-benefits from other planning efforts (e.g., climate, energy, and transportation);
- A strategy with fair-share emission reductions at the federal, State, and local levels;

- Investment in strategies and technologies meeting multiple air quality objectives;
- Identification of new partnerships and significant funding for incentives to accelerate deployment of zero and near-zero technologies;
- Enhanced socioeconomic assessment, including an expanded environmental justice analysis;
- Attainment of the 24-hour $PM_{2.5}$ standard in 2019 with no additional measures;
- Attainment of the annual $PM_{2.5}$ standard by 2025 with implementation of a portion of the O_3 strategy; and
- Attainment of the 1-hour O_3 standard by 2022 with no reliance on "black box" future technology (CAA Section 182(e)(5) measures).

SCAQMD adopts rules and regulations to implement portions of the AQMP. Several of these rules may apply to project construction or operation. For example, SCAQMD Rule 403 requires the implementation of the best available fugitive dust control measure during active construction periods capable of generating fugitive dust emissions from on-site earth moving activities, construction/demolition activities, and construction equipment travel on paved and unpaved roads.

Although SCAQMD is responsible for regional air quality planning efforts, it does not have the authority to directly regulate the air quality issues associated with new development projects within the Basin, such as the proposed project. Instead, SCAQMD published the *CEQA Air Quality Handbook* (SCAQMD 1993) to assist lead agencies, as well as consultants, project proponents, and other interested parties, in evaluating potential air quality impacts of projects proposed in the Basin. The *CEQA Air Quality Handbook* provides standards, methodologies, and procedures for conducting air quality analyses in Environmental Impact Reports and was used extensively in the preparation of this analysis. SCAQMD is currently in the process of replacing the *CEQA Air Quality Handbook* with the *Air Quality Analysis Guidance Handbook*.[1]

To assist the CEQA practitioner in conducting an air quality analysis in the interim while the replacement *Air Quality Analysis Guidance Handbook* is being prepared, supplemental guidance/ information is provided on the SCAQMD website and includes (1) Emission FACtors (EMFAC) on-road vehicle emission factors, (2) background CO concentrations, (3) localized significance thresholds (LSTs), (4) mitigation measures and control efficiencies, (5) mobile source toxics analysis, (6) off-road mobile source emission factors, (7) $PM_{2.5}$ significance thresholds and calculation methodology, and (8) updated SCAQMD Air Quality Significance Thresholds. SCAQMD also recommends using approved models to calculate emissions from land use projects, such as CalEEMod. These recommendations were followed in the preparation of this analysis.

The following SCAQMD rules and regulations would be applicable to the proposed project.

- SCAQMD Rule 403 required projects to incorporate fugitive dust control measures; and
- SCAQMD Rule 1113 limits the VOC content of architectural coatings.

[1] South Coast Air Quality Management District (SCAQMD). *Air Quality Analysis Handbook*. Website: www.aqmd.gov/ home/regulations/ceqa/air-quality-analysis-handbook (accessed October 2017).

Local Regulations

County of San Bernardino General Plan 2007

The Conservation Element of the *County of San Bernardino 2007 General Plan* (County of San Bernardino 2007), amended in 2014, includes air quality policies intended to limit sources of air pollution and sensitive receptor exposure. The following policies are applicable to the project:

- **Policy CO 4.1.** Because developments can add to the wind hazard (due to increased dust, the removal of wind breaks, and other factors), the County will require either as mitigation measures in the appropriate environmental analysis required by the County for the development proposal or as conditions of approval if no environmental document is required, that developments in areas identified as susceptible to wind hazards to address site-specific analysis of:
    - Grading restrictions and/or controls on the basis of soil types, topography or season.
    - Landscaping methods, plant varieties, and scheduling to maximize successful revegetation.
    - Dust-control measures during grading, heavy truck travel, and other dust-generating activities.
- **Policy CO 4.2.** Coordinate air quality improvement technologies with the SCAQMD and the Mojave Air Quality Management District to improve air quality through reductions in pollutants from the region.
- **Policy CO 4.3.** The County will continue to ensure through coordination and cooperation with all airport operators a diverse and efficient ground and air transportation system, which generates the minimum feasible pollutants. Programs include:
    - Establish incentives and/or regulations to eliminate work trips including such actions as:
        - Implementing staggered, flexible and compressed work schedules in public agencies.
        - Requiring work schedule flexibility programs for employers with more than 25 employees at a single location. Apply to existing businesses at license renewal time and to new businesses at project approval or permit stage.
    - Participate with public transit providers serving San Bernardino County in a cooperative program to increase transit services with existing equipment and expand services through transit facility improvements.
    - Coordinate with public transit providers to increase funding for transit improvements to supplement other means of travel.
    - Support public transit providers in efforts to increase funding for transit improvements to supplement other means of travels.
- **Policy CO 4.4.** Because congestion resulting from growth is expected to result in a significant increase in the air quality degradation, the County may manage growth by ensuring the timely provision of infrastructure to serve new development. Programs include:

- Consistent with the land use designations in the Land Use Policy Map in the Land Use Element that will improve growth management at a subregional level in relation to major activity centers, review new development to encourage new intensified development around transit nodes and along transit corridors.
- Locate and design new development in a manner that will minimize direct and indirect emission of air contaminants through such means as:
  - Promoting mixed-use development to reduce the length and frequency of vehicle trips;
  - Providing for increased intensity of development along existing and proposed transit corridors; and
  - Providing for the location of ancillary employee services (including but not limited to child care, restaurants, banking facilities, convenience markets) at major employment centers for the purpose of reducing midday vehicle trips.
  - The County shall comply, to the extent feasible, with the recommendations on siting new sensitive land uses, as recommended in CARB's *Air Quality and Land Use Handbook: A Community Health Perspective*.
- Incorporate phasing policies and requirements in the General Plan and development plans to achieve timely provision of infrastructure (particularly transportation facilities) to serve development through:
  - Tying growth to Level of Service (LOS) standards; and
  - Using phasing areas to manage growth.

- **Policy CO 4.5.** Reduce emissions through reduced energy consumption by implementing programs to phase in energy conservation improvements through the annual budget process.
- **Policy CO 4.6.** Provide incentives such as preferential parking for alternative-fuel vehicles (e.g., CNG or hydrogen).
- **Policy CO 4.7.** Encourage special event center operators to provide discounted transit passes with event tickets or offer discounted on-site parking for carpooling patrons (for or more persons per vehicle).
- **Policy CO 4.8.** Replace existing vehicles in the County fleet with the cleanest vehicles commercially available that are cost-effective and meet the vehicle use needs.
- **Policy CO 4.9.** Manage the County's transportation fleet fueling standards to improve the number of alternative fuel vehicles in the County fleet.
- **Policy CO 4.10.** Support the development of alternative fuel infrastructure that is publicly accessible.
- **Policy CO 4.11.** Establish programs for priority or free parking on County streets or in County parking lots for alternative fuel vehicles.
- **Policy CO 4.12.** Provide incentives to promote siting or use of clean air technologies (e.g., fuel cell technologies, renewable energy sources, UV coatings, and hydrogen fuel).

- **Policy CO 4.13.** Reduce GHG emissions within the County boundaries through the following programs:
    - *Emission Inventories.* The County will prepare GHG emissions inventories including emissions produced by: (1) the County's operational activities, services and facilities, over which the County has direct responsibility and control, and (2) private industry and development, that is located within the area subject to the County's discretionary land use authority.
    - *GHG Emissions Reduction Plan.* The County will adopt a GHG Emissions Reduction Plan that includes:
        - Measures to reduce GHG emissions attributable to the County's operational activities, services and facilities, over which the County has direct responsibility and control; and,
        - Measures to reduce GHG emissions produced by private industry and development that is located within the area subject to the County's discretionary land use authority and ministerial building permit authority; and
        - Implementation and monitoring procedures to provide periodic review of the plan's progress and allow for adjustments over time to ensure fulfillment of the plan's objectives.

County of San Bernardino Greenhouse Gas Emissions Reduction Plan 2011

The County completed a GHG Emissions Reduction Plan in September 2011 (County of San Bernardino 2011), which sets forth a emissions reduction target, emissions reduction measures, and action steps to assist the County to demonstrate consistency with California's Global Warming Solutions Act of 2006 (Assembly Bill 32). Together with the GHG Emissions Reduction Plan, the County adopted the GHG DRP (County of San Bernardino 2015) in 2016. The DRP procedures need to be followed to evaluate GHG impacts and determine significance for CEQA purposes. All projects need to apply the GHG performance standards identified in the DRP and comply with State requirements.

THRESHOLDS OF SIGNIFICANCE

Certain air districts (e.g., SCAQMD) have created guidelines and requirements to conduct air quality analysis. SCAQMD's current guidelines, the *CEQA Air Quality Handbook* (SCAQMD 1993) with associated updates, were followed in this assessment of air quality and GCC impacts for the proposed project.

Based on the *Guidelines for the Implementation of California Environmental Quality Act,* Appendix G, Public Resources Code Sections 15000–15387, a project would normally be considered to have a significant effect related to air quality if it would violate any CAAQS, contribute substantially to an existing air quality violation, expose sensitive receptors to substantial pollutants concentrations, or conflict with adopted environmental plans and goals of the community in which it is located.

POLLUTANTS WITH REGIONAL EFFECTS

SCAQMD has established daily emissions thresholds for construction and operation of a proposed project in the Basin. The emissions thresholds were established based on the attainment status of the Basin with regard to air quality standards for specific criteria pollutants. Because the concentration standards were set at a level that protects public health within an adequate margin of safety (SCAQMD 2017), these emissions thresholds are regarded as conservative and would overstate an individual project's contribution to health risks.

Regional Emissions Thresholds

Table F lists the CEQA significance thresholds for construction and operational emissions established for the Basin.

Table F: Regional Thresholds for Construction and Operational Emissions

Emissions Source	Pollutant Emissions Threshold (lbs/day)					
	VOC	NOx	CO	PM_{10}	$PM_{2.5}$	SOx
Construction	75	100	550	150	55	150
Operations	55	55	550	150	55	150

Source: SCAQMD. Air Quality Significance Thresholds. Website: http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf (accessed April 2019).

CO = carbon monoxide
lbs/day = pounds per day
NOx = nitrogen oxides
PM_{10} = particulate matter less than 10 microns in size
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
SCAQMD = South Coast Air Quality Management District
SOx = sulfur oxides
VOC = volatile organic compounds

Projects in the Basin with construction- or operation-related emissions that exceed any of their respective emission thresholds would be considered significant under SCAQMD guidelines. These thresholds, which SCAQMD developed and that apply throughout the Basin, apply as both project and cumulative thresholds. If a project exceeds these standards, it is considered to have a project-specific and cumulative impact.

Local Microscale Concentration Standards

The significance of localized project impacts under CEQA depends on whether ambient CO levels in the vicinity of the project are above or below State and federal CO standards. Because ambient CO levels are below the standards throughout the Basin, a project would be considered to have a significant CO impact if project emissions result in an exceedance of one or more of the 1-hour or 8-hour standards. The following are applicable local emission concentration standards for CO:

- California State 1-hour CO standard of 20 ppm; and
- California State 8-hour CO standard of 9 ppm.

LOCALIZED IMPACTS ANALYSIS

SCAQMD published its *Final Localized Significance Threshold Methodology* in June 2003 and updated it in July 2008 (SCAQMD 2008), recommending that all air quality analyses include an assessment of both construction and operational impacts on the air quality of nearby sensitive receptors. LSTs represent the maximum emissions from a project site that are not expected to result in an exceedance of the NAAQS or the CAAQS for CO, NO_2, PM_{10} and $PM_{2.5}$, as shown in previously referenced Table A. LSTs are based on the ambient concentrations of that pollutant within the project Source Receptor Area (SRA) and the distance to the nearest sensitive receptor. For this project, the appropriate SRA is the East San Bernardino Valley area (SRA 35).

The LST Methodology uses look-up tables based on site acreage to determine the significance of emissions for CEQA purposes. Based on the SCAQMD recommended methodology and the construction equipment planned, no more than 1 acre would be disturbed on any one day; thus, the 1-acre LSTs have been used for construction emissions. On-site operational emissions would occur from stationary and mobile sources. Because the project operation area would be less than 1 acre, the 1-acre thresholds would apply during project operations.

Sensitive receptors include residences, schools, hospitals, and similar uses that are sensitive to adverse air quality. As described above, the closest residences are within 20 feet (6 meters) from the southern boundary of construction. SCAQMD LST Methodology specifies, “Projects with boundaries located closer than 25 meters to the nearest receptor should use the LSTs for receptors located at 25 meters.” Therefore, the following emissions thresholds apply during project construction and operation:

- Construction LST (1 acre, 25 meters, East San Bernardino Valley):
  - 118 pounds per day (lbs/day) of NOx.
  - 775 lbs/day of CO.
  - 4 lbs/day of PM_{10}.
  - 4 lbs/day of $PM_{2.5}$.
- Operation LST (1 acre, 25 meters, East San Bernardino Valley):
  - 118 lbs/day of NOx.

- 775 lbs/day of CO.
- 1 lb/day of PM_{10}.
- 1 lb/day of $PM_{2.5}$.

HEALTH RISK ASSESSMENT

Both the State and the federal government have established health-based AAQS for seven air pollutants. For other air pollutants without defined significance standards, the definition of substantial pollutant concentrations varies. For toxic air contaminants (TACs), "substantial" is taken to mean the health risk to any individual exceeds a threshold considered to be a prudent risk management level.

The following limits for maximum individual cancer risk (MICR) from concentrations of TACs have been published by the SCAQMD for projects generating emissions of TACs (SCAQMD 2016). However, due to a lack of corresponding limits for projects that are not generating emissions of TACs, but rather introducing individuals to an environment that contains TAC emissions, the following limits are considered appropriate for use in determining the health risk for individuals in the Basin:

- MICR: MICR is the estimated probability of an individual contracting cancer as a result of exposure to TACs over a period of 30 years for adult residents and 9 years for children. The MICR calculations include multipathway consideration when applicable.

The cancer risk would be considered significant if the increase in total cancer risk due to total TAC emissions affecting the project would exceed 10 in 1 million (1.0×10^{-5}) for any individual.

GLOBAL CLIMATE CHANGE

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

Appendix G of the *CEQA Guidelines* includes significance thresholds for GHG emissions. A project would normally have a significant effect on the environment if it would:

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

Currently, there is no statewide GHG emissions threshold that has been used to determine the potential GHG emissions impacts of a project. Threshold methodology and thresholds are still being developed and revised by air districts in the State.

The project is located in an unincorporated area of the County, which has adopted its GHG Emissions Reduction Plan (County of San Bernardino 2011) in 2011 and GHG DRP (County of San Bernardino 2015) in 2016. The DRP procedures need to be followed to evaluate GHG impacts and determine significance for CEQA purposes. All projects need to apply the GHG performance standards identified in the DRP and comply with State requirements. For projects exceeding the review standard of 3,000 MT CO_2e per year, the use of Screening Tables or a project-specific technical analysis to quantify and mitigate project emissions is required. If the GHG emissions from the project are less than 3,000 MT CO_2e per year and the project would apply GHG performance standards and State requirements, project-level and cumulative GHG emissions would be less than significant.

IMPACTS AND MITIGATION

Air pollutant emissions associated with the project would occur over the short term from construction activities and over the long term from project-related vehicular trips and due to energy consumption (e.g., electricity and natural gas usage) by the proposed land uses.

CONSTRUCTION IMPACTS

Equipment Exhaust and Related Construction Activities

Construction activities produce combustion emissions from various sources (utility engines, tenant improvements, and motor vehicles transporting the construction crew). Exhaust emissions from construction activities envisioned on site would vary daily as construction activity levels change. The use of construction equipment on site would result in localized exhaust emissions.

The construction analysis includes estimating the construction equipment that would be used during each construction activity, the hours of use for that construction equipment, the quantities of earth and debris to be moved, and on-road vehicle trips (worker, soil hauling, and vendor trips). CalEEMod results and defaults are assumed for the construction activities, off-road equipment, and on-road construction fleet mix and trip lengths. Table G lists the tentative project construction schedule for the proposed project. It is expected that construction would start in 2019 and conclude by the end of 2019. Default construction phase durations from CalEEMod were used for all phases.

Table G: Tentative Project Construction Schedule

Phase Name	Phase Start Date	Phase End Date	Number of Days/Week	Number of Days
Site Preparation	7/1/2019	7/1/2019	5	1
Grading	7/2/2019	7/3/2019	5	2
Building Construction	7/4/2019	11/20/2019	5	100
Paving	11/21/2019	11/27/2019	5	5
Architectural Coating	11/28/2019	12/4/2019	5	5

Source: Estimated by LSA from the site plan (assuming a 2020 opening year) (April 2019).

The most recent version of CalEEMod (Version 2016.3.2) was used to develop the construction equipment inventory and calculate the construction emissions. Table H lists the construction equipment that would be used during project construction as estimated by CalEEMod default values.

The emissions rates shown in Table I are the combination of the on-site and off-site emissions from the CalEEMod output tables. No exceedances of any criteria pollutants are expected. The CalEEMod output is included in Appendix A.

Table H: Diesel Construction Equipment Used by Construction Phase

Construction Phase	Off-Road Equipment Type	Off-Road Equipment Unit Amount	Hours Used per Day	Horsepower	Load Factor
Site Preparation	Graders	1	8	187	0.41
	Tractors/Loaders/Backhoes	1	8	97	0.37
Grading	Concrete/Industrial Saws	1	8	81	0.73
	Rubber Tired Dozers	1	1	247	0.40
	Tractors/Loaders/Backhoes	2	6	97	0.37
Building Construction	Cranes	1	4	231	0.29
	Forklifts	2	6	89	0.20
	Tractors/Loaders/Backhoes	2	8	97	0.37
Paving	Pavers	1	7	130	0.42
	Cement and Mortar Mixers	4	6	9	0.56
	Tractors/Loaders/Backhoes	1	7	97	0.37
	Rollers	1	7	80	0.38
Architectural Coating	Air Compressors	1	6	78	0.48

Source: Compiled by LSA using CalEEMod defaults (April 2019).
CalEEMod = California Emission Estimator Model

Table I: Short-Term Regional Construction Emissions

Construction Phase	Total Regional Pollutant Emissions (lbs/day)							
	VOC	NOx	CO	SOx	Fugitive PM_{10}	Exhaust PM_{10}	Fugitive $PM_{2.5}$	Exhaust $PM_{2.5}$
Site Preparation	0.74	8.93	4.37	0.01	0.59	0.37	0.07	0.34
Grading	1.00	8.64	8.14	0.01	0.86	0.54	0.44	0.51
Building Construction	1.02	10.31	8.10	0.01	0.14	0.61	0.04	0.56
Paving	1.10	7.91	7.96	0.01	0.20	0.44	0.05	0.41
Architectural Coating	20.48	1.84	1.93	<0.01	0.02	0.13	0.01	0.13
Peak Daily	**20.48**	**10.31**	**8.14**	**0.01**	**1.40**		**0.96**	
SCAQMD Thresholds	**75**	**100**	**550**	**150**	**150**		**55**	
Exceeds Threshold?	**No**	**No**	**No**	**No**	**No**		**No**	

Source: Compiled by LSA (April 2019).

CO = carbon monoxide
lbs/day = pounds per day
NOx = nitrogen oxides
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size
SCAQMD = South Coast Air Quality Management District
SOx = sulfur oxides
VOC = volatile organic compounds

Fugitive Dust

Fugitive dust emissions are generally associated with land clearing and exposure of soils to the air and wind, as well as cut-and-fill grading operations. Dust generated during construction varies substantially on a project-by-project basis, depending on the level of activity, the specific operations, and weather conditions at the time of construction.

The construction calculations prepared for this project did not include any dust control measures to reduce emissions of fugitive dust during site grading. However, all construction would need to comply with SCAQMD Rule 403 regarding the emission of fugitive dust. The following Rule 403 measures would further reduce PM_{10} emissions from construction. The Rule 403 measures are:

- Water active sites at least twice daily (locations where grading is to occur shall be thoroughly watered prior to earthmoving).
- Cover all trucks hauling dirt, sand, soil, or other loose materials, or maintain at least 2 feet (0.6 meter) of freeboard (vertical space between the top of the load and the top of the trailer) in accordance with the requirements of California Vehicle Code Section 23114.
- Reduce traffic speeds on all unpaved roads to 15 mph or less.

Architectural Coatings

Architectural coatings contain VOCs that are part of the O_3 precursors. Based on the proposed project, it is estimated that application of the architectural coatings for the proposed peak construction day would result in a peak of 20 lbs/day of VOC. Therefore, VOC emissions from architectural coating application would not exceed the SCAQMD VOC threshold of 75 lbs/day.

Localized Impacts Analysis

Sensitive receptors include residences, schools, hospitals, and similar uses that are sensitive to adverse air quality. Table J shows that the construction emission rates would not exceed the LSTs for the existing residences near the project site. Table J also shows that the emissions of the pollutants on the peak day of construction would result in concentrations of pollutants at the nearest residences that are all below SCAQMD thresholds of significance.

Table J: Construction Localized Impacts Analysis

Emissions Sources	NOx	CO	PM_{10}	$PM_{2.5}$
Construction Emissions	10.31	8.14	1.40	0.96
LST	118	775	4	4
Exceeds Threshold?	**No**	**No**	**No**	**No**

Source: Compiled by LSA (April 2019).

Note: Source Receptor Area – East San Bernardino Valley, 1 acre, 25 meters.

CO = carbon monoxide
lbs/day = pounds per day
LST = localized significance threshold
NOx = nitrogen oxides
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size

Odors from Construction Activities

Heavy-duty equipment in the project area during construction would emit odors, primarily from the equipment exhaust. However, the construction activity would cease to occur after construction is completed. No other sources of objectionable odors have been identified for the proposed project, and no mitigation measures are required.

SCAQMD Rule 402 regarding nuisances states: "A person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment,

nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property." The proposed uses are not anticipated to emit any objectionable odors. Therefore, objectionable odors posing a health risk to potential on-site and existing off-site uses would not occur as a result of the proposed project.

Construction Emissions Conclusions

Previously referenced Tables I and J show that daily regional construction emissions would not exceed the daily thresholds of any criteria pollutant emission thresholds established by SCAQMD; thus, during construction, there would be no localized impacts.

LONG-TERM REGIONAL AIR QUALITY IMPACTS

Operational Emissions

Long-term air pollutant emission impacts are those associated with stationary sources and mobile sources involving any project-related changes. The proposed project would result in net increases in both stationary and mobile-source emissions. The area source emission categories include sources such as consumer products and landscaping equipment.

Because no traffic impact analysis was prepared for the proposed project, the default trip generation rates from CalEEMod were used, except for the car wash facility. CalEEMod does not include a car wash land use type, and automobile care center was used for car wash facility. The trip generation rate for car wash facility was manually entered as 71 trips per day per 1,000 sf, based on the trip generation rate of automated car wash from Institute of Transportation Engineers (ITE) *Trip Generation Manual*, 10th Edition (ITE 2017). Default area source, energy consumption, water consumption, and solid waste generation inputs from CalEEMod were used for all land use types, except for the car wash. Water consumption of the car wash facility was assumed to be 72.5 gallons per vehicle, based on the worst-case water consumption of in-bay car wash facility from a study conducted by the International Carwash Association (International Carwash Association 2002).[1] Results of the CalEEMod analysis are shown in Table K.

Table K shows long-term operational emissions associated with the proposed project. Area sources include architectural coatings and landscaping. Energy sources include natural gas consumption for heating.

[1] International Carwash Association (ICA). 2002. *Water Use in the Professional Car Wash Industry*. Table 1.2 of the report shows the average fresh water consumption by car wash type, and for in-bay car wash facilities, average fresh water consumption ranges from 24.6 gallons per vehicle to 72.5 gallons per vehicle.

Table K: Opening Year Regional Operational Emissions

Source	Pollutant Emissions, lbs/day					
	VOC	NOx	CO	SOx	PM_{10}	$PM_{2.5}$
Area	0.24	<0.01	<0.01	0.00	<0.01	<0.01
Energy	<0.01	0.04	0.04	<0.01	<0.01	<0.01
Mobile	9.01	35.76	56.90	0.15	9.31	2.59
Total Project Emissions	9.26	35.80	56.94	0.15	9.31	2.59
SCAQMD Thresholds	**55**	**55**	**550**	**150**	**150**	**55**
Exceeds Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Source: Compiled by LSA (April 2019).

CO = carbon monoxide
lbs/day = pounds per day
NOx = nitrogen oxides
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size
SCAQMD = South Coast Air Quality Management District
SOx = sulfur oxides
VOC = volatile organic compounds

Localized Impacts Analysis

Table L shows the calculated emissions for the proposed operational activities compared with the appropriate LSTs. By design, the localized impacts analysis only includes on-site sources; however, the CalEEMod outputs do not separate on-site and off-site emissions for mobile sources. For a worst-case scenario assessment, the emissions shown in Table L include all on-site project-related stationary sources and 4 percent of the project-related new mobile sources, which is an estimate of the amount of project-related new vehicle traffic that would occur on site. A total of 4 percent is considered conservative because the average round-trip lengths assumed are 33.2 miles for commercial-work, 16.8 miles for commercial-customer, and 13.8 miles for other types of trips. It is unlikely that the average on-site distance driven would be even 1,000 feet, which is approximately 2 percent of the total miles traveled. Considering the total trip length included in the CalEEMod, the 4 percent assumption is conservative.

Table L: Long-Term Operational Localized Impacts Analysis

Emissions Sources	NOx	CO	PM_{10}	$PM_{2.5}$
On-Site Emissions	1.5	2.3	0.4	0.1
LST	118	775	1	1
Exceeds Threshold?	**No**	**No**	**No**	**No**

Source: Compiled by LSA (April 2019).

Note: Source Receptor Area – East San Bernardino Valley, 1 acre, 25 meters. On-site traffic assumed to be 4 percent of total.

CO = carbon monoxide
LST = local significance thresholds
NOx = nitrogen oxides
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size

Table L shows that the operational emission rates would not exceed the LSTs for residents in the project area. Therefore, the proposed operational activity would not result in a locally significant air quality impact.

Odors from Operational Activities

The gas station could release localized odors; however, all the gasoline dispensers would be equipped with vapor recovery systems. In addition, such odors in general would be confined mainly

to the project site and would readily dissipate. Therefore, objectionable odors affecting a substantial number of people would not occur as a result of the project. The impacts associated with odors would be less than significant and no mitigation measures are required.

CO Hot Spot Analysis

Vehicular trips associated with the proposed project would contribute to congestion at intersections and along roadway segments in the project vicinity. Localized air quality impacts would occur when emissions from vehicular traffic increase as a result of the proposed project. The primary mobile-source pollutant of local concern is CO, a direct function of vehicle idling time and, thus, of traffic flow conditions. CO transport is extremely limited; under normal meteorological conditions, CO disperses rapidly with distance from the source. However, under certain extreme meteorological conditions, CO concentrations near a congested roadway or intersection may reach unhealthful levels, affecting local sensitive receptors (e.g., residents, schoolchildren, the elderly, and hospital patients). Typically, high CO concentrations are associated with roadways or intersections operating at unacceptable levels of service or with extremely high traffic volumes. In areas with high ambient background CO concentrations, modeling is recommended to determine a project's effect on local CO levels.

An assessment of project-related impacts on localized ambient air quality requires that future ambient air quality levels be projected. Existing CO concentrations in the immediate project vicinity are not available. Ambient CO levels monitored at the San Bernardino-4th Street Station, the closest station with complete monitored CO data, showed a highest recorded 1-hour concentration of 4.1 ppm (the State standard is 20 ppm) and a highest 8-hour concentration of 2.4 ppm (the State standard is 9 ppm) during the past 5 years (previously referenced Table E). The highest CO concentrations would normally occur during peak traffic hours; therefore, CO impacts calculated under peak traffic conditions represent a worst-case analysis.

While the project would contribute to the peak hour traffic at intersections surrounding the project site, the LOS would either stay the same or only slightly increase with the project. Given the extremely low level of CO concentrations in the project area (previously referenced Table E), and minor traffic impact increases at affected intersections, project-related vehicles are not expected to contribute significantly to result in the CO concentrations exceeding the State or federal CO standards. Because no CO hot spots would occur, there would be no project-related impacts on CO concentrations.

Assessment of Project-Related Health Impacts

Although the project is not expected to exceed the SCAQMD's numeric regional mass daily emission thresholds, this does not in itself constitute a less than significant health impact to the population adjacent to the project site and within the Basin.

The SCAQMD's numeric regional thresholds are based in part on Section 180 (e) of the CAA and it should be noted that the numeric regional mass daily thresholds have not changed since their adoption as part of the *CEQA Air Quality Handbook* published by SCAQMD in 1993. The numeric regional mass daily thresholds are also intended to provide a means of consistency in significance determination within the environmental review process.

Notwithstanding, simply exceeding the SCAQMD's numeric regional mass daily thresholds does not constitute a particular health impact to an individual nearby. The reason for this is that the mass daily thresholds are in pounds per day emitted into the air whereas health effects are determined based on the concentration of emissions in the air at a particular location (e.g., parts per million by volume of air or micrograms per cubic meter of air). CAAQS and NAAQS were developed to protect the most susceptible population groups from adverse health effects and were established in terms of parts per million or micrograms per cubic meter for the applicable emissions.

For this reason, the SCAQMD developed a methodology to assist lead agencies in analyzing localized air quality impacts from a proposed project as they relate to CO, NOx, $PM_{2.5}$, and PM_{10}. This methodology is collectively referred to as the localized significance thresholds or LSTs. The LSTs differ from the numeric regional mass daily thresholds since they are based on the amount of emissions generated from a project that are not expected to cause or contribute to an exceedance of the most stringent applicable NAAQS or CAAQS, and are based on the ambient concentrations of the pollutant and the relative distance to the nearest sensitive receptor (the SCAQMD performed air dispersion modeling to determine what amount of emissions generated a particular concentration at a particular distance).

This air quality analysis evaluated the project's localized impact to air quality for emissions of CO, NOx, $PM_{2.5}$, and PM_{10} by comparing the project's on-site emissions to the SCAQMD's applicable LST thresholds (see previous chapter, "Thresholds of Significance"). As shown in previously referenced Tables J and L, the project would not result in emissions that exceed the SCAQMD's LSTs; therefore, it would not be expected to exceed the most stringent applicable NAAQS or CAAQS for emissions of NOx, CO, $PM_{2.5}$, or PM_{10}. It should be noted that the ambient air quality standards are developed and represent levels at which the most susceptible persons (children and the elderly) are protected. In other words, the ambient air quality standards are purposefully set low to protect children, elderly, and those with existing respiratory problems.

Furthermore, as shown in previously referenced Table E, air quality trends for emissions of NOx, VOCs, and ozone (which is a byproduct of NOx and VOCs) have been trending downward within the Basin even as development has increased over the last several years.

Besides the criteria air pollutants, the on-site and off-site sensitive receptors would also be potentially affected by benzene emitted from gasoline transfer and dispensing, including loading, breathing, refueling, and spillage. In January 2007, SCAQMD published a guideline (SCAQMD 2007) to estimate cancer risk from retail gasoline dispensing facilities. The project site is closest to the Redlands Meteorological Monitoring Station. The project would include 12 fueling pumps, which is expected to deliver less than 1 million gallons of gasoline per year. The closest off-site sensitive receptors are the residences located approximately 130 feet (40 meters) to the south of the pumping stations. As shown in Table 3 of the *SCAQMD Guidelines*, the residences would be potentially subject to the cancer risk of 2.98 in one million, which is below the 10 in one million threshold. The on-site workers would be assumed to work mostly inside the convenience store building, which would be located at least 85 feet (25 meters) from the pumping stations. As shown in Table 4 of the *SCAQMD Guidelines*, the workers would be potentially subject to the cancer risk of 0.96 in one million, which is below the 10 in one million threshold.

Therefore, since the project would not exceed the SCAQMD's applicable numeric thresholds of NOx, CO, $PM_{2.5}$, or PM_{10}, or the cancer risk threshold of benzene emissions from gasoline transfer and dispensing, the project would not result in any Basin-wide increase in health effects.

GREENHOUSE GAS EMISSIONS

This section evaluates potential significant impacts related to GCC that could result from implementation of the proposed project. Because it is not possible to tie specific GHG emissions to actual changes in climate, this evaluation focuses on the project's emission of GHGs.

Emissions Background

Emissions estimates for the proposed project are discussed below. GHG emission estimates are provided herein for informational purposes only; there is no established quantified GHG emissions threshold. Bearing in mind that CEQA does not require "perfection" but instead "adequacy, completeness, and a good faith effort at full disclosure," the analysis below is based on methodologies and information available to the County and the applicant at the time this analysis was prepared. Estimation of GHG emissions in the future does not account for all changes in technology that may reduce such emissions; therefore, the estimates are based on past performance and represent a scenario that is worse than that which is likely to be encountered (after energy-efficient technologies have been implemented). While information is presented below to assist the public and decision-makers in understanding the project's potential contribution to GCC impacts, the information available is not sufficiently detailed to allow a direct comparison between particular project characteristics and particular climate change impacts or between any particular proposed mitigation measure and any reduction in climate change impacts.

Construction and operation of the proposed project would generate GHG emissions, with the majority of energy consumption (and associated generation of GHG emissions) occurring during the project's operation. Typically, more than 80 percent of the total energy consumption takes place during the use of buildings and less than 20 percent of energy is consumed during construction (United Nations Environment Programme 2007).

Overall, the following activities associated with the proposed project could directly or indirectly contribute to the generation of GHG emissions.

- **Construction Activities:** During construction of the project, GHGs would be emitted through the operation of construction equipment and from worker and vendor vehicles, each of which typically uses fossil-based fuels to operate. The combustion of fossil-based fuels creates GHGs (e.g., CO_2, CH_4, and N_2O). Furthermore, CH_4 is emitted during the fueling of heavy equipment.
- **Gas, Electricity, and Water Use:** Natural gas use results in the emission of two GHGs: CH_4 (the major component of natural gas) and CO_2 (from the combustion of natural gas). Electricity use can result in GHG production if the electricity is generated by combusting fossil fuel. California's water conveyance system is energy-intensive. Water-related electricity use is 48 terawatt hours per year and accounts for nearly 20 percent of California's total electricity consumption (CEC 2005).

- **Solid Waste Disposal:** Solid waste generated by the project could contribute to GHG emissions in a variety of ways. Landfilling and other methods of disposal use energy for transporting and managing the waste, and they produce additional GHGs to varying degrees. Landfilling, the most common waste management practice, results in the release of CH_4 from the anaerobic decomposition of organic materials. CH_4 is 28 times more potent a GHG than CO_2. However, landfill CH_4 can also be a source of energy. In addition, many materials in landfills do not decompose fully and the carbon that remains is sequestered in the landfill and not released into the atmosphere.
- **Motor Vehicle Use:** Transportation associated with the proposed project would result in GHG emissions from the combustion of fossil fuels in daily automobile and truck trips.

Preliminary guidance from the OPR and letters from the Attorney General critical of CEQA documents that have taken different approaches indicate that lead agencies should calculate, or estimate, emissions from vehicular traffic, energy consumption, water conveyance and treatment, waste generation, and construction activities. The construction emissions, calculated using CalEEMod (Version 2016.3.2) using the same methodology as described above for the criteria pollutant emissions, are shown in Table M (details are provided in the CalEEMod output in Appendix A).

Table M: Short-Term Regional Construction Emissions

Construction Phase	Total Emissions per Phase (MT/yr)			Total Emissions per Phase (MT CO_2e/yr)
	CO_2	CH_4	N_2O	
Site Preparation	0.46	0.0001	0	0.47
Grading	1.15	0.0002	0	1.16
Building Construction	61.20	0.0167	0	61.62
Paving	2.85	0.0007	0	2.87
Architectural Coatings	0.69	0.0001	0	0.69
Total Emissions For Entire Construction Process				66.80
Total Construction Emissions Amortized over 30 years				**2.23**

Source: Compiled by LSA (April 2019).

CH_4 = methane
CO_2 = carbon dioxide
CO_2e = carbon dioxide equivalent
MT = metric tons
MT/yr = metric tons per year
N_2O = nitrous oxide

GHG emissions from vehicular traffic, energy consumption, water conveyance and treatment, waste generation were also calculated using CalEEMod using the same methodology as described above for the criteria pollutant emissions. Based on SCAQMD guidance, construction emissions were amortized over 30 years (a typical project lifetime) and added to the total project operational emissions as shown in Table N. The GHG emission estimates presented in Table N show the emissions associated with the level of development envisioned by the proposed project at opening using the same parameters described in the Long-Term Regional Air Quality Impacts, Operational Emissions section above.

Mobile source emissions of GHGs would include project-generated vehicle trips associated with on-site facilities and customers/visitors to the project site. Area source emissions would be associated

with activities including landscaping and maintenance of proposed land uses, natural gas for heating, and other sources. Increases in stationary source emissions would also occur at off-site utility providers as a result of demand for electricity, natural gas, and water by the proposed project. As shown in Table N, the project will result in GHG emissions of 2,035 MT CO_2e/yr, which is lower than the County DRP review standard of 3,000 MT CO_2e/yr.

Table N: Long-Term Operational Greenhouse Gas Emissions

Source	Pollutant Emissions (MT/yr)					
	Bio-CO_2	**NBio-CO_2**	**Total CO_2**	**CH_4**	**N_2O**	**CO_2e**
Construction Emissions Amortized over 30 Years	0	2.21	2.21	<0.01	0	2.23
Operational Emissions						
Area	0	<0.01	<0.01	0	0	<0.01
Energy	0	48.59	48.59	<0.01	<0.01	48.78
Mobile	0	1,966.90	1,966.90	0.15	0	1,970.62
Waste	3.43	0	3.43	0.20	0	8.49
Water	0.34	5.59	5.93	0.03	<0.01	7.06
Total Project Emissions	**3.77**	**2,021.08**	**2,024.85**	**0.38**	**0**	**2,034.95**

Source: Compiled by LSA (April 2019).

Bio-CO_2 = biologically generated CO_2
CH_4 = methane
CO_2 = carbon dioxide
CO_2e = carbon dioxide equivalent
MT/yr = metric tons per year
N_2O = nitrous oxide
NBio-CO_2 = non-biologically generated CO_2
SCAQMD = South Coast Air Quality Management District

A project's incremental contribution to a cumulative GHG effect is not cumulatively considerable if the project complies with the requirements in a previously adopted plan or mitigation program under specified circumstances. In 2011, the County adopted the GHG Emissions Reduction Plan, and in 2016, the County adopted the GHG DRP. The GHG Emissions Reduction Plan qualifies as a plan for the reduction of GHG emissions pursuant to the *State CEQA Guidelines*, and the DRP is a guideline for the GHG Emissions Reduction Plan. The DRP identifies local GHG performance standards that need to be applied to the project. The proposed project incorporates all performance standards as design features. Table O details the project design features that are necessary to ensure consistency with applicable local reduction measures of the GHG Emissions Reduction Plan. With implementation of these project design features, the project would be consistent with the GHG Emissions Reduction Plan. Therefore, through consistency with a qualified Climate Action Plan (CAP), the project would generate GHG emissions that would have a less significant impact.

Table O: County of San Bernardino GHG Emissions Reduction Plan and Development Review Process Consistency Analysis

Performance Standard	Consistency Analysis
Energy	
3.a) Meet Title 24 Energy Efficiency requirements implemented July 1, 2014. The Developer shall document that the design of the proposed structures meets the current Title 24 energy-efficiency requirements. County Planning shall coordinate this review with the County Building and Safety. Any combination of the following design features may be used to fulfill this requirement, provided that the total increase in efficiency meets or exceeds the cumulative goal (100%+ of Title 24) for the entire project (Title 24, Part 6 of the California Code of Regulations; Energy Efficiency Standards for Residential and Non Residential Buildings, as amended January 24, 2013; Cool Roof Coatings performance standards as amended January 24, 2013): • Incorporate dual-paned or other energy-efficient windows, • Incorporate energy-efficient space heating and cooling equipment, • Incorporate energy-efficient light fixtures, photocells, and motion detectors, • Incorporate energy-efficient appliances, • Incorporate energy-efficient domestic hot water systems, • Incorporate solar panels into the electrical system, • Incorporate cool roofs/light colored roofing, • Incorporate other measures that will increase energy efficiency, • Increase insulation to reduce heat transfer and thermal bridging, • Limit air leakage throughout the structure and within the heating and cooling distribution system to minimize energy consumption.	**Consistent.** The proposed project would comply with the requirements of the 2016 California Building Energy Efficiency Standards (Title 24, Part 6), which is more stringent than the 2014 Title 24 as specified in the GHG Emissions Reduction Plan. The requirements include measures to incorporate energy-efficient building design features detailed in Subchapter 3 (Nonresidential Mandatory Requirements), Section 120.7 (Mandatory Insulation Requirements) and Section 120.8 (Nonresidential Building Commissioning).
3.c) Lighting. Lighting design for building interiors shall support the use of: • Compact fluorescent light bulbs or equivalently efficient lighting. • Natural day lighting through site orientation and the use of reflected light. • Skylight/roof window systems. • Light colored building materials and finishes shall be used to reflect natural and artificial light with greater efficiency and less glare. • A multi-zone programmable dimming system shall be used to control lighting to maximize the energy efficiency of lighting requirements at various times of the day. • Provide a minimum of 2.5 percent of the project's electricity needs by on-site solar panels.	
3.d) Building Design. Building design and construction shall incorporate the following elements: • Orient building locations to best utilize natural cooling/heating with respect to the sun and prevailing winds/natural convection to take advantage of shade, day lighting and natural cooling opportunities. • Utilize natural, low maintenance building materials that do not require finishes and regular maintenance. • Roofing materials shall have a solar reflectance index of 78 or greater. • All supply duct work shall be sealed and leak-tested. Oval or round ducts shall be used for at least 75 percent of the supply duct work, excluding risers. • Energy Star or equivalent appliances shall be installed.	

Table O: County of San Bernardino GHG Emissions Reduction Plan and Development Review Process Consistency Analysis

Performance Standard	Consistency Analysis
• A building automation system including outdoor temperature/humidity sensors will control public area heating, vent, and air conditioning units.	
Water	
3.b) Plumbing. All plumbing shall incorporate the following: • All showerheads, lavatory faucets, and sink faucets shall comply with the California Energy Conservation flow rate standards. • Low flush toilets shall be installed where applicable as specified in California State Health and Safety Code Section 17921.3. • All hot water piping and storage tanks shall be insulated. Energy efficient boilers shall be used.	**Consistent.** The proposed project will install water-efficient irrigation systems and devices, low-flow plumbing fixtures, water-efficient car wash fixtures, and drought-tolerant landscaping.
3.f) Irrigation. The developer shall submit irrigation plans that are designed, so that all common area irrigation areas shall be capable of being operated by a computerized irrigation system, which includes either an on-site weather station, ET gauge or ET-based controller capable of reading current weather data and making automatic adjustments to independent run times for each irrigation valve based on changes in temperature, solar radiation, relative humidity, rain and wind. In addition, the computerized irrigation system shall be equipped with flow sensing capabilities, thus automatically shutting down the irrigation system in the event of a mainline break or broken head. These features will assist in conserving water, eliminating the potential of slope failure due to mainline breaks and eliminating over-watering and flooding due to pipe and/or head breaks.	
Solid Waste	
1.a) Waste Stream Reduction. The developer shall provide to all tenants and project employees County-approved informational materials about methods and need to reduce the solid waste stream and listing available recycling services.	**Consistent.** The proposed project will comply with California Green Building Standards Code requirements. At least 50 percent of all nonhazardous construction waste generated by the proposed project (including, but not limited to, soil, vegetation, concrete, lumber, metal, and cardboard) will be recycled and/or salvaged.
3.g) Recycling. Exterior storage areas for recyclables and green waste shall be provided. Where recycling pickup is available, adequate recycling containers shall be located in public areas. Construction and operation waste shall be collected for reuse and recycling.	
Transportation	
1.b) Vehicle Trip Reduction. The developer shall provide to all tenants and project employees County-approved informational materials about the need to reduce vehicle trips and the program elements this project is implementing. Such elements may include: participation in established ride-sharing programs, creating a new ride-share employee vanpool, designating preferred parking spaces for ride-sharing vehicles, designating adequate passenger loading and unloading for ride-sharing vehicles with benches in waiting areas, and/or providing a web site or message board for coordinating rides.	**Consistent.** The proposed project will provide commute trip reduction materials to employees. Because the proposed project is a gas station with car wash, customer bicycling, ride-sharing, and transit would not be applicable.
3.h) Transportation Demand Management (TDM) Program. The project shall include adequate bicycle parking near building entrances to promote cyclist safety, security, and convenience. Preferred carpool/vanpool spaces shall be provided and, if available, mass transit facilities shall be provided (e.g. bus stop bench/shelter). The developer shall demonstrate that the TDM program has been instituted for the project or that the buildings will join an existing program located within a quarter-mile radius from the project site that provides a cumulative	

Table O: County of San Bernardino GHG Emissions Reduction Plan and Development Review Process Consistency Analysis

Performance Standard	Consistency Analysis
20% reduction in unmitigated employee commute trips. The TDM Program shall publish ride-sharing information for ride-sharing vehicles and provide a website or message board for coordinating rides. The Program shall ensure that appropriate bus route information is placed in each building.	
Area Source	
1.d) Landscape Equipment. The developer shall require in the landscape maintenance contract and/or in onsite procedures that a minimum of 20% of the landscape maintenance equipment shall be electric-powered.	**Consistent.** The proposed project will provide drought-tolerant landscaping, and use electric-powered landscape maintenance equipment where possible.
3.e) Landscaping. The developer shall submit for review and obtain approval from County Planning of landscape and irrigation plans that are designed to include drought tolerant and smog tolerant trees, shrubs, and groundcover to ensure the long-term viability and to conserve water and energy. The landscape plans shall include shade trees around main buildings, particularly along southern and western elevations, where practical.	
Education	
1.c) Provide Educational Materials. The developer shall provide to all tenants and staff education materials and other publicity about reducing waste and available recycling services. The education and publicity materials/program shall be submitted to County Planning for review and approval. The developer shall also provide to all tenants and require that the tenants shall display in their stores current transit route information for the project area in a visible and convenient location for employees and customers. The specific transit routes displayed shall include Omni Trans Route 8, San Bernardino-Mentone-Yucaipa.	**Consistent.** The proposed project will provide waste reduction and recycling materials to employees and customers. Because the proposed project is a gas station with car wash, the transit routes materials are not applicable.

Source: County of San Bernardino *Greenhouse Gas Emissions Reduction Plan.* Adopted September 2011.
County of San Bernardino *Greenhouse Gas Emissions Development Review Processes*. Updated March 2015.
Compiled by LSA (April 2019).

SCOPING PLAN CONSISTENCY

The CARB's Scoping Plan (CARB 2017) outlines the main State strategies for meeting the emission reduction targets and to reduce GHGs that contribute to global climate change. Pursuant to AB 32, the Scoping Plan must "*identify and make recommendations on direct emission reduction measures, alternative compliance mechanisms, market-based compliance mechanisms, and potential monetary and nonmonetary incentives*" in order to achieve the 2020 goal, and achieve "*the maximum technologically feasible and cost-effective greenhouse gas emission reductions*" by 2020 and maintain and continue reductions beyond 2020.

The companion bill to SB 32, AB 197, provides additional direction to CARB on the following areas related to the adoption of strategies to reduce GHG emissions. Additional direction in AB 197 meant to provide easier public access to air emissions data that are collected by CARB was posted in December 2016. The measures applicable to the proposed project include energy efficiency measures, water conservation and efficiency measures, and transportation and motor vehicle measures, as discussed below.

Energy-efficient measures are intended to maximize energy efficiency building and appliance standards, pursue additional efficiency efforts including new technologies and new policy and implementation mechanisms, and pursue comparable investment in energy efficiency from all retail providers of electricity in California. In addition, these measures are designed to expand the use of green building practices to reduce the carbon footprint of California's new and existing inventory of buildings. The proposed project would be constructed to comply with California Green Building Standards Code (CALGreen). Therefore, the proposed project would not conflict with energy-efficient measures.

Water conservation and efficiency measures are intended to continue efficiency programs and use cleaner energy sources to move and treat water. Increasing the efficiency of water transport and reducing water use would reduce GHG emissions. The proposed project would comply with the CALGreen standards and would include low-flow plumbing fixtures, drought-tolerant landscaping, water-efficient car wash fixtures, and other features that would reduce water demand. Therefore, the proposed project would not conflict with any of the water conservation and efficiency measures.

The goal of transportation and motor vehicle measures is to develop regional GHG emissions reduction targets for passenger vehicles. Specific regional emission targets for transportation emissions would not directly apply to the proposed project. The project would promote initiatives to reduce vehicle trips and VMT and would increase the use of alternative means of transportation. Therefore, the proposed project would not conflict with the identified transportation and motor vehicle measures.

Table P summarizes the proposed project's consistency with the mitigation measures identified in Appendix B of the 2017 Scoping Plan.

Table P: Project Consistency with Applicable 2017 Scoping Plan Appendix B Measures

2017 Scoping Plan Appendix B Measures	Project Consistency
Require cool roofs and "cool parking" that promotes cool surface treatment for new parking facilities as well as existing surface lots undergoing resurfacing.	***Consistent***. The proposed project would incorporate cool roof materials.
Require solar-ready roofs.	***Consistent***. The proposed project would include provisions for PV solar panel on roofs, as specified in Title 24 Part 6 and the CALGreen Building Code standards.
Require low-water landscaping in new developments (see CALGreen Divisions 4.3 and 5.3 and the Model Water Efficient Landscape Ordinance [MWELO], which is referenced in CALGreen). Require water efficient landscape maintenance to conserve water and reduce landscape waste.	***Consistent***. The proposed project would include new low-water landscaping and trees throughout the project site. Additionally, weather-based smart irrigation controllers would be used.
Encourage new construction, including municipal building construction, to achieve third-party green building certifications, such as the GreenPoint Rated program, LEED rating system, or Living Building Challenge.	***Consistent***. The proposed project would be constructed to Title 24 Part 6 and CALGreen Building Code standards.

Table P: Project Consistency with Applicable 2017 Scoping Plan Appendix B Measures

2017 Scoping Plan Appendix B Measures	Project Consistency
Expand urban forestry and green infrastructure in new land development.	***Consistent***. The proposed project would include new low-water landscaping and trees throughout the project site. Additionally, weather-based smart irrigation controllers would be used.
Provide electric outlets to promote the use of electric landscape maintenance equipment to the extent feasible on parks and public/ quasi-public lands.	***Consistent***. The proposed project would provide outdoor electric outlets to discourage gas powered landscape equipment.
Require the landscaping design for parking lots to utilize tree cover and compost/mulch.	***Consistent***. The proposed project would include new low-water landscaping and trees throughout the project site. Additionally, weather-based smart irrigation controllers would be used.

Source: Compiled by LSA (April 2019).

The proposed project would not conflict with applicable statewide action measures. Therefore, the proposed project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs and impacts would be less than significant.

AIR QUALITY MANAGEMENT PLAN CONSISTENCY

A consistency determination plays an essential role in local agency project review by linking local planning and unique individual projects to the air quality plans. A consistency determination fulfills the CEQA goal of fully informing local agency decision-makers of the environmental costs of the project under consideration at a stage early enough to ensure that air quality concerns are addressed. Only new or amended General Plan elements, Specific Plans, and significantly unique projects need to undergo a consistency review due to the air quality plan strategy being based on projections from local General Plans.

The AQMP is based on regional growth projections developed by SCAG. The proposed project is a commercial development that would not house more than 1,000 persons, occupy more than 40 acres of land, or encompass more than 650,000 sf of floor area. Thus, the proposed project would not be defined as a regionally significant project under CEQA; therefore, it does not meet SCAG's Intergovernmental Review criteria.

The County of San Bernardino General Plan was adopted by the County Board of Supervisors on March 13, 2007. Development consistent with the County's General Plan would be consistent with regional air quality standards and the SIP. The project site is designated as a general commercial land use in the General Plan. The proposed project is a gas station, which is a commercial land use; and is therefore consistent with the General Plan designation. Thus, the proposed project would not exceed the General Plan growth assumptions assumed for the site and would not conflict with or obstruct implementation of the applicable air quality plan. Impacts would be less than significant.

STANDARD CONDITIONS

Construction

The project is required to comply with regional rules that assist in reducing short-term air pollutant emissions. SCAQMD Rule 403 requires that fugitive dust be controlled with best-available control measures so that the presence of such dust does not remain visible in the atmosphere beyond the property line of the emission source (SCAQMD 2005). In addition, SCAQMD Rule 403 requires implementation of dust suppression techniques to prevent fugitive dust from creating a nuisance off site. Applicable dust suppression techniques from Rule 403 are summarized below. Implementation of these dust suppression techniques can reduce the fugitive dust generation (and thus, the PM_{10} component). Compliance with these rules would reduce impacts on nearby sensitive receptors (SCAQMD Rule 403). As shown in previously referenced Table I, implementation of Rule 403 measures results in dust emissions below SCAQMD thresholds.

The applicable Rule 403 measures are as follows:

- Apply nontoxic chemical soil stabilizers according to manufacturers' specifications to all inactive construction areas (previously graded areas inactive for 10 days or more).
- Water active sites at least twice daily (locations where grading is to occur shall be thoroughly watered prior to earthmoving).
- Cover all trucks hauling dirt, sand, soil, or other loose materials, or maintain at least 2 feet (0.6 meters) of freeboard (vertical space between the top of the load and the top of the trailer) in accordance with the requirements of California Vehicle Code Section 23114.
- Pave construction access roads at least 100 feet (30 meters) onto the site from the main road.
- Reduce traffic speeds on all unpaved roads to 15 mph or less.

The applicable California Department of Resources Recycling and Recovery (CalRecycle) Sustainable (Green) Building Program Measures are:

- Recycle/reuse at least 50 percent of the construction material (including, but not limited to, soil, mulch, vegetation, concrete, lumber, metal, and cardboard) (CalRecycle).
- Use "green building materials" such as those materials that are rapidly renewable or resource-efficient, and recycled and manufactured in an environmentally friendly way, for at least 10 percent of the project, as specified on the CalRecycle website.

Operations

The proposed project is required to comply with Title 24 of the California Code of Regulations established by the CEC regarding energy conservation and green building standards.

CUMULATIVE IMPACTS

The project would temporarily contribute criteria pollutants to the area during project construction. A number of individual projects in the area may be under construction simultaneously with the

proposed project. Depending on construction schedules and actual implementation of projects in the area, generation of fugitive dust and pollutant emissions during construction could result in substantial short-term increases in air pollutants. However, each project would be required to comply with SCAQMD's standard construction measures. The proposed project's short-term construction emissions would not exceed the significance thresholds. Therefore, it would not have a significant short-term cumulative impact

Similarly, the project's long-term operational emissions would not exceed SCAQMD's criteria pollutant thresholds. Again, each project would be required to comply with SCAQMD's operational emissions thresholds, which are designed to accomplish regional emissions goals. Therefore, the proposed project would not result in a significant cumulative impact related to long-term air quality.

As climate change impacts are cumulative in nature, no typical single project can result in emissions of such a magnitude that it, in and by itself, would be significant on a project basis.

As described above, with implementation of the project design features listed in Table O, the project would be consistent with the County GHG Emissions Reduction Plan. Therefore, through consistency with a qualified GHG Reduction Plan, the project would generate GHG emissions that would have a less significant impact.

REFERENCES

California Air Resources Board (CARB). 2018. California Greenhouse Gas Inventory for 2000–2016. Webpage last reviewed by CARB on July 11, 2018. Website: https://www.arb.ca.gov/cc/inventory/data/data.htm (accessed April 2019).

———. 2017. *California's 2017 Climate Change Scoping Plan*. November. Website: https://www.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf (accessed April 2019).

———. 2016a. Ambient Air Quality Standards. May 4. Website: http://www.arb.ca.gov/research/aaqs/aaqs2.pdf (accessed April 2019).

———. 2016b. Air Quality Standards and Area Designations. Webpage last reviewed by CARB on May 5, 2016. Website: http://www.arb.ca.gov/desig/desig.htm (accessed April 2019).

———. 2014. *First Update to the Climate Change Scoping Plan: Building on the Framework Pursuant to AB 32, the California Global Warming Solutions Act of 2006*. May 22. Website: http://www.arb.ca.gov/cc/scopingplan/document/updatedscopingplan2013.htm (accessed April 2019).

———. CARB Fact Sheet: Air Pollution and Health. Webpage last reviewed by CARB on December 2, 2009. Website: http://www.arb.ca.gov/research/health/fs/fs1/fs1.htm (accessed April 2019).

———. iADAM: Air Quality Data Statistics. Website: http://www.arb.ca.gov/adam (accessed April 2019).

California Energy Commission (CEC). 2010. Climate Action Team Report to Governor Schwarzenegger and the California Legislature. December. Website: http://www.energy.ca.gov/2010publications/CAT-1000-2010-005/CAT-1000-2010-005.PDF (accessed April 2019).

———. 2005. *California's Water-Energy Relationship*, Final Staff Report, Publication #CEC-700-2005-011-SF. Website: http://www.energy.ca.gov/2005publications/CEC-700-2005-011/CEC-700-2005-011-SF.PDF (accessed April 2019).

County of San Bernardino. 2007. General Plan. Adopted March 13, 2007. Amended April 24, 2014. Website: http://www.sbcounty.gov/Uploads/lus/GeneralPlan/FINALGP.pdf (accessed April 2019).

———. 2011. *Greenhouse Gas Emissions Reduction Plan*. September. Website: http://www.sbcounty.gov/Uploads/lus/GreenhouseGas/FinalGHGFull.pdf (accessed April 2019)

———. 2015. *Greenhouse Gas Emissions Development Review Processes*. March. Website: http://www.sbcounty.gov/Uploads/lus/GreenhouseGas/FinalGHGUpdate.pdf (accessed April 2019)

Institute of Transportation Engineers (ITE). 2017. *Trip Generation Manual,* 10th Edition.

Intergovernmental Panel on Climate Change (IPCC). 2013. Climate Change 2013: The Physical Science Basis. Contribution of Working Group I to the Fifth Assessment Report of the IPCC. Website: https://www.ipcc.ch/report/ar5/wg1/ (accessed April 2019).

International Carwash Association. 2002. *Water Use in the Professional Car Wash Industry*. September. Website: https://www.carwash.org/docs/default-document-library/Water-Use-in-the-Professional-Car-Wash-Industry.pdf (accessed April 2019).

National Oceanic and Atmospheric Administration (NOAA). 2016. Climate Change: Atmospheric Carbon Dioxide. Website: https://www.climate.gov/news-features/understanding-climate/climate-change-atmospheric-carbon-dioxide (accessed April 2019).

South Coast Air Quality Management District (SCAQMD). 2017. 2016 Air Quality Management Plan. February. Website: http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2016-air-quality-management-plan/final-2016-aqmp/final2016aqmp.pdf (accessed April 2019).

———. 2007. *Emission Inventory and Risk Assessment Guidelines for Gasoline Dispensing Stations*. January. Website: https://www.aqmd.gov/docs/default-source/planning/risk-assessment/gas_station_hra.pdf?sfvrsn=0 (accessed April 2019).

———. 2008. *Final Localized Significance Threshold Methodology*. June. Website: http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/final-lst-methodology-document.pdf (accessed April 2019).

———. 2006. Final – Methodology to Calculate Particulate Matter (PM) and $PM_{2.5}$ Significance Thresholds. October. Website: http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/particulate-matter-(pm)-2.5-significance-thresholds-and-calculation-methodology/final_pm2_5methodology.pdf (accessed April 2019).

———. 1993. *CEQA Air Quality Handbook*. April. Website: http://www.aqmd.gov/home/rules-compliance/ceqa/air-quality-analysis-handbook (accessed April 2019).

———. Air Quality Significance Thresholds. Website: http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf (accessed April 2019).

———. Greenhouse Gases (GHG)—CEQA Significance Thresholds. Website: http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/ghg-significance-thresholds (accessed April 2019).

———. National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS) Attainment Status for South Coast Air Basin. Website: www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/naaqs-caaqs-feb2016.pdf (accessed April 2019).

———. Rule 403. Amended June 3, 2005. Website: http://www.aqmd.gov/docs/default-source/rule-book/rule-iv/rule-403.pdf (accessed April 2019).

———. Rule 1113. Amended February 5, 2016. Website: http://www.aqmd.gov/docs/default-source/rule-book/reg-xi/r1113.pdf (accessed April 2019).

State of California. 2018. California Climate Adaptation Strategy. Website: http://www.climatechange.ca.gov/adaptation/strategy/index.html (accessed April 2019).

———. 2013. *Preparing California for Extreme Heat – Guidance and Recommendations*. October. Website: http://www.climatechange.ca.gov/climate_action_team/reports/Preparing_California_for_Extreme_Heat.pdf (accessed April 2019).

United States Environmental Protection Agency (EPA). 2016. Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990–2016. Website: https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks-1990-2016 (accessed April 2019).

———. Air Data: Air Quality Data Collected at Outdoor Monitors Across the US. Website: https://www.epa.gov/outdoor-air-quality-data (accessed April 2019).

———. Nonattainment Areas for Criteria Pollutants (Green Book). Website: https://www.epa.gov/green-book (accessed April 2019).

University of New Hampshire. 2010. *Methane and Nitrous Oxide Emissions from Natural Sources*. University of New Hampshire Scholars' Repository. April. Website: http://scholars.unh.edu/cgi/viewcontent.cgi?article=1483&context=earthsci_facpub (accessed April 2019).

Western Regional Climate Center. Website: http://www.wrcc.dri.edu (accessed April 2019).

APPENDIX A

CALEEMOD PRINTOUTS

Gas Station in Mentone - South Coast AQMD Air District, Summer

Gas Station in Mentone

South Coast AQMD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Convenience Market With Gas Pumps	12.00	Pump	0.04	6,020.00	0
Automobile Care Center	4.42	1000sqft	0.10	4,419.00	0
Parking Lot	38.00	Space	0.34	15,200.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	10			**Operational Year**	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Automobile Care Center stands for car wash; canopy area (3,100 sqft) + building area (2,920 sqft) is for convenience market with gas pumps

Construction Phase -

Vehicle Trips - car wash (automobile care center) trip rate from ITE 10th Edition Trip Generation Manual

Water And Wastewater - car wash indoor water use: 72.5 gallons/vehicle * 35.5 washes/day (trip gen/2) * 365 days/year = 939,418.75 gallons/year

Table Name	Column Name	Default Value	New Value
tblLandUse	LandUseSquareFeet	1,694.10	6,020.00
tblLandUse	LandUseSquareFeet	4,420.00	4,419.00

tblVehicleTrips	ST_TR	23.72	71.00
tblVehicleTrips	SU_TR	11.88	71.00
tblVehicleTrips	WD_TR	23.72	71.00
tblWater	IndoorWaterUseRate	415,838.49	939,418.75

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					
2019	20.4765	10.3125	8.1411	0.0136	0.8645	0.6093	1.4025	0.4434	0.5606	0.9567	0.0000	1,356.2564	1,356.2564	0.3678	0.0000	1,365.4511
Maximum	**20.4765**	**10.3125**	**8.1411**	**0.0136**	**0.8645**	**0.6093**	**1.4025**	**0.4434**	**0.5606**	**0.9567**	**0.0000**	**1,356.2564**	**1,356.2564**	**0.3678**	**0.0000**	**1,365.4511**

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					
2019	20.4765	10.3125	8.1411	0.0136	0.8645	0.6093	1.4025	0.4434	0.5606	0.9567	0.0000	1,356.2564	1,356.2564	0.3678	0.0000	1,365.4511
Maximum	**20.4765**	**10.3125**	**8.1411**	**0.0136**	**0.8645**	**0.6093**	**1.4025**	**0.4434**	**0.5606**	**0.9567**	**0.0000**	**1,356.2564**	**1,356.2564**	**0.3678**	**0.0000**	**1,365.4511**

	ROG	NOx	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	0.2403	5.0000e-005	5.5900e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0119	0.0119	3.0000e-005		0.0127
Energy	4.6400e-003	0.0422	0.0354	2.5000e-004		3.2000e-003	3.2000e-003		3.2000e-003	3.2000e-003		50.5843	50.5843	9.7000e-004	9.3000e-004	50.8849
Mobile	9.0141	35.7562	56.8977	0.1468	9.1575	0.1503	9.3078	2.4504	0.1408	2.5911		14,983.3093	14,983.3093	1.0627		15,009.8759
Total	**9.2590**	**35.7984**	**56.9387**	**0.1470**	**9.1575**	**0.1536**	**9.3110**	**2.4504**	**0.1440**	**2.5943**		**15,033.9055**	**15,033.9055**	**1.0637**	**9.3000e-004**	**15,060.7735**

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	0.2403	5.0000e-005	5.5900e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0119	0.0119	3.0000e-005		0.0127
Energy	4.6400e-003	0.0422	0.0354	2.5000e-004		3.2000e-003	3.2000e-003		3.2000e-003	3.2000e-003		50.5843	50.5843	9.7000e-004	9.3000e-004	50.8849
Mobile	9.0141	35.7562	56.8977	0.1468	9.1575	0.1503	9.3078	2.4504	0.1408	2.5911		14,983.3093	14,983.3093	1.0627		15,009.8759
Total	**9.2590**	**35.7984**	**56.9387**	**0.1470**	**9.1575**	**0.1536**	**9.3110**	**2.4504**	**0.1440**	**2.5943**		**15,033.9055**	**15,033.9055**	**1.0637**	**9.3000e-004**	**15,060.7735**

	ROG	NOx	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	7/1/2019	7/1/2019	5	1	
2	Grading	Grading	7/2/2019	7/3/2019	5	2	
3	Building Construction	Building Construction	7/4/2019	11/20/2019	5	100	
4	Paving	Paving	11/21/2019	11/27/2019	5	5	
5	Architectural Coating	Architectural Coating	11/28/2019	12/4/2019	5	5	

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.34

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 15,659; Non-Residential Outdoor: 5,220; Striped Parking Area:

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Cranes	1	4.00	231	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Site Preparation	Graders	1	8.00	187	0.41
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Grading	Rubber Tired Dozers	1	1.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37

Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	2	5.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	5	10.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	2.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5303	0.0000	0.5303	0.0573	0.0000	0.0573			0.0000			0.0000
Off-Road	0.7195	8.9170	4.1407	9.7500e-003		0.3672	0.3672		0.3378	0.3378		965.1690	965.1690	0.3054		972.8032
Total	**0.7195**	**8.9170**	**4.1407**	**9.7500e-003**	**0.5303**	**0.3672**	**0.8975**	**0.0573**	**0.3378**	**0.3951**		**965.1690**	**965.1690**	**0.3054**		**972.8032**

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	0.0245	0.0170	0.2247	5.9000e-004	0.0559	4.3000e-004	0.0563	0.0148	4.0000e-004	0.0152		59.0495	59.0495	1.8500e-003		59.0956
Total	**0.0245**	**0.0170**	**0.2247**	**5.9000e-004**	**0.0559**	**4.3000e-004**	**0.0563**	**0.0148**	**4.0000e-004**	**0.0152**		**59.0495**	**59.0495**	**1.8500e-003**		**59.0956**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5303	0.0000	0.5303	0.0573	0.0000	0.0573			0.0000			0.0000
Off-Road	0.7195	8.9170	4.1407	9.7500e-003		0.3672	0.3672		0.3378	0.3378	0.0000	965.1690	965.1690	0.3054		972.8032
Total	**0.7195**	**8.9170**	**4.1407**	**9.7500e-003**	**0.5303**	**0.3672**	**0.8975**	**0.0573**	**0.3378**	**0.3951**	**0.0000**	**965.1690**	**965.1690**	**0.3054**		**972.8032**

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	0.0245	0.0170	0.2247	5.9000e-004	0.0559	4.3000e-004	0.0563	0.0148	4.0000e-004	0.0152		59.0495	59.0495	1.8500e-003		59.0956

Total	**0.0245**	**0.0170**	**0.2247**	**5.9000e-004**	**0.0559**	**4.3000e-004**	**0.0563**	**0.0148**	**4.0000e-004**	**0.0152**		**59.0495**	**59.0495**	**1.8500e-003**		**59.0956**

3.3 Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.7528	0.0000	0.7528	0.4138	0.0000	0.4138			0.0000			0.0000
Off-Road	0.9530	8.6039	7.6917	0.0120		0.5371	0.5371		0.5125	0.5125		1,159.6570	1,159.6570	0.2211		1,165.1847
Total	**0.9530**	**8.6039**	**7.6917**	**0.0120**	**0.7528**	**0.5371**	**1.2898**	**0.4138**	**0.5125**	**0.9263**		**1,159.6570**	**1,159.6570**	**0.2211**		**1,165.1847**

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	0.0490	0.0341	0.4493	1.1900e-003	0.1118	8.7000e-004	0.1127	0.0296	8.0000e-004	0.0305		118.0989	118.0989	3.6900e-003		118.1912
Total	**0.0490**	**0.0341**	**0.4493**	**1.1900e-003**	**0.1118**	**8.7000e-004**	**0.1127**	**0.0296**	**8.0000e-004**	**0.0305**		**118.0989**	**118.0989**	**3.6900e-003**		**118.1912**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.7528	0.0000	0.7528	0.4138	0.0000	0.4138			0.0000			0.0000
Off-Road	0.9530	8.6039	7.6917	0.0120		0.5371	0.5371		0.5125	0.5125	0.0000	1,159.6570	1,159.6570	0.2211		1,165.1847
Total	**0.9530**	**8.6039**	**7.6917**	**0.0120**	**0.7528**	**0.5371**	**1.2898**	**0.4138**	**0.5125**	**0.9263**	**0.0000**	**1,159.6570**	**1,159.6570**	**0.2211**		**1,165.1847**

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	0.0490	0.0341	0.4493	1.1900e-003	0.1118	8.7000e-004	0.1127	0.0296	8.0000e-004	0.0305		118.0989	118.0989	3.6900e-003		118.1912
Total	**0.0490**	**0.0341**	**0.4493**	**1.1900e-003**	**0.1118**	**8.7000e-004**	**0.1127**	**0.0296**	**8.0000e-004**	**0.0305**		**118.0989**	**118.0989**	**3.6900e-003**		**118.1912**

3.4 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9576	9.8207	7.5432	0.0114		0.6054	0.6054		0.5569	0.5569		1,127.6696	1,127.6696	0.3568		1,136.5892
Total	**0.9576**	**9.8207**	**7.5432**	**0.0114**		**0.6054**	**0.6054**		**0.5569**	**0.5569**		**1,127.6696**	**1,127.6696**	**0.3568**		**1,136.5892**

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	0.0154	0.4577	0.1106	1.0400e-003	0.0256	3.0300e-003	0.0286	7.3700e-003	2.9000e-003	0.0103		110.4879	110.4879	7.3100e-003		110.6707
Worker	0.0490	0.0341	0.4493	1.1900e-003	0.1118	8.7000e-004	0.1127	0.0296	8.0000e-004	0.0305		118.0989	118.0989	3.6900e-003		118.1912
Total	**0.0644**	**0.4918**	**0.5600**	**2.2300e-003**	**0.1374**	**3.9000e-003**	**0.1413**	**0.0370**	**3.7000e-003**	**0.0407**		**228.5868**	**228.5868**	**0.0110**		**228.8619**

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	0.9576	9.8207	7.5432	0.0114		0.6054	0.6054		0.5569	0.5569	0.0000	1,127.6696	1,127.6696	0.3568		1,136.5892
Total	**0.9576**	**9.8207**	**7.5432**	**0.0114**		**0.6054**	**0.6054**		**0.5569**	**0.5569**	**0.0000**	**1,127.6696**	**1,127.6696**	**0.3568**		**1,136.5892**

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	0.0154	0.4577	0.1106	1.0400e-003	0.0256	3.0300e-003	0.0286	7.3700e-003	2.9000e-003	0.0103		110.4879	110.4879	7.3100e-003		110.6707
Worker	0.0490	0.0341	0.4493	1.1900e-003	0.1118	8.7000e-004	0.1127	0.0296	8.0000e-004	0.0305		118.0989	118.0989	3.6900e-003		118.1912
Total	**0.0644**	**0.4918**	**0.5600**	**2.2300e-003**	**0.1374**	**3.9000e-003**	**0.1413**	**0.0370**	**3.7000e-003**	**0.0407**		**228.5868**	**228.5868**	**0.0110**		**228.8619**

3.5 Paving - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8300	7.8446	7.1478	0.0113		0.4425	0.4425		0.4106	0.4106		1,055.1823	1,055.1823	0.3016		1,062.7231
Paving	0.1782					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0081**	**7.8446**	**7.1478**	**0.0113**		**0.4425**	**0.4425**		**0.4106**	**0.4106**		**1,055.1823**	**1,055.1823**	**0.3016**		**1,062.7231**

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	0.0882	0.0613	0.8088	2.1400e-003	0.2012	1.5700e-003	0.2028	0.0534	1.4400e-003	0.0548		212.5780	212.5780	6.6500e-003		212.7442
Total	**0.0882**	**0.0613**	**0.8088**	**2.1400e-003**	**0.2012**	**1.5700e-003**	**0.2028**	**0.0534**	**1.4400e-003**	**0.0548**		**212.5780**	**212.5780**	**6.6500e-003**		**212.7442**

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	0.8300	7.8446	7.1478	0.0113		0.4425	0.4425		0.4106	0.4106	0.0000	1,055.1823	1,055.1823	0.3016		1,062.7231
Paving	0.1782					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0081**	**7.8446**	**7.1478**	**0.0113**		**0.4425**	**0.4425**		**0.4106**	**0.4106**	**0.0000**	**1,055.1823**	**1,055.1823**	**0.3016**		**1,062.7231**

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	0.0882	0.0613	0.8088	2.1400e-003	0.2012	1.5700e-003	0.2028	0.0534	1.4400e-003	0.0548		212.5780	212.5780	6.6500e-003		212.7442
Total	**0.0882**	**0.0613**	**0.8088**	**2.1400e-003**	**0.2012**	**1.5700e-003**	**0.2028**	**0.0534**	**1.4400e-003**	**0.0548**		**212.5780**	**212.5780**	**6.6500e-003**		**212.7442**

3.6 Architectural Coating - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	20.2003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2664	1.8354	1.8413	2.9700e-003		0.1288	0.1288		0.1288	0.1288		281.4481	281.4481	0.0238		282.0423
Total	**20.4667**	**1.8354**	**1.8413**	**2.9700e-003**		**0.1288**	**0.1288**		**0.1288**	**0.1288**		**281.4481**	**281.4481**	**0.0238**		**282.0423**

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	9.7900e-003	6.8200e-003	0.0899	2.4000e-004	0.0224	1.7000e-004	0.0225	5.9300e-003	1.6000e-004	6.0900e-003		23.6198	23.6198	7.4000e-004		23.6383
Total	**9.7900e-003**	**6.8200e-003**	**0.0899**	**2.4000e-004**	**0.0224**	**1.7000e-004**	**0.0225**	**5.9300e-003**	**1.6000e-004**	**6.0900e-003**		**23.6198**	**23.6198**	**7.4000e-004**		**23.6383**

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	20.2003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000

Off-Road	0.2664	1.8354	1.8413	2.9700e-003		0.1288	0.1288		0.1288	0.1288	0.0000	281.4481	281.4481	0.0238		282.0423
Total	**20.4667**	**1.8354**	**1.8413**	**2.9700e-003**		**0.1288**	**0.1288**		**0.1288**	**0.1288**	**0.0000**	**281.4481**	**281.4481**	**0.0238**		**282.0423**

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	9.7900e-003	6.8200e-003	0.0899	2.4000e-004	0.0224	1.7000e-004	0.0225	5.9300e-003	1.6000e-004	6.0900e-003		23.6198	23.6198	7.4000e-004		23.6383
Total	**9.7900e-003**	**6.8200e-003**	**0.0899**	**2.4000e-004**	**0.0224**	**1.7000e-004**	**0.0225**	**5.9300e-003**	**1.6000e-004**	**6.0900e-003**		**23.6198**	**23.6198**	**7.4000e-004**		**23.6383**

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	9.0141	35.7562	56.8977	0.1468	9.1575	0.1503	9.3078	2.4504	0.1408	2.5911		14,983.3093	14,983.3093	1.0627		15,009.8759
Unmitigated	9.0141	35.7562	56.8977	0.1468	9.1575	0.1503	9.3078	2.4504	0.1408	2.5911		14,983.3093	14,983.3093	1.0627		15,009.8759

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Automobile Care Center	313.82	313.82	313.82	420,378	420,378
Convenience Market With Gas Pumps	6,511.20	2,453.64	2002.56	3,155,949	3,155,949
Parking Lot	0.00	0.00	0.00		
Total	6,825.02	2,767.46	2,316.38	3,576,327	3,576,327

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	16.60	8.40	6.90	33.00	48.00	19.00	21	51	28
Convenience Market With Gas Pumps	16.60	8.40	6.90	0.80	80.20	19.00	14	21	65
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Automobile Care Center	0.547828	0.043645	0.199892	0.122290	0.016774	0.005862	0.020637	0.032653	0.002037	0.001944	0.004777	0.000705	0.000956
Convenience Market With Gas Pumps	0.547828	0.043645	0.199892	0.122290	0.016774	0.005862	0.020637	0.032653	0.002037	0.001944	0.004777	0.000705	0.000956
Parking Lot	0.547828	0.043645	0.199892	0.122290	0.016774	0.005862	0.020637	0.032653	0.002037	0.001944	0.004777	0.000705	0.000956

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

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

Category	lb/day											lb/day					
NaturalGas Mitigated	4.6400e-003	0.0422	0.0354	2.5000e-004		3.2000e-003	3.2000e-003		3.2000e-003	3.2000e-003		50.5843	50.5843	9.7000e-004	9.3000e-004	50.8849
NaturalGas Unmitigated	4.6400e-003	0.0422	0.0354	2.5000e-004		3.2000e-003	3.2000e-003		3.2000e-003	3.2000e-003		50.5843	50.5843	9.7000e-004	9.3000e-004	50.8849

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	393.352	4.2400e-003	0.0386	0.0324	2.3000e-004		2.9300e-003	2.9300e-003		2.9300e-003	2.9300e-003		46.2767	46.2767	8.9000e-004	8.5000e-004	46.5517
Convenience Market With Gas	36.6148	3.9000e-004	3.5900e-003	3.0200e-003	2.0000e-005		2.7000e-004	2.7000e-004		2.7000e-004	2.7000e-004		4.3076	4.3076	8.0000e-005	8.0000e-005	4.3332
Parking Lot	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		**4.6300e-003**	**0.0422**	**0.0354**	**2.5000e-004**		**3.2000e-003**	**3.2000e-003**		**3.2000e-003**	**3.2000e-003**		**50.5843**	**50.5843**	**9.7000e-004**	**9.3000e-004**	**50.8849**

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	0.393352	4.2400e-003	0.0386	0.0324	2.3000e-004		2.9300e-003	2.9300e-003		2.9300e-003	2.9300e-003		46.2767	46.2767	8.9000e-004	8.5000e-004	46.5517
Convenience Market With Gas	0.0366148	3.9000e-004	3.5900e-003	3.0200e-003	2.0000e-005		2.7000e-004	2.7000e-004		2.7000e-004	2.7000e-004		4.3076	4.3076	8.0000e-005	8.0000e-005	4.3332
Parking Lot	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		**4.6300e-003**	**0.0422**	**0.0354**	**2.5000e-004**		**3.2000e-003**	**3.2000e-003**		**3.2000e-003**	**3.2000e-003**		**50.5843**	**50.5843**	**9.7000e-004**	**9.3000e-004**	**50.8849**

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	0.2403	5.0000e-005	5.5900e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0119	0.0119	3.0000e-005		0.0127
Unmitigated	0.2403	5.0000e-005	5.5900e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0119	0.0119	3.0000e-005		0.0127

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	0.0277					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.2121					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	5.3000e-004	5.0000e-005	5.5900e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0119	0.0119	3.0000e-005		0.0127
Total	**0.2403**	**5.0000e-005**	**5.5900e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**		**0.0119**	**0.0119**	**3.0000e-005**		**0.0127**

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	0.0277					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.2121					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	5.3000e-004	5.0000e-005	5.5900e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0119	0.0119	3.0000e-005		0.0127
Total	**0.2403**	**5.0000e-005**	**5.5900e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**		**0.0119**	**0.0119**	**3.0000e-005**		**0.0127**

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

Gas Station in Mentone - South Coast AQMD Air District, Annual

Gas Station in Mentone

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Convenience Market With Gas Pumps	12.00	Pump	0.04	6,020.00	0
Automobile Care Center	4.42	1000sqft	0.10	4,419.00	0
Parking Lot	38.00	Space	0.34	15,200.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	10			**Operational Year**	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Automobile Care Center stands for car wash; canopy area (3,100 sqft) + building area (2,920 sqft) is for convenience market with gas pumps

Construction Phase -

Vehicle Trips - car wash (automobile care center) trip rate from ITE 10th Edition Trip Generation Manual

Water And Wastewater - car wash indoor water use: 72.5 gallons/vehicle * 35.5 washes/day (trip gen/2) * 365 days/year = 939,418.75 gallons/year

Table Name	Column Name	Default Value	New Value
tblLandUse	LandUseSquareFeet	1,694.10	6,020.00
tblLandUse	LandUseSquareFeet	4,420.00	4,419.00

tblVehicleTrips	ST_TR	23.72	71.00
tblVehicleTrips	SU_TR	11.88	71.00
tblVehicleTrips	WD_TR	23.72	71.00
tblWater	IndoorWaterUseRate	415,838.49	939,418.75

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	0.1064	0.5538	0.4387	7.4000e-004	8.4500e-003	0.0326	0.0411	2.4500e-003	0.0301	0.0325	0.0000	66.3564	66.3564	0.0178	0.0000	66.8010
Maximum	**0.1064**	**0.5538**	**0.4387**	**7.4000e-004**	**8.4500e-003**	**0.0326**	**0.0411**	**2.4500e-003**	**0.0301**	**0.0325**	**0.0000**	**66.3564**	**66.3564**	**0.0178**	**0.0000**	**66.8010**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	0.1064	0.5538	0.4387	7.4000e-004	8.4500e-003	0.0326	0.0411	2.4500e-003	0.0301	0.0325	0.0000	66.3564	66.3564	0.0178	0.0000	66.8009
Maximum	**0.1064**	**0.5538**	**0.4387**	**7.4000e-004**	**8.4500e-003**	**0.0326**	**0.0411**	**2.4500e-003**	**0.0301**	**0.0325**	**0.0000**	**66.3564**	**66.3564**	**0.0178**	**0.0000**	**66.8009**

	ROG	NOx	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	**7-1-2019**	**9-30-2019**	0.3706	0.3706
		Highest	0.3706	0.3706

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	0.0438	1.0000e-005	7.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.3500e-003	1.3500e-003	0.0000	0.0000	1.4400e-003
Energy	8.5000e-004	7.6900e-003	6.4600e-003	5.0000e-005		5.8000e-004	5.8000e-004		5.8000e-004	5.8000e-004	0.0000	48.5866	48.5866	1.8200e-003	5.0000e-004	48.7802
Mobile	1.2261	5.4059	8.8007	0.0212	1.3589	0.0228	1.3817	0.3642	0.0214	0.3856	0.0000	1,966.9037	1,966.9037	0.1485	0.0000	1,970.6166
Waste						0.0000	0.0000		0.0000	0.0000	3.4265	0.0000	3.4265	0.2025	0.0000	8.4890
Water						0.0000	0.0000		0.0000	0.0000	0.3379	5.5925	5.9304	0.0349	8.7000e-004	7.0620
Total	**1.2708**	**5.4136**	**8.8078**	**0.0213**	**1.3589**	**0.0234**	**1.3823**	**0.3642**	**0.0220**	**0.3861**	**3.7643**	**2,021.0841**	**2,024.8484**	**0.3878**	**1.3700e-003**	**2,034.9492**

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	0.0438	1.0000e-005	7.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.3500e-003	1.3500e-003	0.0000	0.0000	1.4400e-003

Energy	8.5000e-004	7.6900e-003	6.4600e-003	5.0000e-005		5.8000e-004	5.8000e-004		5.8000e-004	5.8000e-004	0.0000	48.5866	48.5866	1.8200e-003	5.0000e-004	48.7802
Mobile	1.2261	5.4059	8.8007	0.0212	1.3589	0.0228	1.3817	0.3642	0.0214	0.3856	0.0000	1,966.9037	1,966.9037	0.1485	0.0000	1,970.6166
Waste						0.0000	0.0000		0.0000	0.0000	3.4265	0.0000	3.4265	0.2025	0.0000	8.4890
Water						0.0000	0.0000		0.0000	0.0000	0.3379	5.5925	5.9304	0.0349	8.7000e-004	7.0620
Total	**1.2708**	**5.4136**	**8.8078**	**0.0213**	**1.3589**	**0.0234**	**1.3823**	**0.3642**	**0.0220**	**0.3861**	**3.7643**	**2,021.0841**	**2,024.8484**	**0.3878**	**1.3700e-003**	**2,034.9492**

	ROG	NOx	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	7/1/2019	7/1/2019	5	1	
2	Grading	Grading	7/2/2019	7/3/2019	5	2	
3	Building Construction	Building Construction	7/4/2019	11/20/2019	5	100	
4	Paving	Paving	11/21/2019	11/27/2019	5	5	
5	Architectural Coating	Architectural Coating	11/28/2019	12/4/2019	5	5	

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.34

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 15,659; Non-Residential Outdoor: 5,220; Striped Parking Area:

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Grading	Concrete/Industrial Saws	1	8.00	81	0.73

Building Construction	Cranes	1	4.00	231	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Site Preparation	Graders	1	8.00	187	0.41
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Grading	Rubber Tired Dozers	1	1.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	2	5.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	5	10.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	2.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.7000e-004	0.0000	2.7000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.6000e-004	4.4600e-003	2.0700e-003	0.0000		1.8000e-004	1.8000e-004		1.7000e-004	1.7000e-004	0.0000	0.4378	0.4378	1.4000e-004	0.0000	0.4413

Total	**3.6000e-004**	**4.4600e-003**	**2.0700e-003**	**0.0000**	**2.7000e-004**	**1.8000e-004**	**4.5000e-004**	**3.0000e-005**	**1.7000e-004**	**2.0000e-004**	**0.0000**	**0.4378**	**0.4378**	**1.4000e-004**	**0.0000**	**0.4413**

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	1.0000e-005	1.0000e-005	1.0000e-004	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0255	0.0255	0.0000	0.0000	0.0255
Total	**1.0000e-005**	**1.0000e-005**	**1.0000e-004**	**0.0000**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0255**	**0.0255**	**0.0000**	**0.0000**	**0.0255**

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					2.7000e-004	0.0000	2.7000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.6000e-004	4.4600e-003	2.0700e-003	0.0000		1.8000e-004	1.8000e-004		1.7000e-004	1.7000e-004	0.0000	0.4378	0.4378	1.4000e-004	0.0000	0.4413
Total	**3.6000e-004**	**4.4600e-003**	**2.0700e-003**	**0.0000**	**2.7000e-004**	**1.8000e-004**	**4.5000e-004**	**3.0000e-005**	**1.7000e-004**	**2.0000e-004**	**0.0000**	**0.4378**	**0.4378**	**1.4000e-004**	**0.0000**	**0.4413**

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	1.0000e-005	1.0000e-005	1.0000e-004	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0255	0.0255	0.0000	0.0000	0.0255
Total	**1.0000e-005**	**1.0000e-005**	**1.0000e-004**	**0.0000**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0255**	**0.0255**	**0.0000**	**0.0000**	**0.0255**

3.3 Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					7.5000e-004	0.0000	7.5000e-004	4.1000e-004	0.0000	4.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.5000e-004	8.6000e-003	7.6900e-003	1.0000e-005		5.4000e-004	5.4000e-004		5.1000e-004	5.1000e-004	0.0000	1.0520	1.0520	2.0000e-004	0.0000	1.0570
Total	**9.5000e-004**	**8.6000e-003**	**7.6900e-003**	**1.0000e-005**	**7.5000e-004**	**5.4000e-004**	**1.2900e-003**	**4.1000e-004**	**5.1000e-004**	**9.2000e-004**	**0.0000**	**1.0520**	**1.0520**	**2.0000e-004**	**0.0000**	**1.0570**

Unmitigated Construction Off-Site

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

Worker	5.0000e-005	4.0000e-005	4.2000e-004	0.0000	1.1000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1019	0.1019	0.0000	0.0000	0.1020
Total	**5.0000e-005**	**4.0000e-005**	**4.2000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.1019**	**0.1019**	**0.0000**	**0.0000**	**0.1020**

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					7.5000e-004	0.0000	7.5000e-004	4.1000e-004	0.0000	4.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.5000e-004	8.6000e-003	7.6900e-003	1.0000e-005		5.4000e-004	5.4000e-004		5.1000e-004	5.1000e-004	0.0000	1.0520	1.0520	2.0000e-004	0.0000	1.0570
Total	**9.5000e-004**	**8.6000e-003**	**7.6900e-003**	**1.0000e-005**	**7.5000e-004**	**5.4000e-004**	**1.2900e-003**	**4.1000e-004**	**5.1000e-004**	**9.2000e-004**	**0.0000**	**1.0520**	**1.0520**	**2.0000e-004**	**0.0000**	**1.0570**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0000e-005	4.0000e-005	4.2000e-004	0.0000	1.1000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1019	0.1019	0.0000	0.0000	0.1020
Total	**5.0000e-005**	**4.0000e-005**	**4.2000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.1019**	**0.1019**	**0.0000**	**0.0000**	**0.1020**

3.4 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0479	0.4910	0.3772	5.7000e-004		0.0303	0.0303		0.0279	0.0279	0.0000	51.1502	51.1502	0.0162	0.0000	51.5548
Total	**0.0479**	**0.4910**	**0.3772**	**5.7000e-004**		**0.0303**	**0.0303**		**0.0279**	**0.0279**	**0.0000**	**51.1502**	**51.1502**	**0.0162**	**0.0000**	**51.5548**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	7.9000e-004	0.0233	5.8500e-003	5.0000e-005	1.2600e-003	1.5000e-004	1.4100e-003	3.6000e-004	1.5000e-004	5.1000e-004	0.0000	4.9514	4.9514	3.4000e-004	0.0000	4.9600
Worker	2.4100e-003	1.9200e-003	0.0209	6.0000e-005	5.4900e-003	4.0000e-005	5.5300e-003	1.4600e-003	4.0000e-005	1.5000e-003	0.0000	5.0965	5.0965	1.6000e-004	0.0000	5.1004
Total	**3.2000e-003**	**0.0252**	**0.0267**	**1.1000e-004**	**6.7500e-003**	**1.9000e-004**	**6.9400e-003**	**1.8200e-003**	**1.9000e-004**	**2.0100e-003**	**0.0000**	**10.0479**	**10.0479**	**5.0000e-004**	**0.0000**	**10.0604**

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	0.0479	0.4910	0.3772	5.7000e-004		0.0303	0.0303		0.0279	0.0279	0.0000	51.1502	51.1502	0.0162	0.0000	51.5548

Total	**0.0479**	**0.4910**	**0.3772**	**5.7000e-004**		**0.0303**	**0.0303**		**0.0279**	**0.0279**	**0.0000**	**51.1502**	**51.1502**	**0.0162**	**0.0000**	**51.5548**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	7.9000e-004	0.0233	5.8500e-003	5.0000e-005	1.2600e-003	1.5000e-004	1.4100e-003	3.6000e-004	1.5000e-004	5.1000e-004	0.0000	4.9514	4.9514	3.4000e-004	0.0000	4.9600
Worker	2.4100e-003	1.9200e-003	0.0209	6.0000e-005	5.4900e-003	4.0000e-005	5.5300e-003	1.4600e-003	4.0000e-005	1.5000e-003	0.0000	5.0965	5.0965	1.6000e-004	0.0000	5.1004
Total	**3.2000e-003**	**0.0252**	**0.0267**	**1.1000e-004**	**6.7500e-003**	**1.9000e-004**	**6.9400e-003**	**1.8200e-003**	**1.9000e-004**	**2.0100e-003**	**0.0000**	**10.0479**	**10.0479**	**5.0000e-004**	**0.0000**	**10.0604**

3.5 Paving - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.0700e-003	0.0196	0.0179	3.0000e-005		1.1100e-003	1.1100e-003		1.0300e-003	1.0300e-003	0.0000	2.3931	2.3931	6.8000e-004	0.0000	2.4102
Paving	4.5000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**2.5200e-003**	**0.0196**	**0.0179**	**3.0000e-005**		**1.1100e-003**	**1.1100e-003**		**1.0300e-003**	**1.0300e-003**	**0.0000**	**2.3931**	**2.3931**	**6.8000e-004**	**0.0000**	**2.4102**

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	2.2000e-004	1.7000e-004	1.8800e-003	1.0000e-005	4.9000e-004	0.0000	5.0000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.4587	0.4587	1.0000e-005	0.0000	0.4590
Total	**2.2000e-004**	**1.7000e-004**	**1.8800e-003**	**1.0000e-005**	**4.9000e-004**	**0.0000**	**5.0000e-004**	**1.3000e-004**	**0.0000**	**1.3000e-004**	**0.0000**	**0.4587**	**0.4587**	**1.0000e-005**	**0.0000**	**0.4590**

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	2.0700e-003	0.0196	0.0179	3.0000e-005		1.1100e-003	1.1100e-003		1.0300e-003	1.0300e-003	0.0000	2.3931	2.3931	6.8000e-004	0.0000	2.4102
Paving	4.5000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**2.5200e-003**	**0.0196**	**0.0179**	**3.0000e-005**		**1.1100e-003**	**1.1100e-003**		**1.0300e-003**	**1.0300e-003**	**0.0000**	**2.3931**	**2.3931**	**6.8000e-004**	**0.0000**	**2.4102**

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	2.2000e-004	1.7000e-004	1.8800e-003	1.0000e-005	4.9000e-004	0.0000	5.0000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.4587	0.4587	1.0000e-005	0.0000	0.4590
Total	**2.2000e-004**	**1.7000e-004**	**1.8800e-003**	**1.0000e-005**	**4.9000e-004**	**0.0000**	**5.0000e-004**	**1.3000e-004**	**0.0000**	**1.3000e-004**	**0.0000**	**0.4587**	**0.4587**	**1.0000e-005**	**0.0000**	**0.4590**

3.6 Architectural Coating - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0505					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.7000e-004	4.5900e-003	4.6000e-003	1.0000e-005		3.2000e-004	3.2000e-004		3.2000e-004	3.2000e-004	0.0000	0.6383	0.6383	5.0000e-005	0.0000	0.6397
Total	**0.0512**	**4.5900e-003**	**4.6000e-003**	**1.0000e-005**		**3.2000e-004**	**3.2000e-004**		**3.2000e-004**	**3.2000e-004**	**0.0000**	**0.6383**	**0.6383**	**5.0000e-005**	**0.0000**	**0.6397**

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	2.0000e-005	2.1000e-004	0.0000	5.0000e-005	0.0000	6.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0510	0.0510	0.0000	0.0000	0.0510
Total	**2.0000e-005**	**2.0000e-005**	**2.1000e-004**	**0.0000**	**5.0000e-005**	**0.0000**	**6.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0510**	**0.0510**	**0.0000**	**0.0000**	**0.0510**

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	0.0505					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.7000e-004	4.5900e-003	4.6000e-003	1.0000e-005		3.2000e-004	3.2000e-004		3.2000e-004	3.2000e-004	0.0000	0.6383	0.6383	5.0000e-005	0.0000	0.6397
Total	**0.0512**	**4.5900e-003**	**4.6000e-003**	**1.0000e-005**		**3.2000e-004**	**3.2000e-004**		**3.2000e-004**	**3.2000e-004**	**0.0000**	**0.6383**	**0.6383**	**5.0000e-005**	**0.0000**	**0.6397**

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	2.0000e-005	2.1000e-004	0.0000	5.0000e-005	0.0000	6.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0510	0.0510	0.0000	0.0000	0.0510
Total	**2.0000e-005**	**2.0000e-005**	**2.1000e-004**	**0.0000**	**5.0000e-005**	**0.0000**	**6.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0510**	**0.0510**	**0.0000**	**0.0000**	**0.0510**

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	1.2261	5.4059	8.8007	0.0212	1.3589	0.0228	1.3817	0.3642	0.0214	0.3856	0.0000	1,966.9037	1,966.9037	0.1485	0.0000	1,970.6166
Unmitigated	1.2261	5.4059	8.8007	0.0212	1.3589	0.0228	1.3817	0.3642	0.0214	0.3856	0.0000	1,966.9037	1,966.9037	0.1485	0.0000	1,970.6166

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Automobile Care Center	313.82	313.82	313.82	420,378	420,378
Convenience Market With Gas Pumps	6,511.20	2,453.64	2002.56	3,155,949	3,155,949
Parking Lot	0.00	0.00	0.00		
Total	6,825.02	2,767.46	2,316.38	3,576,327	3,576,327

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Automobile Care Center	16.60	8.40	6.90	33.00	48.00	19.00	21	51	28
Convenience Market With Gas Pumps	16.60	8.40	6.90	0.80	80.20	19.00	14	21	65
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Automobile Care Center	0.547828	0.043645	0.199892	0.122290	0.016774	0.005862	0.020637	0.032653	0.002037	0.001944	0.004777	0.000705	0.000956
Convenience Market With Gas Pumps	0.547828	0.043645	0.199892	0.122290	0.016774	0.005862	0.020637	0.032653	0.002037	0.001944	0.004777	0.000705	0.000956
Parking Lot	0.547828	0.043645	0.199892	0.122290	0.016774	0.005862	0.020637	0.032653	0.002037	0.001944	0.004777	0.000705	0.000956

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	40.2118	40.2118	1.6600e-003	3.4000e-004	40.3556
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	40.2118	40.2118	1.6600e-003	3.4000e-004	40.3556
NaturalGas Mitigated	8.5000e-004	7.6900e-003	6.4600e-003	5.0000e-005		5.8000e-004	5.8000e-004		5.8000e-004	5.8000e-004	0.0000	8.3748	8.3748	1.6000e-004	1.5000e-004	8.4246
NaturalGas Unmitigated	8.5000e-004	7.6900e-003	6.4600e-003	5.0000e-005		5.8000e-004	5.8000e-004		5.8000e-004	5.8000e-004	0.0000	8.3748	8.3748	1.6000e-004	1.5000e-004	8.4246

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	143573	7.7000e-004	7.0400e-003	5.9100e-003	4.0000e-005		5.3000e-004	5.3000e-004		5.3000e-004	5.3000e-004	0.0000	7.6616	7.6616	1.5000e-004	1.4000e-004	7.7072
Convenience Market With Gas	13364.4	7.0000e-005	6.6000e-004	5.5000e-004	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.7132	0.7132	1.0000e-005	1.0000e-005	0.7174
Parking Lot	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		**8.4000e-004**	**7.7000e-003**	**6.4600e-003**	**4.0000e-005**		**5.8000e-004**	**5.8000e-004**		**5.8000e-004**	**5.8000e-004**	**0.0000**	**8.3748**	**8.3748**	**1.6000e-004**	**1.5000e-004**	**8.4246**

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	143573	7.7000e-004	7.0400e-003	5.9100e-003	4.0000e-005		5.3000e-004	5.3000e-004		5.3000e-004	5.3000e-004	0.0000	7.6616	7.6616	1.5000e-004	1.4000e-004	7.7072
Convenience Market With Gas	13364.4	7.0000e-005	6.6000e-004	5.5000e-004	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.7132	0.7132	1.0000e-005	1.0000e-005	0.7174
Parking Lot	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		**8.4000e-004**	**7.7000e-003**	**6.4600e-003**	**4.0000e-005**		**5.8000e-004**	**5.8000e-004**		**5.8000e-004**	**5.8000e-004**	**0.0000**	**8.3748**	**8.3748**	**1.6000e-004**	**1.5000e-004**	**8.4246**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Automobile Care Center	44852.8	14.2911	5.9000e-004	1.2000e-004	14.3422
Convenience Market With Gas	76032.6	24.2256	1.0000e-003	2.1000e-004	24.3123
Parking Lot	5320	1.6951	7.0000e-005	1.0000e-005	1.7011
Total		**40.2118**	**1.6600e-003**	**3.4000e-004**	**40.3556**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Automobile Care Center	44852.8	14.2911	5.9000e-004	1.2000e-004	14.3422
Convenience Market With Gas	76032.6	24.2256	1.0000e-003	2.1000e-004	24.3123
Parking Lot	5320	1.6951	7.0000e-005	1.0000e-005	1.7011

Total		**40.2118**	**1.6600e-003**	**3.4000e-004**	**40.3556**

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	0.0438	1.0000e-005	7.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.3500e-003	1.3500e-003	0.0000	0.0000	1.4400e-003
Unmitigated	0.0438	1.0000e-005	7.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.3500e-003	1.3500e-003	0.0000	0.0000	1.4400e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	5.0500e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0387					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	7.0000e-005	1.0000e-005	7.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.3500e-003	1.3500e-003	0.0000	0.0000	1.4400e-003
Total	**0.0438**	**1.0000e-005**	**7.0000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.3500e-003**	**1.3500e-003**	**0.0000**	**0.0000**	**1.4400e-003**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	5.0500e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0387					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	7.0000e-005	1.0000e-005	7.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.3500e-003	1.3500e-003	0.0000	0.0000	1.4400e-003
Total	**0.0438**	**1.0000e-005**	**7.0000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.3500e-003**	**1.3500e-003**	**0.0000**	**0.0000**	**1.4400e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	5.9304	0.0349	8.7000e-004	7.0620
Unmitigated	5.9304	0.0349	8.7000e-004	7.0620

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Automobile Care Center	0.939419 / 0.254869	5.0977	0.0308	7.6000e-004	6.0955
Convenience Market With Gas	0.125486 / 0.0769109	0.8327	4.1200e-003	1.0000e-004	0.9665
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**5.9304**	**0.0349**	**8.6000e-004**	**7.0620**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Automobile Care Center	0.939419 / 0.254869	5.0977	0.0308	7.6000e-004	6.0955
Convenience Market With Gas	0.125486 / 0.0769109	0.8327	4.1200e-003	1.0000e-004	0.9665
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**5.9304**	**0.0349**	**8.6000e-004**	**7.0620**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e

	MT/yr			
Mitigated	3.4265	0.2025	0.0000	8.4890
Unmitigated	3.4265	0.2025	0.0000	8.4890

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Automobile Care Center	16.88	3.4265	0.2025	0.0000	8.4890
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**3.4265**	**0.2025**	**0.0000**	**8.4890**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Automobile Care Center	16.88	3.4265	0.2025	0.0000	8.4890
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**3.4265**	**0.2025**	**0.0000**	**8.4890**

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